IMPROVING TRAINING AND PUBLIC AWARENESS

ON

CARIBBEAN COASTAL TOURISM

Caribbean Environmental Network
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Presented by:

The Panos Institute and
the Caribbean Institute of Media and Communication

in collaboration with

Environmental Solutions International
and International RESTAURATION RESOURCES

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The study and technical team

This study is a component of a regional project which was initiated in late 1995 to promote corrective actions regarding land-based sources of pollution caused by tourism which have a negative impact on coastal and marine resources. This project of the United States Agency for International Development (USAID) supports the International Coral Reef Initiative (ICRI), which is being implemented by a grant with the Caribbean Environment Programme (CEP) of the United Nations Environment Programme (UNEP). ICRI is an initiative of various governments and organizations to conserve and manage coral reefs and their related ecosystems.

The study is part of a series of three (3) studies conducted over the period April - June 1996 under this project, with purpose to prepare a diagnostic analysis of training and public awareness activities regarding tourism and land-based sources of marine pollution (LBSMP). The objectives of the other studies were respectively to determine the levels of coastal degradation and the best approaches and practices available. This study draws on their findings and conclusions, in order to propose a set of public awareness and training activities for the project.

The study was carried out by the Panos Institute (Washington, DC, U.S.A.) in collaboration with the Caribbean Institute of Media and Communication (CARIMAC) of the University of the West Indies (Kingston, Jamaica).

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CHAPTER 1 INTRODUCTION

1.1 Background and problem statement

The Wider Caribbean region is at a critical juncture in its development as a tourism dependent regional economy. After three decades of outstanding growth in tourist arrivals and foreign exchange earnings, the prospects for continued growth rests on maintaining the pristine environment on which tourism has come to rely. It is an obvious paradox that tourism as one of the region's biggest industries has become an important cause of the degradation of the coastal resources, and stands to be one of its first victims.

The erosion of beaches, degradation or destruction of coral reefs, the presence of litter in many places, the deterioration of coastal water quality, visual disturbance of coastlines by massive developments, all these have contributed heavily to the loss of the natural assets which attract the tourist. In addition, the industry's effects can lead to the loss of benefits in other sectors of the economy, such as fishing, and cause increased exposure of the coastal zone to natural disasters.

Regional governments and the private sector which rely on tourism for development and economic benefits, unwittingly stand to lose the most from coastal degradation. Obviously, these players should have an active interest in maintaining tourism sustainability and ensuring that it does not "kill the goose that lays the golden eggs". Most impacts and risks to the marine environment are caused to a much larger degree by the standards applied to the construction and operation of tourism infrastructure, than by the behaviour of individual tourists. The planning of airports, hotels, roads and all systems around these, determines to a great extent the "environmental friendliness" of the industry.

Although the negative coastal impacts of the tourism development process are in many ways less damaging than those arising from other industrial activities, they are nonetheless severe, and reflect poor management strategies on the part of tourism companies, governments or local authorities. In light of this, promoting the concept of sustainable coastal development is becoming a central goal of the governments of the Wider Caribbean region. Mitigation of coastal degradation can only be achieved, however, with support and active involvement of key decision makers, workers and beneficiaries of tourism. Training and awareness activities to promote more sound coastal resource management and development must be targeted to these key players, in particular local communities and the private sector.

Through case studies of five destinations and reference to others, this diagnostic study addresses a variety of experiences in tourism development in the region (Chapter 3 and 4). In most locations, there are a number of players involved in the tourism industry, who through their actions impact on marine and coastal resources.

The study focuses on the types of players and their behaviour relevant to impacts on land-based sources of marine pollution (LBSMP), and evaluates methods for changing behaviour. As far as possible, linkages have been indicated to specific land-based sources of point or non-point marine pollution.

In this study, marine pollution has been defined in a general way, in line with the U.N. Convention on the Law of the Sea, as the "introduction by man, directly or indirectly, of substances or energy into the marine environment including estuaries, which result or is likely to result in such deleterious effects as, harm to living resources and marine life, hazards to human health, hindrance to marine activities, including fishing and other legitimate uses of the sea, impairment of quality for use of sea water and reduction of amenities".

Based on the case studies and examples, Chapter 5 analyzes the most appropriate ways to reach specific audiences with particular messages. The audiences are described in terms of how their direct or indirect actions create or promote LBSMP, taking into consideration that very often these same audiences are the very groups who have the most at stake, such as financial investments and income from the tourism products. The most suitable techniques and strategies to engage the various players in awareness campaigns and training are analyzed. It is demonstrated that priorities differ, based on financial, cultural, or ecological concerns and solutions.

In Chapter 6, information has been compiled for the design of an effective training and public awareness programme on coastal degradation and tourism, targeted to key players and aimed at positive change in their behaviour.

All factual statements in the report are based on interviews conducted by phone or face-to-face. Where documents served as source, a reference is made in the text within brackets. The list of references included in this report, also comprises some background literature that was screened but not used for direct or indirect quotations.

1.2 Tourism development practices and marine and coastal impacts

Tourism is one of the world's largest industries, and the Caribbean's largest growth industry. The geographic proximity of the Caribbean to North America and Europe has fostered a large inflow of foreign private hotel investment and aid-financed air, sea, and inland transport infrastructure - the capital base of the visitor industry. Because of the Caribbean's strategic location within the Americas, some islands also function as transshipment ports and international financial centres, activities closely allied to tourism development. The resulting wide scale coastal development is problematic, e.g. in affecting coastal water quality adversely which also negatively affects the growth of the industry. Small islands appear to be the most vulnerable to the overgrowth of international tourism (de Alburquerque & McElroy, 1992).

The Caribbean Tourism Organization (CTO) collected evidence that indicates that 80 to 90 percent of the sewage generated across the region by hotels is disposed of in near shore coastal waters without adequate treatment (CTO, 1996). This makes hotels one of the largest and most dangerous sources of marine pollution, and consequently a major threat to their own economic well-being.

Further, a survey by the Caribbean Environmental Health Institute (CEHI) and the Pan American Health Organization (PAHO) of 68 hotels and resorts in the Eastern Caribbean revealed that compliance with basic effluent criteria was generally poor and that it is common practice for many of these hotels to dispose of their effluent at sea (Vlugman, 1993).

Throughout the region, legislative provisions to control effluent discharges are weak, or non-existent, and the enforcement capacity of agencies responsible for monitoring and enforcing the legislation is lacking. The Island Resources Foundation (IRF) found other known coastal effects of tourism to include physical alteration and habitat damage, groundwater depletion and contamination, changes in sediment loads, toxic chemicals and nutrification of surface waters, solid waste disposal, impacts on the aesthetic quality of the coastal zone, and displacement of traditional uses and users. These effects are covered in more detail in their report (IRF, 1996a).

1.3 Terms of Reference

The purpose of the study was to prepare a diagnostic analysis of training and public awareness activities regarding tourism and LBSMP, including the following tasks:

(1) Identify types of behaviour related to the tourism industry which impact negatively on coastal and marine resources, as well as the gaps in knowledge, attitudes and practices which contribute to this behaviour;

(2) Identify successful training and public awareness activities in the Wider Caribbean which have served as effective methods to effect positive behavioural changes with respect to reducing negative impacts caused by tourism on coastal ecosystems; and

(3) Identify techniques which are currently being used at the policy and community levels, the changes which have been implemented as a result of past and ongoing public awareness activities and the existing regional, national and community-based organizations which are currently involved in public awareness activities.

The study is part of a series of three (3) studies conducted over the period April - June 1996 under a regional project of the Caribbean Environment Programme and United States Agency for International Development USAID. The objectives of the other studies were respectively to determine the levels of coastal degradation and the best approaches and practices available. This study draws on their findings and conclusions, in order to propose a set of public awareness and training activities for the project.

CHAPTER 2 METHODOLOGY

2.1 Introduction

The study is organized around selected destinations, in order to provide a manageable setting to assess the training and public awareness practices and activities across the Wider Caribbean region. Panos and CARIMAC implemented the technical study through a combination of desk research, survey research and case studies, as follows:

1. Four to six key tourist destinations in the region were identified, with their major tourism related land-based sources of marine pollution, and impacts on the marine environment.

2. The major players in these destinations were identified, as well as their current behaviour.

3. Existing studies and material were processed through information held by Panos and CARIMAC, as well as associated institutions, experiences in partner organizations and other information sources. Examples were documented of benefits to developers of introducing improved standards (e.g. financial benefits, an increase in customers, customers of a better caliber, increase in benefits to community).

4. Interviews with private sector and community-based organizations were conducted, and emerging information and solutions were tested with selected technical experts.

5. The successful activities as well as their failures were analyzed, and key techniques and opportunities for successful training and awareness were distilled as follows:

    - Relevant training of developers, private sector and community operators was related to environmentally sensitive development standards that have an impact on the tourism product, as well as elements for promoting the skills to implement these standards.

    - Elements to increase public awareness and pressure for achieving better standards were considered.

    - Examples were provided of long-term benefits to society (types of tourism behaviour that is economically beneficial).

6. Elements for a public awareness and training programme on LBSMP and tourism have been given for the Regional Coordinating Unit of CEP, targeted to key players and behaviours.

2.2 Case study approach

The Wider Caribbean region is diverse. Many social and economic factors affect the management of

tourism on a site specific basis, including resident's attitudes towards both tourist development and the tourists themselves. The economic and environmental costs and benefits of tourism are expressed differently. Similar pollution problems or ecosystem preservation issues might need different solutions in various locations across the region.

Training and awareness programmes therefore, also need to be adapted to local conditions. This will maximize the participation of the private sector and local community in solving their marine pollution problems caused by tourism. Participation in such programmes can be encouraged through local public meetings, planning workshops, radio, television and print media, through differing message formats in various parts of the region and to various types of audiences.

We opted therefore to relate tourism development issues and the problems encountered in promoting corrective action on coastal resources degradation, to a typical location and typical players involved. This allowed for the diagnostic analysis of a range of players involved in the industry and in selected destinations.

General conclusions on the region as a whole are then drawn from a comparison of the specific experiences of the case study areas.

Although our specific search was limited to the five case study areas, relevant information from other destinations (such as St. Lucia, Dominica, St. Kitts, etc.) was not excluded and has been integrated into the report.

2.3 Analytical framework

Audience research is vital for any communication project or campaign. In devising their communication strategies, many international development agencies have largely failed to take into account people's basic beliefs and identities. It is a well-documented finding that people's perceptions are unconsciously but very significantly influenced by their beliefs. Simply providing information to audiences without seeking to challenge their more fundamental assumptions is unlikely to result in any significant shift in behaviour. People's identity (age, gender, socio-economic position, urban/rural, job, education, etc.) will determine their specific perspectives on environmental issues (adapted from Foreman, 1996).

Therefore, audience research assists in understanding the specific factors that influence motivations of behaviour (what makes doers and non-doers). The various audiences described below are analyzed in terms of these motivations, and the resulting direct or indirect actions creating LBSMP.

In order to examine the relationship of tourism to coastal environmental impacts, the Island Resources Foundation created a simple analytical framework for their environmental impacts and best practices studies (IRF, 1996a and 1996b), with three dimensions: (1) Type of tourism facility involved; (2) Area or zone of environmental impact; and (3) Nature of tourism effect. The framework is original to the

series of three studies commissioned by UNEP/CEP, but it obviously borrows from a number of regional and international studies related to tourism, environmental impact and communication.

To facilitate compatibility, this study describes an additional dimension to this framework, forming the basis for communication programmes: (4) Key players involved and related behaviour. For this study, 8 groups of key players are defined:

(a) Public Authorities. They regulate and set standards for the operation of tourism facilities, as well as the management of coastal areas. They fall variously under the ministry of tourism, planning, finance, or agriculture and fishing in each country. Their legislated authority and related responsibilities include:

- Town and Country Planning: Regulate building use, size and support systems such as sewage treatment plants. Objectives for requirements relate more to health and public safety than to environmental protection;

- Tourism Licensing and Training: Set the standards and code of operations (physical factors, staff) for facilities used by tourists. Tourism authorities typically play major roles in sponsored training of hotel personnel, which is concentrated in the fields of management and marketing;

- Coastal Management: Institute coastal pollution and degradation mitigation measures. In many countries, these are recently established bodies of government regulations;

- Air and Sea Ports: Regulate developers, builders and managers of aircraft and sea vessel facilities (receiving, refueling and passengers).

(b) Tourism Policy Makers. This group includes primarily the public officials in the economic planning agencies of each country. These are supported by policy planners in regional or sub-regional governmental organizations, eg. Caribbean Community (CARICOM), Association of Caribbean States (ACS), Integration System for Central America (SICA), Caribbean Tourism Organization (CTO), Caribbean Development Bank (CDB). Additionally there are a number of other secondary actors, such as the policy advisors from bilateral development assistance agencies, or multilateral funding institutions.

(c) Beach Resort Developers and Managers. This group includes players from both the private as well as public sectors. Where government takes a direct action to finance, develop and maintain coast resorts and support amenities, there are public developers. The public sector at times also owns hotels or other facilities, leased or managed under contract (eg. by a hotel chain such as Hilton International). Regarding the private sector, in addition to developer/owners of single site facilities, there are those of hotel/resort chains which are important actors in the region (eg. Super Clubs, Sandals).

(d) Marine Tourism Operators. This group includes operators of shore side facilities to service yachts, pleasure submarines or glass-bottom boats, tour and fishing boats, scuba diving, etc. These

mostly private business operations can involve fueling, boat cleaning, sewage and solid waste disposal.

(e) Airport and Cruise Port Operators. Usually airports and seaports are public sector operations and official acts are necessary to expand facilities or land (often involving land fills), manage traffic of crafts and people, collection and disposal of wastes (solid, fuel), etc.

(f) Site and Building Designers, Engineers and Contractors. They include the technical personnel who play a role in the erection of structures at sites on or close to the coast.

(g) Tourism Business Organizations. These are associations of hoteliers, attraction operators, transport facilitators and agencies, dive shops and others who influence the environmental practices among their membership.

(h) Local Resident Communities. This large category includes a great variety of citizen groupings which often act as agents for demanding and enforcing coastal management regulations.

The analytical framework is represented in Figure 1.

Figure 1. Analytical framework.

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(1) Tourism facilities in the coastal zone.

- **Tourism Complexes**
- **Large Hotel and Resort Facilities**
- **Small Hotel and Resort Facilities**
- **Entertainment Facilities**
- **Parks and Protected Areas**
- **Shoreside Recreational and Tourism Facilities**
- **Marine Tourism Facilities**

(2) Area or zone of environmental impact.

- **Uplands**
- **Coastal Plain**
- **Estuaries, Back Bays, Salt Ponds and Lagoons**
- **Beach and Shoreline**
- **Near Coastal Waters and Fringing Reefs**
- **Offshore Waters**

(3) Nature of tourism effect.

- **Physical Alterations and Habitat Damage**
- **Groundwater Depletion and Contamination**
- **Changes in Sediment Loads**
- **Toxic Chemicals and Nutrification from Surface Waters**
- **Solid Waste Disposal**
- **Aesthetic Impacts**
- **Displacement of Traditional Uses and Users**
- **Social Cost to Community**

(4) Type of key players and related behaviour.

- **Public Authorities**
- **Tourism Policy Makers**
- **Beach Resort Developers and Managers**
- **Marine Tourism Operators**
- **Airport and Cruise Operators**
- **Site and Building Designers, Engineers and Contractors**
- **Tourism Business Organizations**
- **Local Resident Communities**

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CHAPTER 3 REGIONAL OVERVIEW

3.1 Extent and nature of training and public awareness on coastal and marine impacts: foci, agents and key players

In an industry whose public image is key for its success, information needs to be directed to both the tourists and the local communities about what is being done to ensure a healthy environment. However, marine pollution from land-based sources is for a great deal caused by infrastructure development or the lack of proper maintenance. Public education regarding these issues should, therefore, target a much wider audience than local residents and visitors. It is found essential, for instance, to include airlines, hotel chains and travel agents.

Although there is not much documentation available, there exist a variety of training and public awareness activities and initiatives relating to coastal tourism issues in the region. These have different foci (strictly marine pollution and tourism or wider), different executive agents and target groups, and can be categorized as follows:

(a) Initiated by industry stakeholders and targeting the hotel industry;

(b) Initiated by other tourism players and targeting the hotel industry;

(c) Initiated by industry stakeholders and targeting other players; and

(d) Initiated by other tourism players and targeting the wider society/general public.

3.1.a Initiated by industry stakeholders and targeting the hotel industry

Good managers in the service industry recognize that training programmes need to be ongoing, as staff turnover is great. A number of practical key themes should be introduced into this training. Eg. energy conservation policies can be employed to reduce both residential and tourist demand. Although difficult to address on a large scale in terms of public awareness and participation, an example from Key West, Florida, is that residents and tourists alike are encouraged to see the island by bicycle!

Believing that the private sector should take the lead, the Caribbean Hotel Association (CHA), active in 34 countries of the region and based in Puerto Rico, has made very significant steps in improving environmental management in the tourism and hospitality industry. Nearly half the hotels in the region are members. In 1994, CHA adopted an Environmental Charter through which its members undertake to implement sound environmental practices on their properties, as well as in association with their local community.

In 1995, in collaboration with Environmental Solutions Ltd. of Jamaica, CHA produced the "Environmental Management Tool Kit for Caribbean Hotels" (Jones, 1995). The tool kit is intended

"to assist the Caribbean hotel owner and operator with practical steps toward making their properties more competitive in a global marketplace where the demand for environmentally friendly tourism services has increased rapidly." The guide provides a step-by-step approach to improve hotel operations, including checklists and a list of relevant products and services.

During 1996, the CHA tool kit has been adapted to a one-day training seminar module by Environmental Solutions Ltd. with sponsorship of American Airlines and American Express. Each training seminar is administered during week-long visits by environmental specialists to various islands and demonstrates how hoteliers can use the tool kit to get a "green" programme started. Additionally, based on individual environmental hotel audits, trainers offer advice about developing an action plan to upgrade the hotel's environmental efficiency.

In addition to these training activities, CHA also organizes environmental awareness activities for its members. An environment committee was established in 1993, which coordinates information dissemination and events. Seminars have been orchestrated during annual CHA conventions, drawing the participation of about 1,500 people. These seminars provide tips on how to make a hotel "green," how to use a green hotel as a marketing tool, and how to earn 130 percent more with green management. Additionally, a pamphlet has been produced for Convention delegates: "Simple things you can do for the environment." The Environment Committee has also organized round table discussions on a variety of topics with qualified speakers (Holmes, 1996).

Operating on the premise that there is enough diversity in the Caribbean that CHA members need not be afraid of competition, the Association encourages joint green marketing throughout the region. With the sponsorship of American Express, CHA has set up an awards programme. This programme includes the "Green Hotel Award for Stewardship," and in collaboration with Clean Islands International, the "Community Partnership Award." Other awards concern such issues as recycling and other conservation practices.

Hotel Le Club in St. Lucia has an environmental awareness programme for its staff, and, most significantly, has an Environmental Officer on staff. In August 1996, Sandals St. Lucia launched a programme to educate staff members on the environment. Although this primarily targets hotel personnel, it intends to encourage others in the private sector to implement similar activities as well (St. Lucia Tourist Board, 1996).

3.1.b Initiated by others tourism players and targeting the hotel industry

Non-governmental organizations are beginning to play a roll in public awareness of tourism related environmental issues. For example, Clean Islands International (CII), founded in 1992, is dedicated to providing educational and technical assistance to Caribbean island communities for developing sustainable waste handling practices and cultivating environmental awareness about marine pollution. CII has conducted waste reduction workshops, symposia and seminars. They hosted the inaugural meeting of the Solid Waste Association of the Caribbean (Nassau, 1994), and sponsored the establishment of the Wider Caribbean Waste Reduction and Recycling Alliance (ReCaribe) in

November 1995 (Brown, 1996).

ReCaribe aims to improve waste management practices through sharing of information, transfer of appropriate technology and methodology, networking, and supporting education and training in the Wider Caribbean region. ReCaribe and CHA are putting together a network of contacts to support and assist any member hotel in the creation of a recycling programme.

There are two major training institutes dealing with tourism in the Bahamas: the Bahamas Hotel Training College and the College of the Bahamas. In its curriculum, the Bahamas Hotel Training College is focused at training personnel at various levels for the tourism industry. Its curriculum however, does not include modules geared towards teaching students about the environmental aspects of the tourist industry.

The College of the Bahamas has a Liberal Arts orientation and an environmental module is included in the tourism-focused courses.

In 1993, the University of Florida, in collaboration with the Florida Hotel and Motel Association (FHMA) and a number of other institutions, produced an environmental guide for hotel and motel purchasing managers (University of Florida, 1993). The guide assists in starting up programmes which utilize selective purchasing practices and aggressive efforts to reduce waste, toxicity and disposal costs. It gives a number of tips including what products to avoid, reuse, and purchase. It is important to note that the awareness raising discussion is about lower material procurement expenditures and reduction in waste disposal costs.

In Jamaica, the Human Employment and Resource Training trust (HEART) is a school leavers vocational training programme which began in the 1980s. It has a responsibility for training young people in areas such as cosmetology, automotive mechanics, and the service industries, including tourism. It runs the island's only hotel training school in Runaway Bay.

The Trust takes a broad based approach to environmental issues in its training programmes. Importantly, however, it makes an exception in the curriculum of the hotel training school, where it attempts to sensitize trainees to environmental matters that are of direct relevance to the tourism product. This includes topics such as sewage waste management, and the protection of the island's fragile marine ecology, in particular its reefs. On an average, trainees in the school spend approximately seven months in the programme of which twenty hours are spent on environmental issues (HEART Trust, 1996).

Training needs to go hand in hand with effective enforcement of regulations in the resorts. Regarding the dumping at sea of garbage generated by cruise ships, for instance, the governments of the region are becoming better equiped to enforce the regulations. In 1993, the Cayman Islands brought two ship captains to court for illegal dumping in their waters. In the same year a case against Princess Cruises resulted in a US$500,000 fine for dumping 20 bags of plastic wrapped garbage off the Florida Keys.

3.1.c Initiated by industry stakeholders and targeting other players

The inception of waste reduction, reuse and recycling programmes has been slow in the region, primarily due to lack of resources and geographic difficulties posed by isolated islands and continental areas. Caribbean societies lack good connections to the recycling marketplace, and have in general failed to make reusable goods an economic resource. Since reduction, reuse and recycling are generally low on governments' lists of priorities, these programmes are mostly found in the private sector (CII, 1994a).

Engineering staff from several hotels in the region have indicated that waste reduction through recycling programmes is economically attractive, but needs a step-by-step approach. Changing procedures takes time and some training and it is advisable to first get one action fully adopted and working, before introducing the next (eg. Dalton, 1996).

In 1994 the Sandals Royal Caribbean Hotel in Jamaica built an off-shore attraction on the foreshore adjacent to its property. Environmentalists in Jamaica raised a furor over this action, claiming that among other things the particular development had a deleterious impact on the marine environment. The matter was given much attention in the Jamaican media.

The Chairman of the Sandals group, Mr. Gordon "Butch" Stewart, however, felt that the reporting on the matter was inaccurate and reflected negatively on the Sandals group. He said so, but also went further by announcing the establishment of what subsequently came to be known as the Sandals Eco Journalism Award Programme. This Programme gives annual regional awards (substantial monetary first, second and third prizes) to the best environmental stories carried in any of the region's media in the preceding year. The Programme, which makes its fourth awards in 1997, has as direct objective to improve environmental reporting in the Caribbean region.

St. Croix has recently activated a thrust towards ecotourism and while there are no systematic environmental training programmes, at least two hotels are involved in such activities. The Colony Cove Hotel has an education room where videos are shown to teach guests and others about the marine and terrestrial environment. The Bucaneer Hotel from time to time also engages in activities that seek to influence individuals and their attitudes towards the environment (CANARI, 1996).

The St. Croix Divers Association has awareness programmes on the marine environment, focused around the recent installation of permanent mooring facilities to protect coral reefs from anchor damage by boats. Also the St. Croix Aquarium, a non-profit, teaches people about the marine environment, through its displays and related activities.

3.1.d Initiated by other tourism players and targeting the wider society/general public

There are a number of interesting examples of local activities in the region. The St. Croix Environmental Association (SEA) primarily functions as a watch dog and advocacy group. Its primary aim is to ensure that neither individuals, groups or businesses violate St. Croix's environmental

guidelines. SEA reports any violations to the Department of Environment and Protection, the environmental enforcement unit of the government. It also devotes attention to environmental education of young people, which includes seeking their involvement in environmental protection (CANARI, 1996).

In Dominica, a number of NGOs have an environmental focus. Jewels of the South and the Movement for Cultural Awareness recently collaborated in conducting an educational programme over a period of several months which targeted various communities throughout Dominica. The objective of the programme was to raise public awareness about the importance of proper garbage disposal, the marine environment and other issues related to eco-tourism. The Movement for Cultural Awareness also conducted a three week environmental camp for children between the ages of 9-12 in the summer of 1996 (Dominica HTA, 1996).

In 1994, the Cayman Islands started its island-based recycling programme with used motor oil and batteries. Collection was expanded in 1995 to include other categories of chemicals and office paper. Collection of paper and cardboard began in early 1996. Puerto Rico started a solid waste management programme in 1995 (CII, 1995).

The St. Lucia Department of Fisheries has zoned areas in which tourism is prevalent and has licensed stakeholders including boat operators, divers and other boating interests with a view to controlling their impact on the marine environment. The Department also has a beaches and mangrove programme in which communities and hotels are encouraged to adopt a beach or mangrove area located in their neighbourhood. These activities intend to increase public awareness of the importance of the marine environment as well as sources of potential marine pollution.

Since it is widely understood that "what a business buys directly affects what it throws away," there are a number of public awareness initiatives in the region regarding the reduction of wastes. A few years ago, an ad-hoc group of residents in Bonaire formed "Keep Bonaire Clean" and organized a cleanup of the island -- in which a quarter of the population participated. In 1995, they initiated the development of an island-wide recycling programme. A bottle deposit system was implemented by Amstel Inc. for its beer bottles, but other companies that are major sources of recyclable materials on the island are not yet interested (CII, 1995).

3.2 Extent and nature of training and public awareness on coastal and marine impacts: a recent study

A great number of other activities in the region intend to increase public education of the importance of the marine environment as well as of sources of potential marine pollution. A recent study by Oda Dijksterhuis (1995) in six Caribbean countries, focuses on the extent and nature of current environmental education, and its efficiency.

According to the study, environmental education on coastal issues usually combines various

methodologies to tailor a programme to a target group's needs. This may include beach clean-ups, music, video, puppet shows, popular theatre, special events, youth summer camps, exhibitions, etc. Funding is mostly provided by the governments of the island states (31%) or international agencies (43%); donations and membership are the second largest source of funding (18%). Other revenues cover 8%.

Environmental education initiatives target a variety of groups:

Primary and secondary schools	16%	
Teachers		13%
Community groups		13%
Higher education		10%

Youth clubs and the economic users of the coastal zone receive much less attention:

Youth clubs		8%
Business and industry	8%	
Tourists		6%
Fishermen		6%
Farmers		6%

Environmental professionals, volunteers and environmental managers, are targeted in respectively 5% and 6% of all initiatives. For other groups, such as policy makers, politicians, judiciary, security forces, sporting groups, service clubs, academics, journalists, media managers and the wider public, no percentages are known.

Topics covered are as follows:

Ecosystem degradation and destruction	8%	
Natural resources exploitation	7%	
Coastal development in general	7%	
Species protection and biodiversity	6%	
Tourism		6%
Forestry practices		6%
Littering		6%
Domestic sewage and waste	6%	
Coastal erosion	6%	
Fishing and aquaculture		5%
Non-domestic sewage and waste		5%
Air pollution		5%
Sedimentation	5%	
Health	5%	
Natural disasters		4%

Beach mining and dredging	4%	
Farming practices		4%
Population issues		3%
Radio activity	2%	

Almost one third of the organizations covered one or more of the above topics on an occasional basis; 27% did so regularly and 11% on a continuous basis. The most important constraint is lack of funding (27%). Other constraints are: lack of appropriate curricula (17%), insufficient legislative backup (12%) and insufficient availability of trained personnel (12%).

CHAPTER 4 CASE STUDIES

4.1 Selection of specific sites

Potential sites for the case studies were assessed based on a quick overview of tourism development parameters. Table 1 illustrates some of the parameters used for the assessment. In particular, the economic importance of tourism, as measured by foreign exchange earnings, and projected growth in the industry, was pertinent to assess destinations for case study selection. Table 2 shows another side of the coin, providing specific information on cruise ships. Additionally, problems associated with dense concentrations of tourists and tourism development (confined areas and areas where the tourists greatly outnumber the residents) were taken into account. These vital issues include the adequacy of existing water and sanitation services needed to meet the demands of peak seasonal populations and the ability to operate during a dry season.

The seven island states with "high-density" tourism rankings include Caribbean resorts like the Bahamas, Aruba, and the U.S. Virgin Islands, as well as the most rapidly expanding smaller destinations like St. Maarten, Anguilla, the British Virgin Islands and the Cayman Islands. These islands average approximately 170 visitors daily per 1,000 population and 52 visitors daily per square kilometer of land area. This is more than three times the "medium-high@ density average for the some of the faster growing resorts that are undergoing marked hotel room expansion including Antigua, St. Lucia, St. Kitts and Nevis and the Turks and Caicos Islands. We selected **The Bahamas** from the high-density group.

We also considered and choose **Barbados** as a case study from the medium-high density group in part because it has a large non-traditional origin market. For example, Barbados attracts many European visitors vs. U.S. visitors in other Caribbean destinations, while Bonaire attracts South American visitors, and Montserrat attracts the North American retirement community.

The islands with medium-low average visitor densities, include comparatively modestly growing, newly emerging tourist areas like Grenada, St. Vincent and the Grenadines, and Dominica. They are characterized by limited accommodation capacity and infrastructure and cater mostly to North Americans. More seasoned destinations with medium-low visitor densities include Curacao, which draws from nearby Venezuela and the French resort areas of Guadeloupe and Martinique.

Case studies on ecotourism have already been done by UNEP for the Netherlands Antilles (Bonaire), Costa Rica, and the U.S. Virgin Islands (St. John). We chose not to duplicate efforts in both our choice of case studies and in focusing on ecotourism destinations. It is important to note, however, that some successful ecotourism destinations spawn rising visitor densities, cumulative deterioration and socio-cultural change (Albuquerque & McElroy, 1993). This creeping commercialization tends to affect even the most delicate and remote

[Table 1.]

[Table 2.]

travel destinations. What was once an authentic and unique experience for the adventurer, eventually becomes a more staged and less daring experience for the tourist.

Jamaica was selected as a country with major marine pollution problems and a large amount of data available. Additionally, the fact that a new cruise port is planned for the year 2000, and the relatively easy access to players in coastal tourism for the study team favoured selection of this destination.

Within the U.S.A., the **Florida Keys** were selected, an area with an economy that is essentially based on tourism and tourist related service industries. Its coral reef is believed to be the most heavily visited in the world. Issues taken into account in choosing to study **Puerto Rico** included the fact that it is a major destination in the region for both stop-over and cruise ship passengers.

4.2 Bahamas

With 2,700 islands and cays and a well-known tourist industry slogan to attract visitors ("It's better in the Bahamas"), the nation has made the most of its location. Just over half an hour by air from Florida, it is closer to the biggest Caribbean market than competing destinations in the region. Four out of five tourists in the country are from the U.S.A.

There are telling measures of the importance of tourism to the Bahamas: more than twelve times as many tourists as there are Bahamians visit the country each year; more than half of all working Bahamians are employed in tourism; tourism contributes half the country's gross domestic product.

Despite tourism's importance to the Bahamas, there are few linkages to the local economy. For example, very little of the food consumed by tourists is produced in the country, and eighty cents of each dollar earned by tourism is spent on imports for the sector. Investments and properties are often in foreign hands and appear to remain so.

More than 587,000 tourists visited Freeport and Grand Bahama Island in 1995, 11.8 percent more than in 1994. Nine out of every ten came from the U.S. In addition to the 287,000 cruise ship visitors from that year, increasing numbers have been arriving on ferries from the U.S. With 3,000 available rooms and infrastructure for expansion already in place, the Grand Bahama Development Corporation, which is responsible for developing tourism, is looking for investors.

Training and awareness

The Bahamas Ministry of Tourism has an ongoing environmental public awareness programme throughout the archipelago. This programme takes the form of seminars designed for delivery to the widest cross-section of the population and is intended to sensitize people to the importance of the environment, including the marine environment, to the health of the national economy.

The Bahamas' Heritage Society, one of the primary NGOs emphasizing the protection of the heritage

of the Bahamas, conducts a variety of public awareness activities on the environment. These activities cover issues related to the fragility of marine ecosystems. However, specific documentation on these and evaluations of their effects are lacking.

The Bahamas Hotel Association is not aware of any training activities within or outside the tourist industry dealing with land based sources of marine pollution. Notwithstanding, since 1992 "Adopt a Beach" as well as "Adopt a Park" campaigns have been run by the Bahamas National Pride Association, a NGO, in collaboration with Keep America Beautiful (based in the U.S.A.). Both campaigns are geared towards protecting the marine resources of the Bahamas (BNT, 1996).

4.3 Barbados

Tourism is well developed in Barbados with cruise facilities, beach resorts, sailing, shopping and historic attractions. The tourism density level is very high, with visitors outnumbering residents almost 2 to 1. The island has experienced a massive growth of cruise tourism, with 623 ships calling at Barbados in 1995. Bridgetown is busy and expanding and now can berth a maximum of 7 cruise ships. Six additional cruise line berths have been planned, reflecting increased capacities not only for more ships, but also for larger ones.

Waste reception and disposal associated with cruise ships has increased tremendously in quantity, with in 1991 an increase of 200% over the previous year. Waste is burned in an open landfill, which is a major source of coastal air pollution. Caribbean Week (of 13 April 1996) reported that the Port Authority, well aware of the demand for 'green ports' - environmentally pleasing destinations - has now installed a modern smokeless incinerator system.

Increased sewage pollution began to be noticed in the 1980s, partly due to the filling in of coastal mangroves for construction (Nurse et al, 1989). These areas previously functioned as sediment filters. However, the process of environmental degradation has been underway since much longer. Reports since the early 1950s have revealed severe beach erosion on the South and West coasts. This has been caused by increasing stress on near-shore coral reefs, less and less able to perform the natural bio-erosion that results in the production of beach. Some buildings have been undermined and subsequently needed protection with expensive walls and revetments.

Training and awareness

The Barbados Hotel and Tourism Association (BHTA) has a special environmental sub-committee which is comprised of individuals drawn from both the private and public sectors. This appears to be the only organized group in the island with an agenda that focuses on environmental matters as they relate to the tourist industry. The BHTA is not aware of any local community interest group with a similar agenda, outside its own structure. The private sector takes the lead in spearheading the programme and activities designed and undertaken by this sub-committee, but not much has been achieved as yet. At present, efforts are being renewed to sensitize the public to the significance of the

environment to the industry. As a fresh initiative, the sub-committee plans to distribute environmental materials in the public school system. A logical next step would be to target personnel working in the industry with a focus on land-based sources of marine pollution (BHTA, 1996; BHA, 1996).

The Ministry of Tourism in collaboration with the Barbados' National Trust, the National Conservation Commission and the Coastal Zone Management Unit, recently comprised themselves into a coordinating committee and launched an "Adopt a Beach" project. The objective of this project is to develop community involvement across the Barbadian population in maintaining the integrity of Barbados' beaches. In August 1996, 23 organizations and community groups officially adopted beaches in an "Adopt a Beach" signing ceremony. Another ten groups have indicated an interest in doing so. To date, three major beach clean-ups have been implemented: in September 1995, 115 volunteers cleaned 6 sites; in November 1995, 150 crew members from the cruise ship Monarch of the Seas were involved; and in June 1996, 45 volunteers collected 85 bags of debris from some major beaches (CCA, 1996).

Some other planned activities include: (1) participation in the international coastal clean-up day for 21 September; (2) a first aid course for Adopt a Beach groups; (3) a workshop for Adopt a Beach groups on "developing and executing successful community awareness programmes"; and (4) a seminar, targeted at the tourism sector, entitled "Marine Pollution and the Tourism Industry".

There are two significant regional interest groups based in Barbados: the Caribbean Environmental Reporters Network (CERN) and the Caribbean Conservation Association (CCA). Although these organizations are regionally focused, there is domestic spill-over of environmental concerns within the Barbadian community. One clear indication of this is the increased frequency of coverage of environment issues within the Barbadian media (CERN, 1996).

In recent years, there has been a lot of publicity regarding eroded beaches. An example is Holetown on the West coast, where public pressure caused effective government intervention. Here in the 1960s a large hotel was built just behind the beach and the near-shore coral reef was dynamited in the early 1970s, in order to create a bathing pool for the hotel guests. Serious beach erosion occurred, and in 1979, two groynes and a breakwater were constructed by the hotel to protect the property.

These structures resulted in satisfatory beach creation in front of the hotel. However, extensive erosion occurred South of the hotel due to sand starvation. Houses were threatened and emergency measures were taken to protect these properties. After Government intervention, 85% of the breakwater structure was removed, and the Southern beaches recovered. The wide beach in front of the hotel however disappeared.

4.4 Jamaica

As a major destination, Jamaica is characterized by discrete and heavy concentrated pockets of tourism development, with its 18,000 rooms mainly in four coastal areas (Port Antonio, Ocho Rios, Montego

Bay and Negril). 40% of all hotel rooms are in large hotels (having 100+ rooms), with many offering all-inclusive on site services. There is also cruise tourism in Ocho Rios and Montego Bay and many villa properties around the island. The airport at Montego Bay receives 90% of the visitors to the island.

Tourism earnings account for about 20% of the economy. Jamaica is regarded as a `mature' destination, with less than the region's average growth (1.7%) in 1990s. Much of the greenery of hills surrounding tourist areas has been scarred to make way for concrete. Uncontrolled housing development for tourism employers and expectant workers close to hotels and resorts impacts negatively on the environment.

The tourism industry enjoys a noted favoured status with respect to government controls, which in some cases leads to a lessening of rigor on environmental matters. Such favoured status allows tourism developers to obtain some immunity from controls that often apply to other enterprises and private individuals. This has sometimes built resentment among local residents and small businesses (as in Negril) who see themselves bearing the costs of the resulting environmental impacts.

Ocho Rios has capacity to berth two cruise ships, and Montego Bay can now berth six ships. The ports are sited in the heart of these tourism towns creating excessive traffic congestion. Problems around reception and disposal of cruise ship waste concern at-port burning, inadequate off-site landfills, poor transportation and site management. Plans are under consideration to re-establish Kingston and Port Royal as a cruise port.

The management of garbage, toxic waste and other solid wastes in Jamaica is still well below acceptable standards. The resort areas contribute significantly to the overall garbage collection and disposal problem. Most of the largest resort hotels operate on-site package treatment plants satisfactorily. Some do not, and smaller hotels generally have inadequate facilities. Primary treated or untreated sewage disposal at the near-shore is causing algae build-up on reefs. Where sewage handling facilities exist, tourism developments contributes directly and indirectly to overloading of these plants.

The general lack of environmental awareness in property management practices is not only manifested in solid waste and untreated sewage generation, but also the high utility demand and energy consumption that typifies the industry. Also, design for disaster mitigation and product efficiency (including the encouragement of recycling, limitation of waste of energy), has not gained much acceptability. Further, current planning and design guidelines provide no incentives for developers and their architects to recognize or accommodate the environment. In some cases voluntarily imposed attention to environmental audits has produced market-appealing results.

Training and awareness [1]

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[1] Τηισ σεχτιον ηασ υτιλιζεδ τηε φολλοωινγ σουρχεσ: Εσπευτ ανδ Φιγυεροα (1996); Νατιοναλ Ενϖιρονμε νταλ Σοχιετιεσ Τρυστ (1995); ιντερναλ δοχυμεντσ φρομ Γοσσε Βιρδ Χλυβ, ϑαχκσ Ηιλλ Χομμυνιτψ Χουνχιλ, Ν ΕΣΤ, Σουτη Χοαστ Χονσερϖατιον Φουνδατιον (ΣΧΧΦ), ϑαμαιχα Χονσερϖατιον ανδ Δεϖελοπμεντ Τρυστ (ϑΧΔ Τ), Βλυεφιελδσ Πεοπλεσ Χομμυνιτψ Ασσοχιατιον (ΒΠΧΑ), Βλυε Χροσσ Ηεαλτη ανδ Ενϖιρονμεντ Φουνδατιον

Natural Resources Conservation Authority (NRCA): Jamaica's NRCA is a statutory body of the Government of Jamaica (GOJ). It is the pre-eminent organization dealing with the environment in Jamaica. While one of its primary functions is regulatory - the protection of the country's natural heritage - it seeks to carry this task out through continuous educational activities in collaboration with other governmental and non-governmental organizations. In the process it has developed a National Environmental Education Network among the various groups and organizations dealing with environmental issues in the island. But its work in the area of environmental education is not just didactic. It is also very practical.

Perhaps the best known of the NRCA's projects nationally, is the creation of the Montego Bay Marine Park - the first marine park in Jamaica. As the "tourism capital" of Jamaica, Montego Bay is very dependent on its marine resources. The creation of the Marine Park as a legally protected environment is used by the NRCA to demonstrate to citizens of this city specifically and to citizens generally, the importance of marine ecology in the economic well being of the entire country. Glass-bottom boat tours of the Park by school children are a regular feature of practical non-formal, environmental education. Such tours are organized for school children from all over the island. The Marine Park's educational activities have a strong focus on sea based sources of marine pollution.

These park activities led recently to public condemnation of Telecommunications of Jamaica (the island's monopoly telecommunication company). GOJ laid an undersea fiber optic cable on top of a reef with resulting damage to the reef. Public vigilance led to the company having to remove the cable at its expense.

The protection of the island's watersheds which is one of the major objectives of the NRCA has a direct impact on land based sources of marine pollution that ultimately affect the tourist industry. It is a well known and documented fact that the deforestation of many of Jamaica's woodlands has a direct impact on the quantity as well as the quality of the island's water resources.

The quantity and quality of the island's water resources in turn have a direct bearing on the island's tourist industry, especially on the North Coast which is the centre of the tourist industry. The reduced flow of water into the city of Montego Bay and its environments as a result of both internal migration patterns as well as the depletion of once abundant supplies of water has forced the government in recent years to divert water resources through major multi-million dollar schemes from both the Queen of Spain valley and the Great River that border the city.

ϑαμαιχα, Νατυραλ Ηιστορψ Σοχιετψ οφ ϑαμαιχα, Πορτλανδ Ενϖιρονμενταλ Προτεχτιον Ασσοχιατιον (ΠΕΠ Α), Στ. Ανν Ενϖιρονμενταλ Προτεχτιον Ασσοχιατιον, Στ. Τηομασ Ενϖιρονμενταλ Προτεχτιον Ασσοχιατιον; ιν τερϖιεωσ ωιτη Βλυεφιελδσ Πεοπλεσ Χομμυνιτψ Ασσοχιατιον (ΒΠΧΑ), Νεγριλ Χοραλ Ρεεφ Πρεσερϖατιον Σοχι ετψ, Νατυραλ Ρεσουρχεσ Χονσερϖατιον Αυτηοριτψ (ΝΡΧΑ), ϑαμαιχα Τουριστ Βοαρδ (ϑΤΒ) ανδ ιτσ Εδυχατιο ναλ Υνιτ, Ηαλφ Μοον Ηοτελ, ΗΕΑΡΤ Τρυστ, Μινιστρψ οφ Τουρισμ, Νατιοναλ Ενϖιρονμενταλ Σοχιετιεσ Τρυστ , Σουτη Χοαστ Χονσερϖατιον Φουνδατιον (ΣΧΧΦ), ϑαμαιχα Χονσερϖατιον ανδ Δεϖελοπμεντ Τρυστ (ϑΧΔΤ), Τουρισμ Δεϖελοπμεντ Χο.

The Jamaican Tourist Board (JTB): Like its equivalent in Barbados, the JTB has not set environmental policy. The Board, however, is willing to work with environmental agencies in those instances where it perceives itself as a stakeholder. Its role on the whole has been primarily supportive of such activities.

The JTB has a Public Education Unit which seeks to promote the industry in the island's various communities. In coastal communities it often refers to the negative impact that citizens' activities could have on the marine environment, but this is usually dealt with superficially. While the JTB has no responsibility for training of personnel within the tourist industry this Unit orients its awareness programmes towards people outside the industry. These programmes include among other things, the hosting of summer school sessions for young people in resort areas and, during the school year, the carrying out of training activities within schools.

The Tourism Product Development Company (TPDC): Prior to handing over responsibilities of the training of industry personnel to the TPDC, the JTB's Education Unit also hosted voluntary one week eco-tourism seminars annually for persons working in the industry. No formal evaluations of any of these activities are undertaken by the JTB. This activity has subsequently been taken over by the TPDC.

The broad approach of the JTB to citizen's awareness of the value of tourism to the island's economy resulted in the establishment in March 1995 of a project - Sustaining the Environment and Tourism (SET) - in collaboration with TDPC. This initiative started in Ocho Rios - one of the country's major resort areas - and has subsequently been expanded to Montego Bay.

The TPDC has primary responsibility for the training of personnel working within the tourist industry. These broad based activities involve training in customer services, languages, heritage tourism, etc. that are perceived to have potentially positive impact on Jamaica's tourism product. The TDPC has no specific environmental training programme that addresses the problem of land based sources of marine pollution. This issue is subsumed under broader topics that relate the environment to product development. So for example, an initiative of the TDPC in collaboration with the Inter American Institute of Tourism which started in August 1996, is geared towards environmental protection as a general objective of product enhancement. Because of the recent emphasis that the tourism industry in Jamaica is placing on eco-tourism, some attention is being paid generally to problems of pollution.

Jamaican hotel industry initiatives: Two initiatives are worth mentioning explicitly: one is the Sandals Eco Journalism Award; the other is Half Moon's Hotel Green Hotel designation.

Recently Half Moon's Hotel has been designated a Green Hotel. Some of the practices that were important for this designation are: using nature friendly ingredients in the hotel's garden; minimal, if any, use of plastic; mosquito control using nature friendly chemicals; minimal, if any, use of bleach; and composting. Half Moon Hotel has in-house training in which information on land-based sources of marine pollution is covered.

The Jamaican NGOs: Non-governmental environmental organizations have only recently established themselves. Traditionally most Caribbean countries have organizations occupied with a specific feature of nature: a bird club, a natural history club, only recently have much wider interest groups established themselves.

The newer groups generally lack the skills to attract public attention by staging media events. The older groups with their experience and expertise, are often able to influence the media agenda, but don't have any real influence at the executive political level.

At the national level these groups are taken seriously only in perceived emergencies. At the international level they fit the current fashion among funding agencies for environment to be given a high profile.

There is no readily available overview of environmental education activities in Jamaica. The National Environmental Societies Trust (NEST), the umbrella organization of 36 Jamaican NGOs, and the Jamaica Conservation and Development Trust (JCDT) noted in 1995 that within the environmental community, there was "a lack of knowledge as regards who is doing what, where and how". However, most of the NGOs (95%) in this survey said to either to be involved, or planned to be involved (5%) in environmental education.

Some of the NGOs are spending over 100 hours per month on environmental activities. Most NGOs rely on volunteers; some also have paid staff which may guarantee consistency in long term activities.

The NEST/JCDT survey is the best written source to date on environmental education activities in Jamaica. The data, however, are limited to questionnaire responses. There were no in-depth interview with the organizations that could clarify the reasons for their points of view or actions.

From the responses of the 21 NGOs it is clear that a great variety of methods is being used to influence awareness, knowledge, attitudes, skills and participation: presentation of slides and AV material, together with lectures and talks form the most popular method; the organization of special events, field trips, newsletters and project related activities take second place. School activities, extra curricular or within the school curriculum, follow.

Jamaican NGOs and marine issues: Twelve of the 21 (more than 50%) NGOs address explicitly coastal and marine issues. These are the St. Ann Environmental Protection Association; Natural History Society of Jamaica; Montego Bay Marine Park; Jamaica Conservation and Development Trust; South Coast Conservation Foundation; Friends of the Sea; Jamaica Geographical Society; St. Thomas Environmental Protection Association; Oracabessa Foundation; Negril Coral Reef Preservation Society; Malvern Science Learning Centre; and Environment Watch Organisation.

Almost all NGOs address watershed protection, sewage disposal and/or (solid) waste management as important issues. Three NGOs say they address "all issues." Five of the 21 respondents (almost 25%) mention in their target audience "fishermen" as a group to be addressed.

Finding materials to be used in environmental education activities seemed to be a common problem: 43% answered "often a problem"; and a similar group found this "occasionally" a problem. The main existing gap was the communication between NGOs. Some NGOs complain about the lack of shared information sources - data bases.

Funding of environmental education activities is a significant problem for the majority of NGOs operating in Jamaica. The majority of programmes are funded through grants (52%), followed by private donations and membership dues. The assistance of Peace Corps volunteers - in 43% of the responding organizations - creates problems for continuity when the volunteers' period of service expires.

Asked which additional resources were required, 95% of the NGOs mentioned funding; materials were next - 71%, and transportation and human resources shared third place with 62%. The need for training in the delivery of environmental education is mentioned by almost all NGOs as one area of high priority.

Jamaican NGO case study: The Negril Coral Reef Preservation Society (NCRPS)

The NCRPS was born in 1990 out of a concern by the dive operators in Negril with the effects of tourism on the reefs. They identified the primary threat to the continuing health of the reefs as deteriorating water quality, the direct result of inadequate garbage and sewage disposal in Negril, as well as the operations of the dive operators themselves anchoring their boats on the reefs. The effects of fertilizers used by farmers in the hills overlooking Negril was also identified as a major contributory factor to the deterioration of the marine environment.

With voluntary labour from residents of the community and the dive operators and funding from hotel operators in Negril, the NCRPS constructed a reef mooring buoy to prevent anchoring on the reefs. In addition the society has established a small local laboratory where water testing is carried out continuously in an effort to monitor water quality.

The activities of the NCRPS are informed by a holistic approach to watershed planning since it recognizes that land based sources of marine pollution also extend to persons who are not directly involved in the tourist industry. The society therefore encourages the practice of terracing among the hill side farmers in order to reduce hill side run off which result in fertilizers washed into the sea.

As a direct result of the NCRPS' lobbying efforts, the Government of Jamaica undertook the installation of a central sewage treatment plant in Negril - a project which is currently on the way with funding from external (European) sources.

Also, recognizing the inter-connectedness of various economic activities, the Society runs various workshops and other community awareness activities in its effort to educate residents of various communities.

Among these activities is an annual coastal cleanup that is undertaken voluntarily by members of the Negril community. This activity takes normally place on 21 September. Immediately preceding this, the NCRPS often conducts a workshop in collaboration with the tourism product development etc. to teach watersport operators about healthy marine practices.

The NCRPS also runs a series of community workshops in the month of November annually. Associated with these workshops, the Society also conducts a junior rangers training programme for young people between the ages of 10 and 18. The rangers assist in monitoring and policing the problem of litter within the environment.

A noteworthy feature of the annual coastal clean up is the documentation by the Society of the types and quantity of garbage found. This allows the society to trace the areas of origination of garbage and thereby to intervene in an attempt to prevent its careless disposal. Most importantly, the NCRPS is attempting to transfer its whole-watershed-planning- approach to the management of the Port Antonio and Montego Bay Marine Parks.

The Negril Coral Reef Preservation Society and the Negril Area Environment Protection Trust share offices with the Negril Chamber of Commerce.

Other successful projects

Although Negril's case stands out as a successful one, there are several others in this category. Often mentioned and well publicized are the Bluefields Project and the South Coast Development Foundation.

Bluefields Project. Bluefields is located on Jamaica's South Coast, a potential tourist area. The Bluefields Project started in 1988 with the formation of the Bluefields Trust. In 1989 the Bluefields Peoples' Community Association (BPCA) was formally established.

The area has been slated for tourism development which, as the BPCA, explains "has inherent threats and pressures for marine and land environments. Agricultural, housing and energy needs have significantly affected the area, resulting in destruction and degradation of forests, soils and water resources".

The BPCA is aware of the potential negative impacts that tourism development can have in this area and it has developed an integral policy to anticipate and solve the problems. The project recognizes the dependency of the local community on tourism, export agriculture, fishery and mineral extraction.

The project is known for its education programme, that is focused on development and community participation. It offered workshops on coral reef preservation for fishermen.

The South Coast Conservation Foundation (SCCF) is an environment and development organization working in the Portland Bight area of Jamaica's South Coast. Its aim is the effective management and sustainable use of the natural resources of the Portland Bight area. The SCCF is making a deliberate effort to include the various categories of stakeholders in the area and includes in its focus the land-based sources of marine pollution. It has a US Peace Corps volunteer involved in environmental education. Since this particular area is not a special tourist area, the groups involved are mainly fishermen, vendors and residents. There is a strong emphasis on community participation and co-management.

4.5 Florida Keys (USA)

Of the 1,700 islands and cays in the Florida Keys, 51 are connected to the Florida mainland by roads and bridges and about 70 are inhabited. The Florida Keys coral reef is believed to be the most heavily visited in the world, and the economy of the area is essentially based on tourism and tourist related service industries. As a result, the Keys' population fluctuates seasonally. Peak tourist populations occur in the first quarter of each year (January-March). The tourist season is longer in the Upper Keys than the Lower Keys, due to weekend tourists from Miami and South Florida, which extends the season from January to August (NOAA, 1995).

Seasonal visitors, including those living in residential accommodations, in tourist facilities, aboard vessels or with friends and relatives, accounted for more than 56,600 people during peak period in 1990. These visitors amount to more than 40 percent of the total population during the peak tourist season.

Key West has historically been the hub of population and tourist activity in the Florida Keys. And, even though the population has stabilized in recent years, Key West still bears 32 percent of the resident population and 23 percent of the tourist population. It is also the area with the highest population density. Almost half of all hotel, motel and vacation rentals in the Florida Keys are located in Key West. In addition, with more than six hundred restaurants throughout the Keys, almost half of them are in Key West (NOAA, 1995).

Table 3 shows numbers of visitors to Key West via cruise ships, airlines and collected bed-tax. Tourism is critical to the Keys' economy, the service and retail trade industries are by far the largest private sector employers. The service sector includes hotel and restaurant trades, while retail establishments include gift shops, clothes stores, and businesses that provide specific products such as boating equipment and photography supplies. These industries combined provide more than 50 percent of the total employment in the Keys, indicating the importance of tourism.

The Keys have arrived at a critical point in their history. The population has been growing steadily while land available for development has dwindled and population densities have increased. In 1975 the Keys were designated as an "Area of Critical State Concern" because of increasing pressures from residential and visitor population growth and associated development (NOAA, 1995).

In an effort to protect the marine and coastal environment of the Keys, the Florida Keys National Marine Sanctuary (FKNMS) and Protection Act was passed by the U.S. Congress and signed into law on 16 November 1990. The Act places particular emphasis on improving water quality throughout the area and constitutes the first major effort at integrated coastal zone management in U.S. waters. Jointly managed by the State of Florida and the U.S. Department of Commerce, the Sanctuary covers approximately 2,600 square nautical miles including the entire land mass of the Florida Keys. Public debate about how to improve water quality in and around the Keys has been a major part of the process to produce a water quality protection plan for the Sanctuary.

As a result of numerous public hearings and news broadcasts surrounding the Sanctuary process, public awareness is high of the problems associated with land-based sources of marine pollution and tourist development. Following this new awareness, the county as well as some individual hotels and guest houses are beginning to make changes in the way they do business.

Key West has several resort hotels with recycling programmes including the Ocean Key House, which has a marina gateway between the land and the sea, the Pier House, and the Casa Marina. One of the authors, Lynn Davidson visited a Key West guest house with water saving devises that includes shower savers, timed water heaters and indigenous plant landscaping.

The Holiday Isle Resort Hotel, located in Islamorada Florida, in the Middle Keys, has developed recycling programmes for cardboard, aluminum, plastic, motor oil, steel cans, glass, newspaper, batteries, fishing line, pool water, cooking oil, and yard waste. The hotel advertises that it recycles an estimated 20 tons of trash per month. Recycled products, used throughout the property include trash containers, beach chairs, and car stops. Resort staff teach by example, providing for the collection, storage and delivery for processing of recyclable cardboard for other hotels in the area. Holiday Isle has produced a video as a tool for raising public awareness. The video explains the programme in detail, including the financial advantages the resort is experiencing.

Another success story from the Florida Keys is Cheeca Lodge, which is also located in Islamorada, Florida. The 27 acre 200 room resort has a gray-water recycling programme. The sewage treatment plant on property completely recycles all the grey water from laundry. Sludge is hauled away but the water is aerial sprayed via sprinklers onto the golf course. About 30,000 gallons of water a day is reused which would otherwise be injected into wells. It is estimated that about US$83,000 is saved annually in water reduction through the recycling of grey water to irrigate the golf course.

The resort also has an optional linen laundering programme for guests that saves about US$5,000 per month in water, detergent and labour. Only one in five guests request daily changes in linen. In addition, an estimated US$20,000 is saved in solid waste recycling of newspapers, plastics, cans, cardboard and glass by using the local government recycling programme.

Cheeca Lodge also boasts the following: drought resistant, low maintenance, trees and shrubs; yard debris which is chipped and mulched on site and used in landscaping; low consumption shower heads

and low flow toilets are located in all guest bathrooms; and the purchasing department has been directed to order non-phosphate detergents. Cheeca Lodge's environmental awareness efforts include the "Camp Cheeca Environmental Awareness Program" for children ages 6-12, and several annual Earth Day events put on with and for various environmental advocacy groups with offices in the Keys.

Many of the local and national environmental groups in the Florida Keys also have outreach programmes that reach tourists along with the local community. Project Reefsweep for example, located in Marathon in the Middle Keys, has a programme that both stimulates tourism and mitigates damage from solid waste materials. The organization sponsors an annual event that brings both local people and visitors together to clean up the environment. Local dive shops are enlisted to display posters and send out flyers to mailing lists that include all who have visited the shop (Teall, R. 1996).

Table 3. Visitors to Key West.

Although many hotels and guest houses in the Florida Keys have successful conservation programmes, there appears to be a large failure with regard to public outreach. In fact, we found that front desk personnel often know nothing about either waste water or solid waste recycling programmes, nor do they know where to send interested tourists for information. The high cost of living in tourist resort areas combined with low wages paid to service personnel may account for the rapid turn-over of hotel and resort staff. Nevertheless, at a minimum, ongoing training programmes for incoming hotel staff are recommended.

4.6 Puerto Rico (U.S.A.)

Puerto Rico with about 3.5 million inhabitants, is a major destination. A recent statistic (1993/1994) shows that nearly 5 million visitors arrive annually. Tourist expenditures are high also. The island has many different ecosystems, with a wet and green Northern coast and a dry landscape on the Southern coast, with prickly pear cactus, yucca and mesquite. In the South-West, mangroves have created an unique canal system. Good swimming beaches are scattered along the coasts, ranging from the popular Condado, Ocean Park and Isla Verde beaches, to numerous remote and semi-deserted beaches. Access to some beaches has been blocked by developers, causing displacement of traditional users and considerable social tension.

Waters along the North coast tend to be rougher than the East, South and West (Caribbean) coastlines, especially in winter. Government-run balnearios, or public beaches, offer safe swimming. Surfers head for the large waves off unprotected beaches, especially those along the island's North-West corner. The waters around Fajardo, Culebra, Vieques, La Parguera and Boriquen Point offer some of the best diving, and where sailors, boaters and fishing enthusiasts take off for the open sea. Fajardo is a launch point for sailing and sport-diving excursions as well as for regularly scheduled ferries and air service carrying passengers and cargo to Culebra and Vieques. Nearby are several popular uninhabited coral islands, of which the most frequented is Icacos. Culebra National Wildlife Refuge, which is about 1,480 acres, includes 23 small islets. These islets have ideal nesting sites for sea turtles and for tropical sea birds. Another unique and relatively untouched environment can be found on Mona Island, 50 miles off the West coast of Puerto Rico, which has many coastal and marine species.

In recent years, ecotourism has been promoted strongly throughout Puerto Rico. In addition to the interior, the offshore small islands are often advertised as ecotourism destinations. There also is an annual listing of major island sporting events from January through March. Sporting is important for Puerto Ricans and tourists alike, and include: kayaking, snorkeling, hiking, biking, fishing, golf, windsurfing, horseback riding, baseball, scuba, sailing and bird & turtle watching.

Puerto Rico has a rich cultural tradition, many natural attributes and several developed urban centres. A large concentration of tourism around San Juan is due to the city's successful promotion of hotels, casinos, convention centres, night-life, commercial centres, historic districts and beaches. The number of cruise ships is on the increase in the San Juan area, where there are major port facilities (Chaparro 1996): annual cruise ship dockings increased from 700 in 1983 to 3,000 in 1991. Similarly, the number

of passengers visiting on cruise ships, mainly operating out of Florida, has increased dramatically, with nearly 1 million passengers arriving in 1991.

The biggest threat is perceived to be the improper management of natural resources by infrastructure developers. Sewage and solid waste pollution has been recognized as the major manmade problem. Much of the sewage is either not treated at all or only undergoing primary treatment. In coastal areas near San Juan this has lead to poor water quality and assault on bathing beaches. The importance which the public accords to the sewage and waste disposal problem is clear in that it rated highest (3.1 on a scale of 1-5) of ten hazards and problems Oostdam & Billeter identified in 1996.

Dissemination of information regarding the advantages of adopting environmental standards is poor throughout Puerto Rico. Specifically, tourist guides and the local population are believed to need much more environmental education, while the tourist industry itself appears uninterested. The need for additional legislation and enforcement has been stated.

There are, nevertheless, some successes. The Puerto Rico Tourism Association sponsored a beach cleaning programme, which became a great hit throughout the island. Hotel Conquistador, not located on the beach, leases an offshore island (Isla Palomino) where it runs an aluminium recycling programme.

The Palmas del Mar Resort complex was awarded the "1994 Engineering Masterpiece" by the Engineers and Surveyors Association of Puerto Rico for its water treatment system. The system was built to achieve low-energy expenditure, water conservation and waste recycling. Recovered nutrients are returned to the environment without pollution. In 1994, the plant deviated 1,000 tons of waste that would have ended up in landfills, saving US$60,000 in waste disposal alone. Residues are turned into soil conditioners that are applied to different landscaping projects, thereby also reducing the amount of imported fertilizers. Water is reused by applying effluent to the golf course and other green areas. The resort is also using recyclable products for the housekeeping and food operations. The guest rooms have stickers encouraging the guests not to misuse water.

Since 1991, the Hyatt Resort operates an active recycling programme for glass (empty bottles), carboard, and aluminium. Containers are placed in various areas of the hotel. Also, employees daily pick up materials for recycling. After treatment, sewage water is returned to the hotel property for irrigation of the four golf courses. Hyatt was the first hotel on the island with a recycling programme, and employee training was initially provided by a private organization.

CHAPTER 5 ANALYSIS

5.1 The context of tourism and coastal degradation in the Caribbean

Marine resources suffer the cumulative influence of a great variety of human interactions. The issue of tourism and land-based sources of marine pollution, therefore, cannot be considered in a vacuum. Rather, like all human-environment interactions, it occurs within a socio-economic and cultural context. Additionally, there is an international holistic environment in which the relatively open Caribbean societies operate. Caribbean tourism and environment policies are sharply defined by the new global economic orthodoxy, which emphasizes economic liberalization, deregulation and market competition. For well over a decade, under the rubric of "structural adjustment", governments of the region have, individually and collectively responded to multilateral imperatives to transform their economies.

High-density, mass-market tourism is commonly practiced in both the cruise ship and hotel sectors throughout the region. A primary policy emphasis is the aggressive promotion of large-scale facilities to achieve ever higher annual visitor volumes. There is considerable control by foreign interests, including the providers of travel information and arrangement, air travel, construction and lodging. The industry also requires an ever increasing reliance on imported construction materials, food and gift items to satisfy the comfort and needs demanded by the visitors.

Consequences of such an open international economic system can include severe cutbacks in social welfare sectors, such as health, education, housing, transportation and so on. In some instances, increasing malnutrition and unemployment are the direct result of structural adjustment policies. In turn, these maladies have resulted in increased pressures on the environment and the marginalization of whole segments of the population. "One stop" tourism development, with all facilities at one location, often drives small local entrepreneurs out of business.

Also, the disadvantaged who are not necessarily oblivious to sound environmental practices, are forced, out of necessity, to behave in ways that are environmentally deleterious. The fisherman who illegally entraps and sells lobsters in the closed season, or the peasant who captures and sells illegal species, often do so knowing that their actions are illegal, but argue that they have no alternatives.

Additionally, although tourism revenue is expected to alleviate poverty, the industry can also cause socio-economic problems, which through their extent sometimes threaten tourism. Housing, schooling, employment and services for the families that work in or are attracted by the industry are often inadequate. This not only can stimulate the formation of slums and squatter settlements, but also increase marine pollution from land-based sources. Thus, through their fast tourism development, some places become less and less worth visiting.

Some policy efforts deliberately favour down-scale, low-density tourism in order to preserve the pristine ecology and quality of life in certain locations. According to a study by World Wildlife Fund, 40 to 60 percent of international tourists "travel to enjoy and appreciate nature," and 20 to 40 percent

of these are primarily seeking to experience wildlife. Such tourists take longer trips and spend more money (as much as US$1,000 more in two weeks), than those who choose mass tourism destinations. These policy initiatives are best exemplified by looking at the region's established parks and protected areas as well as nations that feature close-up participatory experiences of local life and culture.

Resolving the policy dilemma of numbers versus net spending, of quantity versus quality should be part of the public debate and education process. In the near future, many tourist destinations will face major infrastructure decisions about airport, hotel and harbour expansions that may cause irrevocable land-based pollution problems if the policy of mass-merchandising wins out. This seems likely given the substantial industry restructuring required and difficulties involved to raise the tourist multiplier and net visitor expenditure through replacing foreign with local inputs and ownership.

There is already a large amount of data and knowledge available, which relates the impacts of the tourist industry to the control and abatement of marine pollution from land-based sources. However, as in most other places in the world, in the Wider Caribbean region the major problem to be addressed is finding and applying techniques that get stakeholders to act on such data and knowledge.

5.2 Current behaviour and impacts of key players in tourism

A number of tourism practices, attitudes and behaviours of various sectors of society in relation to their impact on marine and coastal resources have been identified in chapters 3 and 4. The training and awareness activities that seek to improve these, need to be located within the socio-cultural context described in section 5.1. If the everyday reality, attitudes and activities of the various players involved are ignored, these intervention efforts are likely to fail.

The case studies demonstrate that economic arguments in particular determine much of the behaviour in the tourism industry. The current behaviour of the various key players can be characterized as follows:

(a) Public Authorities. Public Authorities are empowered by laws which can be improved and enhanced to effect more positive environmental behaviour. The resources available in most countries (systemized data, promulgated codes, technical manpower, equipment, systems of rewards and sanctions) are not adequate and the capacities of these authorities are hampered to give adequate guidance and support to tourism operations regarding combating marine degradation.

(b) Tourism Policy Makers. Throughout the region, action by Tourism Policy Makers is the key factor in attracting investment in coastal tourism development, and therefore has significant implications on marine pollution.

(c) Beach Resort Developers and Managers. Current behaviour in this group varies tremendously at this time. Many of their businesses generate large quantities of solid waste, disposable crockery, food wastage, sewage and water wastage, oil spillage and chemical residues. There are uninformed and

indifferent developers and managers, however, behaviour that stimulates improvement appears to be spreading rapidly. In both single facilities and chains (multiple sites) lie the opportunities and constraints of coastal resources management.

(d) Marine Tourism Operators. Generally unburdened by the weight of regulations, Marine Tourism Operators are important contributors to coastline and marine degradation.

(e) Airport and Cruise Port Operators. Based on the scale of their facilities, Airport and Cruise Port Operators pose the greatest threat to the coastal environment of all land-based activities in the region. Being usually private sector operations, governments are directly responsible to act in their own interest to protect the very potential of the tourism-based economy.

(f) Site and Building Designers, Engineers and Contractors. The physical alterations made by this group of key players can increase or minimize damage to the environment, dependent on design and placement of the structures involved. Environmentally sensitive design, appropriate building methods are becoming more and more important elements in the practice of architects, engineers and contractors.

(g) Tourism Business Organizations. These private sector associations have an important informational function towards their members.

(h) Local Resident Communities. In the defense of the assets of their communities, their (common) natural resources and their quality of life, community organizations are often an effective force for the sustainable management of tourism. However, local residents can also contribute tremendously to the degradation of coastal resources, especially when tourism "boom" practices cause a rapid influx of new people interested in quick gain.

The current behaviour in the tourism industry causing coastal degradation, is presented in Table 4. This Table applies the four-dimensional analytical framework described in section 2.3 and includes also information on behaviour. The table is laid out principally through the categories of the third dimension "(3) Nature of tourism effect", which is represented under the heading "impact of tourism related to LBSMP". The dimensions "(1) Tourism facilities in the coastal zone" and "(2) Area or zone of environmental impact" have been integrated over the various columns.

Table 4.

The relevant tourism practices (defined as sets of related behaviours) which cause these impacts are presented in the second column. Subsequently, in the third column, these practices are further related to the fourth dimension of the analytical framework "(4) Nature of key players and related behaviour". Finally, the fourth column describes the currently observed behaviours of the various key players.

5.3 Preferred behaviour and necessary behavioural changes of key players in tourism

In order to effectively address the marine pollution impacts caused by players in the tourism industry, governments and relevant environmental management programmes need to focus simultaneously on three inter-related elements:

(1) **Improved technologies** for sewage systems, waste management, planning, construction and operation of facilities by various workers in the tourism industry, etc.

(2) **Enforcement of policies and laws**, that regulate and support those technologies.

(3) **Improved behaviour** of individuals, private sector, public sector and community organizations.

Achieving improved or "preferred" behaviour should be addressed through training and public awareness programmes. In order to select and prioritize behaviour of key players to be addressed through such programmes, several criteria can be considered in the design of activities, such as: the scale and extent of preferred behaviour's impact on marine pollution issues, or potential for it; immediate and observable positive consequences of improved behaviour/side effects; feasibility of achieving change; compatibility with socio-cultural norms; cost (time, energy, money, materials); complexity of behaviour to be achieved (how much training/awareness is going to be necessary). There are additional possible criteria that could be considered.

Achieving improved behaviour for each of the keyplayers depends on a typical set of factors:

For **Public Authorities** behaviour change depends on the implementation of the legislation which empowers these authorities to act more responsibly, and the provision of adequate (human, financial, institutional) resources.

For **Tourism Policy Makers** behaviour change seems to be best effected by information and awareness programmes on sustainable tourism which highlight the long-term economic benefits of mitigating coastal environmental degradation.

Table 5.

In public and private ventures of **Beach Resort Developers and Managers**, behaviour change can be achieved through targeted information, in connection with appropriate technical assistance (in particular training). Many businesses show a willingness to take steps that minimize the negative impacts of their operations.

Behaviour change for **Marine Tourism Operators** is based primarily on the enforcement of standards (so that unfair competition by "more polluting = cheaper operating" companies is wiped out). To a lesser extent awareness activities need to be considered.

For **Airport and Cruise Port Operators** behaviour change is based on a better policy (legislation, information and financial resources) and resulting improved official acts, as well as training of personnel on specific operations.

Behavioural change for **Site and Building Designers, Engineers and Contractors** is a result of appropriate training, aiming to achieve the least damaging relationships between structures and sites.

For **Tourism Business Organizations** behavioural change is based on establishing committees or working groups on environmentally sound economic solutions. Such "internal forces" can achieve important institutional change.

As far as **Local Resident Communities** are concerned, behavioural change is influenced by a combination of awareness, training and organizational development.

In Table 5, we have listed preferred behaviour in the tourism industry, through extending the earlier overview in Table 4 of current behaviour of the various key players.

5.4 Techniques and opportunities for training and awareness

The design of a new programme for training and awareness should rely on and build on what is already going on in the region. The case studies suggest that many activities are happening in the region which impact positively on behaviour. For instance, the very practical information produced by various hotel associations, can be widely applied. The experiences of various NGOs are also most valuable for the industry. International agencies have an enormous amount of information.

A main problem, however, is the lack of communication between the various interest groups and actors in the field. The divisions between the private and public sectors, community groups and government, etc. remain sharp. There is no commonly shared network and experiences remain separated.

Mass media have an important role to play in changing these gaps in communication because they reach people across many sectors of society. The media direct public attention to certain subjects, and as such set agendas for public debate. As is shown in the Sandals case from Jamaica, policy makers are highly attentive to media coverage. Since most Caribbean societies are small, responding to the media

appears to be seen as responding to public concern.

Another issue of concern is that "the environment" has become a cliche, with everybody being involved, but in their own way. In particular after the environmental terminology was linked to sustainable development, severe communication problems were introduced. There is tremendous overlap between issues and an absence of clarity.

In addition, one of the realities of the Caribbean is the high level of external funding of environmental management, and often connected the lack of real participation and involvement. Several NGOs have been suspected of being mere implementers of foreign agendas in this regard.

When preparing training programmes or public awareness campaigns, many factors must be taken into account. Factors most important for public awareness campaigns are:

(1) the content and the quality of messages;

(2) the media used; and

(3) the target audience.

Regarding the content of the messages, a successful campaign depends on a survey of the public's current understanding of the issue, validation (testing) of the content on representatives of the target audience and evaluation of the impact of the campaign. If a message is to change attitudes, the audience must be exposed to it; pay attention to it; comprehend it; accept it; retain the new attitude and change behaviour.

In order to change attitudes and behaviour, the motivation for improved environmental management needs to be internalized. In this regard, a number of "sideline" activities, which involve the public, are important: student trips, tree planting, beach cleaning, integrated tourist and community exhibits and other events. In a formal sense, most of these activities can hardly be considered educational, but by encouraging people to observe, to be sensitized and to be involved in hands-on action, the attitude of many people will improve.

An emphasis on more specialized issues and the positive role of specific players can help to revitalize environmental management. Vital interests of society, such as less wasteful construction, recycling programmes, waste reduction, water saving, waste water treatment and other such issues, need to be communicated as both short-term and long-term solutions.

CHAPTER 6 RECOMMENDATIONS FOR AN ACTION PLAN

6.1 First steps

As requested by the Regional Co-ordinating Unit for the Caribbean Environment Programme, we have compiled the conclusions of the study into elements which can be utilized in the design of a potential public awareness and training programme on tourism and coastal degradation. Based on the discussion in Chapter 5, we note however, that such a programme could also appropriately be titled "information programme on tourism and coastal degradation", since the provision of targeted and well-packaged information to the many stakeholders will be central.

This programme should contain the following elements:

(1) **Material production by NGOs and community institutions.** This should include the integration of communication training in the capacity building of local institutions, in particular regarding the generation of high quality productions on relevant local experiences;

(2) **Information dissemination and networking on successful models, targeted to various sectors.** This should include a continuing exchange of ideas, tips and examples for improving tourism earnings with improved environmental management;

(3) **Repackaging of existing information.** This should include materials on successful solutions to environmental problems, and be tailored specifically to local social, economic and environmental needs. Repackaging can be done by hotel associations as well as regional and local institutions;

(4) **Storage and access of information.** A database, including access to indigenous printed and audiovisual resource materials, on business and community actions which successfully address the reduction marine pollution from land-based sources.

Although the programme will have to take into consideration the needs of the key players, it should be made self-evident that environmental degradation affects income negatively; that changed behaviour can prevent further degradation; and therefore that ultimately positive behaviourial change will have a direct impact on the potential for generating sustainable income. In other words, the desirable behaviour should be shown as effective in achieving desirable objectives (Becker, 1974).

Although we have not indicated a time-frame for the implementation of such a training, awareness and/or information programme, it is suggested to initiate some of the pertinent activities in the near future. These could assist in establishing the will in society for the necessary changes, and initiate the organic development of related activities.

We recommend the following first steps:

(a) CONSENSUS BUILDING. The convening of a regional symposium of Caribbean stakeholders, for the development of a consensus as to what specifically ought to constitute the Regional Action Plan on tourism and coastal degradation. Collaboration between all identifiable stakeholders (the key players as defined in this study), as well as trainers and communicators, is a necessary condition. These players will be expected to take a lead role in implementing projects and related activities, and consensus needs to be created around common strategies.

Common strategies for the Action Plan should:

(1) Be based on concrete economic interests of key players, and formulate statements of short, medium and long term goals;

(2) Describe concrete activities that can be implemented be key players as a single group, or collectively with other key players;

(3) Be comprehensive, that is, treat environmental awareness holistically, rather than in a fragmented manner.

Such a regional symposium should be organized by regional non-governmental organizations that are involved in awareness, training and information.

(b) INFORMATION NETWORKING. The utilization of the appropriate media for reaching out and networking among key players, trainers and communicators. In addition to utilizing CEPNEWS for this purpose, given the rapid growth and increasing popularity of the World Wide Web in the region among the institutional and intellectual elite, an efficient electronic network and information centre (Web-site) could be created. However, in order to reach the great majority of people, the news (mass) media, alternative forms of (community) media, and special interest (sports, profession, age, etc.) media have to be utilized.

(c) SUPPORT FOR THE MEDIA. While in some essential ways, media are themselves stakeholders, their role in society is unique. The media are best positioned to reach large audiences and, with proper support, are excellent agents for change. We therefore recommend that the media be treated as a specific key players in the action plan. Proper support includes:

(1) Training events for key players as well as journalists on specific issues relevant to the action plan;

(2) Seminars for local audiences on the use of appropriate media tools for mobilization; and

(3) Attractive, factual and up-to-date information that communities and media can easily adopt and adapt.

6.2 Follow-up steps

Based on the information exchange and consensus building in the initial phase, a great number of more narrowly defined follow-up activities could be programmed. The basis for success though is the continuation of communication and debate on behavioural change of key players.

Table 6 provides an overview of successes and failures of communication activities, as well as the best techniques and opportunities to reach a target audience. This information could be used to design the follow-up steps.

It should be noted that financial viability needs to be ensured. Our research reveals that the lack of financial support is a major constraint of sustaining innovations in the field. Cost effectiveness suggests that ways be found to assist existing institutions and agencies in order to ensure sustainability of their environmental awareness activities. That is, activities should be building on what already exist, rather than reinventing the wheel.

Table 6.

REFERENCES

Amaral, M. et al, 1994. Environmental guide for marinas - Controlling nonpoint source and storm water pollution in Rhode Island. Rhode Island Sea Grant.

Bahamas Hotel Training College, 1996. Interview.

Bahamas National Trust. Various internal documents.

Bahamas National Trust, 1996. Interview.

Barbados Hotel Association, 1996. Interview.

Barbados Hotel and Tourism Association, 1996. Interview.

Barbados Training Committee, 1996. Interview.

Blommestein, E. 1996. Tourism and Environment Officer, Economic Commission for Latin America and the Caribbean. Personal communication.

Blue Cross Health and Environment Foundation, Jamaica. Various internal documents.

Bluefields Peoples Community Association (BPCA), Jamaica. Various internal documents.

Bluefields Project, 1996. Interview.

Brandon, K., 1996. Ecotourism and Conservation: a review of key issues. Environment Department papers No. 033, World Bank.

Brown, R. 1996. Executive Director, Clean Islands, personal conversations, June 1996.

CANA, 1996. Interview.

CANARI, 1996. Interview.

CARIMAC Magazine.

CCA, 1996. Interview.

CERN, 1996. Interview.

Chaparro, R. 1996. Letter of 24 May. Marine Consultant, Sea Grant College Program, Recreation-Tourism-Coastal Management.

Clean Islands International, 1994a. Islands Waste Management Conference, January 10-14, Nassau, Bahamas.

Clean Islands International, 1994b. Hotel Waste Reduction and Recycling. U.S. Virgin Islands, June 1994.

Clean Islands International, 1995. Proceedings Caribbean Waste Management Conference, 7-10 November, San Juan, Puerto Rico.

CTO, Barbados, 1996. Interview.

Coza, K. 1996. Monroe County Recycling Education Specialist, Personal conversation, June 1996.

Dalton, B. 1996. Chief Engineer, Cheeca Lodge, Islamorada, Florida, personal communication, July 1996.

Davidson, L., Jorge M. 1994. Policy Principles Concerning Caribbean Land-Based Sources of Marine Pollution. World Wildlife Fund & Environmental Solutions International.

de Albuquerque, K. and McElroy, J., 1992. Caribbean Small-island Tourism Styles and Sustainable Strategies. Environmental Management, 16 (5), p. 619-632.

de Albuquerque, K., McElroy, J., 1994. Island Tourist Profiles across the Destination Life-cycle. INSULA - International Journal of Islands Affairs, 3 (1), Paris.

de Albuquerque, K. and McElroy, J., 1995. Alternative Tourism and Sustainability. In: Island Tourism: Management Principles and Practices, p. 23-32. Edited by: M.V. Conlin, T. Baum, John Wiley & Sons, New York, New York.

de Bruin, M.J.D., 1991. Improving Environmental Coverage in the Caribbean. Eighth Annual Inter-cultural/International Communication Conference. 21 February, Miami, Florida.

Department of Fisheries, St. Lucia. Various internal documents.

Dijksterhuis, O., 1995. The Role of Environmental Education in Coastal Management in the Caribbean Region. An analys of the use of environmental education as a tool for coastal managers, with special reference to the application and results of environmental education in six of the small developing island states of the Caribbean. Summary Report. European research and Training Centre on Environmental Education, Department of Environmental Science, University of Bradford, UK.

Dominica Conservation Association, 1996. Interview.

Dominica HTA, 1996. Interview.

Eastern Caribbean Centre, 1996. Interview.

Economic Development Abroad, 1992. Sustainable Tourism in the United Kingdom, Balancing Tourist Development with the Environment, excerpts from Tourism and the Environment: Maintaining the Balance.

Environmental Education and Communication Project (GreenCom), 1996. Starting with Behavior - a participatory process for selecting target behaviors in environmental programs. Washington, DC.

Espeut, P. & Figueroa M., 1996. Preparing for participating environmental planning in the English-speaking Caribbean: the case of SCCF in Jamaica. Paper presented at the International Conference on Integrating Economic and Environmental Planning in Islands and Small States. Organized by the Islands and Small States Institute of the Foundation for International Studies in collaboration with the Directorate of the Planning Authority, Malta, 14-16 March.

European Centre for Development Policy Management, 1991. Management of Sectoral Linkages between Environment, Tourism and Agriculture in the Eastern Caribbean States. Occasional Paper.

Faris, J. / Hart, K., 1994. Seas of Debris - a summary of the Third International Conference on Marine Debris. N.C. Sea Grant College Program.

Fidler, S. 1996. The economy, Financial Times Survey, pg 2, Friday 7 June 1996.

Filho, L. W. 1993. Environmental Education in the Commonwealth. The Commonwealth of Learning.

Filho, L. W. 1994. Environmental Education in Small Island States. The Commonwealth of Learning.

Fishbein, B.K. and Gelb, C., 1992. Making Less Garbage: a planning guide for communities. INFORM, Inc., New York.

Foreman, M. et al, 1996.)Una Oportunidad desperdiciada? Evaluación de campañas de educación pública en medios de comunicación de masa sobre el VIH/SIDA. The Panos Institute, Washington, DC.

Fundación Puertorriqueña de Conservación, 1996. Verde Luz. Boletín.

Gosse Bird Club, Jamaica. Various internal documents.

Grabois, C. 1996. Monroe County Recycling Coordinator, personal conversation, June 1996.

Half Moon Hotel, Jamaica, 1996. Interview.

Hawkins, Rebecca, 1995. Tourism in the Wider Caribbean and its Impact on Marine and Coastal Ecosystems. Paper presented at the UNEP/ACOPS Seminar on Sustainable Development of Tourism in the Wider Caribbean, Mexico City, 18-20 April 1995. World Travel and Tourism Environment Research Centre, UK.

HEART Trust, Jamaica, 1996. Interview.

Hiller, H. 1996. How to Save Florida Tourism, Florida Trend, March 1996.

Hoagland, P., Schumacher M.E., Gaines A.G. Jr. 1995. Toward an Effective Protocol on Land-Based Marine Pollution in the Wider Caribbean Region, Woods Hole Oceanographic Institution, Techn. Report WHOI-95-10.

Holmes, J.H., 1996. General Manager, CHA Environmental Committee. Personal communication, 2 July 1996.

Island Resources Foundation, 1996a. Tourism and Coastal Resources Degradation in the Wider Caribbean. St. Thomas, USVI.

Island Resources Foundation, 1996b. Guidance for Best Management Practices for Caribbean Coastal Tourism. St. Thomas, USVI.

Jack's Hill Community Council, Jamaica. Various internal documents.

Jackson, I.L., 1990. Tourism and Sustainable Development in the Caribbean, white paper submitted to the Conference on Public Policy Implication of Sustainable Development in the Caribbean Region, Jamaica Conference Centre, May 28-30, Kingston, JA.

Jamaica Conservation and Development Trust. Various internal documents.

Jamaica Tourist Board, 1996. Interview.

James, C. 1996. Tourism in Grand Bahama, Financial Times Survey, pg 9, Friday 7 June 1996.

Jones, E. B., 1995. Environmental Management Toolkit for Caribbean Hotels. Caribbean Hotel Association, June 1995.

Kaufman, J., 1996. Resident Manager, Olde Yard Inn, Virgin Gorda. Communication on 12 August 1996.

McElroy, J.L., 1991. The Stages of Tourist Development in Small Caribbean and Pacific Islands, white paper prepared for the International Symposium on the Island Economies: Policy Models for Planning Development, Lesbos, Greece, November 27-30.

McLaughlin, J. 1996. Holiday Isle, personal communication, July.

Ministry of Agriculture, Lands, Fisheries & Forestry, St. Lucia, 1996. Interview.

Ministry of Environment and Health, Bahamas, 1996. Interview.

Ministry of Health, Barbados, 1994. The Integration of Health and Environment Issues in National Planning for Sustainable Development in Barbados. Final Report, February.

Ministry of Health, Information and Broadcasting, St. Lucia, 1995. The Integration of Health and Environment in National Planning for Sustainable Development in Saint Lucia. Final Report, September.

Ministry of Tourism, Jamaica, 1996. Interview.

National Environmental Societies Trust & Jamaica Conservation and Development Trust, 1995. Proceedings of a Workshop: Towards a Coordinated Environmental Awareness Programme. Oracabessa, jamaica, 23-24 March.

National Park Service, et al, 1993. Waste Reduction in Yosemite National Park: An Action Plan. Prepared by: National Park Service, Yosemite park and Curry Company, the Ansel Adams Gallery, the Yosemite Institute, with assistance of the President's Commission on Environmental Quality (PCEQ)-Solid Waste Task Force.

Natural History Society of Jamaica. Various internal documents.

Negril Coral Reef Preservation Society, Jamaica, 1996. Interview.

NEST, Jamaica. Various internal documents.

NRCA, Jamaica, 1996. Interview.

NOAA, 1995. Florida Keys National Marine Sanctuary, Draft Management Plan/Environmental Impact Statement, U.S. Department of Commerce, March 1995.

Nurse L.A., Carvalho R. V., Simmonds D., Moore E.A., 1989. Environmental Situation in Barbados. Report for the Inter-American Development Bank, May.

OAS, 1993. Compendium of Recent Studies on Tourism Development. Conservation of the Environment and Tourism: Strategies to Reduce the Negative Impacts of Tourism With Emphasis on Coastal Caribbean Issues, 2-1/2-20, and Collaboration of the Cruise Industry With Other Segments of the Tourism Industry: Cruise Ship Study, 5-1/5-16

OAS, 1995. The Financing Requirements of Nature and Heritage Tourism in the Caribbean.

OAS and CTO, 1990. The Impact of Tourism Investment Incentives in the Caribbean Region.

Oostdam, B. and Billeter, P., 1996. Integrated Coastal Area Management and Public Perceptions in the Caribbean Islands.

PAHO, 1994. ECLAC/CDCC Sustainable Development Indicators Databank based on CTO and national data. IMF for travel data. Regional Conference on Environmental Health and Sustainable Tourism Development in the Caribbean, Nassau, Bahamas, 8-11 November 1993.

Popov, Dragan & Nicholas, 1994. Island Expedition - school at sea / l'ecole en mer / la escuela del mar.

Portland Environmental Protection Association, Jamaica. Various internal documents.

Public Education Unit, JTB, Jamaica, 1996. Interview.

Redt, M., 1996. Managing Director, Jamaica Grande Resort. Communication by letter of 4 September 1996.

SCCF, Jamaica, 1996. Interview.

Simmons and Associates, 1994. The Impact of Tourism on the Marine Environment of the Caribbean.

South Coast Conservation Foundation, Jamaica. Various internal documents.

St. Ann Environmental Protection Association, Jamaica. Various internal documents.

St. Lucia Tourist Board, 1996. Interview.

St. Kitts and Nevis Hotel and Tourism Association, 1996. Interview.

St. Thomas Environmental Protection Association, Jamaica. Various internal documents.

Teall, R. 1996. Former member, Florida International Tourism Committee, personal conversations.

Thomas-Hope, E. 1996. The Environment - a Dilemma in Caribbean Context. Grace Kennedy Foundation Lecture.

Tody News - Newsletter of the Jamaica Conservation and Development Trust.

Tourism Development Co., Jamaica, 1996. Interview.

UNESCO, 1976. Regional Meeting of Experts on Environmental Education in Latin America and the Caribbean, Bogota, Colombia, 27-30 November.

UNEP, 1994. Ecotourism in the Wider Caribbean Region - An Assessment - CEP Technical Report No.31

UNEP Industry and Environment, et al, 1996. Awards for improving the coastal environment: the example of the Blue Flag. UNEP/WTO/Foundation for Environmental Education in Europe (FEEE).

University of Florida, et al, 1993. Ecopurchasing in hotels and motels - a guide for hotel and motel purchasing managers.

Urry, J., 1990. The Tourist Gaze: Leisure and Travel in Contemporary Societies. Sage.

van der Pol, T., 1991. The Future of the Cruise Ship Industry: Opportunities and Constraints, Occasional Paper No. 9, Marine Affairs Program, Dalhousie University, Halifax, Nova Scotia, Canada.

Vlugman, A.A., 1993. Waste Water Management at Hotels and Resorts in the Caribbean. Report from the Regional

Conference on Environmental Health and Sustainable Tourism Development in the Caribbean, Nassau, Bahamas, 8-11 November 1993.

Wilcox, E.S., 1994. Lessons from the Field: Marine Integrated Conservation and Development. World Wildlife Fund.

World Travel and Tourism Council Annual Report, 1992. Brussels, Belgium.