



OECS Protected Areas and Associated Livelihoods (OPAAL) Project:

Environmental Awareness in the OECS:
Report of a KAP (Knowledge Attitude and Practice)
Survey conducted in Six OECS Member States

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ACRONYMS

Antiguans	Residents of Antigua & Barbuda
Anu	Antigua & Barbuda
BNPP	Bank-Netherlands Partnership Program
Depts.	Departmental sample
DK	Don't Know
Dom	Dominica
Dominicans	Residents of Dominica
EC\$	Eastern Caribbean dollars
ESDU	Environment and Sustainable Development Unit
FFEM	Fond Français de L'Environnement Mondial
GEF	Global Environment Facility
Gre	Grenada
Grenadians	Residents of Grenada
H'holds	Household sample
IDA	International Development Association
IEC	Information Education and Communication
IMC	Integrated Marketing Communication
KAP	Knowledge-Attitude-Practice
Kittitians	Residents of St. Kitts & Nevis
NGO's	Non-Governmental Organizations
OAS	Organisation of American States
OECS	Organisation of Eastern Caribbean States
OPAAL	Protected Areas and Associated Livelihoods
PAs	Protected Areas
PMS	Participating Member States
SD	
SKN	St. Kitts & Nevis
SLU	St. Lucia
St. Lucians	Residents of St. Lucia
SVG	St. Vincent & the Grenadines
Vincentians	Residents of St. Vincent & the Grenadines
Voc	Vocational
x/wk	Times per week
df	Degrees of freedom
n.s.	Not significant
p≤	Probability is less than or equal to
χ^2	Chi-square

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EXECUTIVE SUMMARY

The specific objective of the assignment was to: **administer/undertake country-specific environmental KAP survey for six (6) Participating Member States (PMSs) of OPAAL:** Antigua & Barbuda, Dominica, Grenada, St. Kitts & Nevis, St. Lucia, and St. Vincent & the Grenadines. Work included analysis of acquired data and information on public knowledge, attitudes and practices related to environmental management in general, and more specifically on establishment and management of Protected Areas.

A total of **1,479** interviews were conducted: **1,334** household- and **145** departmental. Data collection was facilitated by structured questionnaires and administered by trained local interviewers with country-level supervision. Two different questionnaires were used: *household-* and *departmental*. Household sampling was nationally representative, using enumeration districts (EDs) stratified by parish. Respondents were full household residents aged 15 to 74 years who also satisfied other eligibility criteria. Department/agency representatives were selected via convenience methods targeting appropriate entities. This study was conducted under difficult circumstances, difficulties being due to interview length, sampling facilitation, and the Caribbean's hosting of 2007 ICC World Cup.

Demographic data identified differences in reading abilities by country, age and gender; and likely further related to educational levels of attainment. Most of the respondents were working (72.7%), the highest proportions in full-time jobs being in St. Kitts & Nevis (88.8%) and lowest in Dominica (72.7%). The highest proportions without income were in the 15 to 24 year age range.

There was **relatively high daily use of radio and television throughout the region** (approximately 70%), some countries such as **St. Lucia** showing higher levels than others especially for television. There was very little viewing of regional television. **Newspaper** reading was at low levels, the majority of the population reading about once weekly.

Despite higher usage of television than radio it was the latter that was more often identified as a key source for information on the environment. Local television and newspapers were next often identified. Despite radio's stated importance, television was regarded as the most effective means for such communication. Others also indicated to be effective included: radio, Internet, and workshops. Environment officers/officials followed by teachers, were the ones most trusted to speak about the environment.

Few claimed to be “very” familiar with environmental issues (18.0%), the majority instead regarding themselves as “somewhat familiar”. There was even less familiarity with Governments’ response to the environment. There was a range of factors that has encouraged increased awareness over time; these included important global and regional events, more proximal evidence of degradation, having been actively involved in environmental activities, and being impacted by communication efforts.

In order to get a sense of respondents’ perceived threat levels pertaining to the environmental events, they were asked to respond by saying each of several types of events was “high”, “medium”, or “low” threat. Hurricanes and improper garbage disposal had most impact. The findings suggested that direct exposure seemed to increase felt impact. This and other exercises also highlighted limitations from unknown terminologies: of much importance to communication efforts.

Very little seemed to be really known about protected areas, the study’s focus. Although many identified locations that were already protected and/or that they felt should be protected, it was found that they made only rare visits to such areas. Few felt certain as to how they should ideally be used. Yet, there was clear interest in knowing and understanding more about both the environment in general, and specifically about protected areas -- especially amongst the more educated. This interest was supported by willingness to take responsibility for related actions, their impacts and those needed to prevent (further) destruction. Respondents’ attitudes did however indicate, reticence to substantially restrict usage of natural resources e.g. for education, research, tourism. It was not clear that there were strong linkages perceived between protected areas and development.

All indications were that information, education and communication had vital roles to play in edifying the region in respect of environmental issues. However, there was a call for more interactive, participatory dissemination – in keeping with identified information deficits. Legal and regulatory mechanisms were also felt in need to review and towards encouraging necessary compliance.

The Departmental interviews were mainly conducted amongst quite highly educated respondents from Government and other public bodies, and non-governmental organizations. The majority indicated being “very” aware of both environmental issues in general, and protected areas specifically, with somewhat fewer being familiar with

governments' response to environmental matters. From their perspectives, the main changes required for improved management of protected areas were: more enforcement (58.6%), education and research (43.4%), and more managed use of trees and forests (36.6%): findings that contrasted in a number of ways with those from the household sample. Environmental threats were perceived of similarly to those from the household respondents, but Departmental respondents were more aware of potential threats from and/or related to the sea.

A focal point of these Department interviews was the investigation of communication practices: responses suggested that communication efforts mainly used undifferentiated mass media, public education and/or ad hoc approaches. Very few (19.1%) reported use of targeted communication planning in their approaches, even fewer (12.1%) having a practitioner-filled post with active, ongoing programme implementation. Budgetary limitations were also identified, but there were also several respondents who were unaware of any related allocations.

Most effective methods found for communicating on the environment were said to be meetings/workshops/seminars, as well as radio, and television. The exact menu or combination was dependent on the country. Although there was no direct measure for comparing tools' effectiveness between households' and departments' responses, it appeared that household respondents actually registered greater impact from communication efforts than departments adjudged them to possess. Amongst the environmental communicators challenges to communicating with targeted audiences were the limiting literacy levels due to educational deficits. They also had difficulties in overcoming the cultural nuances associated with mobilization and sessions' attendance. These were further compounded by the (i) inherent difficulties in communicating effectively enough about environment issues to move audiences to action, and (ii) financial constraints.

Yet, officials were prepared to continue their task in the hope of increased support from the relevant authorities. In respect of their current preparedness, they estimated managerial staff to be the most ready, followed by technical, then administrative personnel.

These findings supported earlier ones showing restrictive literacy to challenge environmental communication. The ongoing changes in the media landscape of available and usage however, will make targeted effective communication even more difficult than it might previously have been.

Recommendations included:

1. A need to more closely examine previous successes in regional environmental communication, identify lessons learned, and adopt those with current relevance.
2. Attempt to create a well-planned campaign approach with regional resonance but local relevance, while attending to all other pertinent constraints e.g. literacy. This would likely further include e.g. (a) DVD production with high message appeal and high visual impact, (b) a serialized radio offering, as well as (c) appropriate materials' testing.
3. Increase the support for and preparedness of Environmental Officers, thereby helping to ensure they are more ready for envisaged barriers and challenges.
4. Make communities (geographic or social) the bases for sustained engagement.
5. Encourage local media support, likely via the region's governments.

OECS Protected Areas and Associated Livelihoods (OPAAL) Project: Environmental Awareness Survey

1.0. BACKGROUND TO STUDY:

The Organisation of Eastern Caribbean States (OECS), with assistance from the International Bank for Reconstruction and Development (the World Bank) acting as an Implementing Agency of the GEF; the Fond Français pour l'Environnement Mondial (FFEM) of the Government of France; and the Organisation of American States (OAS), has recently launched a new project on Protected Areas and Associated Livelihoods (OPAAL) - a region-wide initiative focused on preserving valuable natural resource assets for sustainable livelihoods in six (6) Member States across the sub-region¹. Additionally, the OECS with assistance from the International Development Association (IDA) as administrator of grant funds provided by the Netherlands Ministry of Foreign Affairs under Bank-Netherlands Partnership Program (BNPP) is also administering a project entitled Linking Environment and Poverty in four (4) OECS Countries.

Recognizing the importance of sustainable management of its natural resources and rich biodiversity, the Governments of the OECS Participating Member States (PMS) have made significant commitments to protecting their countries' resources as signatories to international conventions and through policy statements, legal and institutional instruments, recent environmental programs, and financial support of conservation activities through budget allocations. At the sub-regional level, the OECS Member States in 2000 issued and subsequently endorsed the St. George's Declaration of Principles for Environmental Sustainability in the OECS, which includes a commitment to the conservation of biological diversity and the protection of areas of outstanding scientific, cultural, spiritual, ecological, scenic and aesthetic significance.

States have also begun translating their international and regional commitments into real efforts at the national level. They have also recognized the importance of establishing protected areas as the primary method of preserving biodiversity and conserving valuable natural resources assets. There remain significant impediments however, to full realization of a framework for managing protected areas that can protect the region's biodiversity from further degradation.

Component 3 of the OPAAL Project seeks to enhance national capacities and increase public support for biodiversity conservation and sustainable management of Protected Areas (PAs) through education, training and awareness. This component will include two (2) sub-components:

- (i) Training in support of establishment and management of PAs and sustainable alternative livelihoods; and

¹ Antigua & Barbuda, Dominica, Grenada, St. Kitts & Nevis, St. Lucia, and St. Vincent & the Grenadines

- (ii) Increasing public awareness on the ecological, social and economic significance of PAs.

A recent review of status of policy, legal and institutional frameworks for PAs throughout the OECS sub-region² identified insufficiencies restricting adequate local and regionally harmonized management of such PAs. Countries' management plans were at varying stages of readiness to support sustainable current and planned sites' usage. The review recommended that *inter alia*, (a) new PA system plans be prepared, (b) legislative frameworks be overhauled to support new policy and institutional arrangements; (c) an institutional model be developed responsive to required management responsibilities, (d) intervention teams be assembled to comprise regional and internal professionals; (e) programming efforts for PAs be supported by establishing a digitized resource centre; and (f) a permanent funding mechanism be instituted.

As part of the public awareness sub-component of the OPAAL Project and in order to generate critical elements of baseline data for the Poverty and the Environment study, the OECS Secretariat, through the Environment and Sustainable Development Unit (ESDU), conducted a Knowledge-Attitude-Practice (KAP) survey to assess people's knowledge of, attitudes to, and practices in relation to the environment. The study focussed on the wider population, as well as representatives of governmental-, non-governmental, parastatal departments and agencies, and private entities having environment communication functions. KAP survey findings are meant to provide input data for facilitating behaviour change among local populations living in, and adjacent to PAs.

This KAP survey was also launched as part of a broader commitment to advance and promote the cause of environmental management based on sound research and through delivery of a comprehensive programme of education and awareness on the environment. Survey results will be used to guide future public awareness programs, and for developing and strengthening environmental management activities and policy formulation. The current report comprises findings and recommendations from that KAP survey.

1.1. Specific KAP objectives

The specific objective of the assignment was to: **administer/undertake country-specific environmental KAP survey for six (6) Participating Member States (PMSs) of OPAAL**, work including analysis of acquired data and information on public knowledge, attitudes and practices related to environmental management in general, and more specifically on establishment and management of Protected Areas. Further details are provided in the Terms of Reference (Appendix 1a).

² Gardner, Lloyd. 2007. Comparative Analysis for Development of a Harmonised Protected Areas Management Framework within the OECS Region. Environment and Sustainable Development Unit, Organisation of Eastern Caribbean States

2. **METHODOLOGY:**

A total of 1,479 interviews were conducted across the six (6) PMSs as below: 1,334 household- and 145 departmental. Data collection was facilitated by structured questionnaires, administered by 48 trained local interviewers with country-level supervision. Two different questionnaires were used: *household-* and *departmental*, these overlapping on critical areas to facilitate relevant comparisons. Household sampling was nationally representative, using enumeration districts stratified by parish. At household level, the full resident last celebrating a birthday was the person targetted for interview. Replacements were used with guidelines where such person was unavailable. Other eligibility criteria included age: only those aged 15 to 74 years were included. Department/agency representatives were selected via convenience methods targetting appropriate entities.

Initialization activities commenced with sampling procedures, which required in excess of two (2) months. A base survey questionnaire designed prior to the assignment was pretested via a small number of mostly observed interviews in ***Antigua & Barbuda***, and ***St. Lucia***; and suitable structural adjustments made. Field supervisors and interviewers were trained in their respective countries just prior to data collection, where fieldwork was completed according to varying schedules between 21 March and 10 June 2007 inclusive (see also Appendix 1b for detailed methodology).

Number of Interviews completed per country		
	Households	Departmental
Antigua & Barbuda	209	18
Dominica	222	25
Grenada	229	25
St. Kitts & Nevis	224	25
St. Lucia	225	27
St. Vincent & the Grenadines	225	25

2.1. **Survey development activities:**

A number of activities were implemented over the life of the survey. These included: questionnaire pretesting and finalization, national samples' selection, field personnel identification and training, questionnaire administration, data management and analyses, and reporting. The overall process encountered several **technical-**, **field-** and **logistical-** challenges, most of which were eventually overcome and/or reasonably managed. Some of these are indicated below.

- *Firstly*, there had to be several changes to the survey questionnaire (content, wording, and layout) to accommodate interviews. Pretests identified issues for attention e.g. an apparent aura associated with speaking about the environment; many words and phrases describing environmental phenomena not being well understood; respondents' limiting knowledge of Protected Areas reinforcing their discomfort – even to being reluctant participants.

- *Secondly*, household interview length remained a challenge, impacting process and participants.
- *Thirdly*, it proved far more difficult than expected to obtain relevant, comprehensive base sampling data from the countries' respective Central Statistical Offices.
- *Fourthly*, it was extremely difficult and far costlier than anticipated, to implement a regional survey during the Caribbean's hosting of the 2007 ICC World Cup.

The assignment proved extremely instructive however, in respect of conducting a regional survey applying the same methodology and scheduling.

2.2. Organization of report:

The report comprises findings from the two (2) separately administered surveys. Results, analyses and interpretations are provided separately for: (i) households (Section 3); and (ii) departments (Section 4). The departmental report also contains a few comparisons between relevant household- and departmental- level responses.

3. HOUSEHOLD LEVEL RESULTS:

3.1. Main findings

Demographic data identified differences in reading abilities by country, age and gender. Most respondents worked, but full-time employment levels also varied by country.

Highest regional media use was found for **radio and television**, with little use of regional television and/or **newspapers**. Radio was however identified as the main key source for information on the environment, and television the most effective. Those most trusted to deliver related messages were environment officers/officials and teachers.

Most said they were “somewhat familiar” with environmental issues, but less so with Governments’ response. Factors encouraging awareness included global and regional events, degradation, being involved in environmental activities, and communication. Hurricanes and improper garbage disposal were strongly perceived of as threats.

There seemed minimal first-hand knowledge of protected areas, even though several actual or potential protected areas were identified. Knowledge and interest in respect of the environment in general and protected areas specifically, increased with education. This was an area that highlighted impact of limiting education and/or literacy. All indications were that information, education and communication had vital roles to play in better informing the region about environmental issues, but using more interactive, participatory fora. Legal and regulatory mechanisms were also important for compliance.

Departmental interviews found most “very” aware of environmental issues and protected areas, but less so of governments’ response. Contrasting with household respondents, they called for: more enforcement, education and research, and more managed use of trees and forests. Environmental threats were similar to household respondents, but with more awareness of sea- threats.

Department respondents suggested that communication efforts were mostly using undifferentiated mass media, public education and/or ad hoc approaches, with little targetted communication and/or responsive practitioner-posts. Budgetary limitations were cited.

Most effective methods for environmental communication were: meetings/workshops/seminars, radio, and television – dependent on country. Amongst challenges faced were limiting literacy, cultural nuances associated with community mobilization, communicating effectively (in general) about environment issues, and financial constraints. Yet, with increased support, it was felt worth continuing the efforts. Current scenario indicated managerial staff to be most ready for the challenges, followed by technical, then administrative personnel. Some of the study’s finding supported earlier ones showing how restrictive literacy was to environmental communication. The ongoing changes in the media landscape of available and usage however, will make targeted effective communication even more difficult than it might previously have been.

3.2. Demographic profiles

A total of 1,334 household respondents participated in the study (Table 1), females being in the majority (58.6%). This slight imbalance was apparently due to the imposed limitation of one (1) callback per household where the relevant target person was unavailable. The most equitable distribution was found within the Vincentian sample.

Age: Just over one-quarter (25.7%) was aged between 15 to 25 years, 23.6% and 21.5% were between 25 and 34, and 35 to 44 years respectively. Dominican respondents tended to be older than those of other countries (Figure 1), 37% being 45 years or older compared to the sample mean of 29.3% -- suggesting migration of younger residents. The distribution of age within gender was not statistically normal (Table 1), as there were for example more, older males than females of like age (44+ years) and more, younger females than males of similar age (15 to 24 years).

Education: Two-thirds of the population sample (68%) had completed education at least to secondary level, of which only 8% had University education (Figure 2). *Antigua & Barbuda* and *St. Lucia* had highest percentage University graduates (11.5% and 9.3% respectively). College attendance was highest within the *St. Kitts & Nevis* population. This finding is interpreted cautiously given different definitions and inclusions for "college attendance" throughout the region.

Reading ability: In partially assessing education achievement, perceived "reading ability" was determined by asking: "how well do you read?" Just over one-half (51.4%) said "very well", with another one-third (32.6%) saying "quite well". Proportions claiming almost no reading fluency i.e. "not at all/not very well" were quite high for some countries e.g. *St. Vincent & the Grenadines* (21%), *Dominica* (20.7%), and somewhat less so for *St. Lucia* (16.6%) and *Grenada* (15.5%). Given the importance of reading levels for strategic communication planning, relationships with other variables were further explored (Figure 3; Appendices 2a and 2b). Findings indicated that:

- *Firstly*, more females (57.7%) than males (42.5%) claimed higher reading levels, in all countries
- *Secondly*, older residents were least fluent in their reading – again found in all countries. Importantly, older Dominicans were found least literate based on these estimates.
- *Thirdly*, there were implications for school attendance, since the large majority of those who could not read at all either did not have any formal education (19.1%), or ended their schooling at Primary level (61.2%). The exception was *St. Kitts & Nevis*, where 61.5% of those unable to read indicated Secondary as their last level of attendance.

Table 1. Demographic background: by country

	<u>TOTAL</u>	<u>Anu</u>	<u>Dom</u>	<u>Gre</u>	<u>SKN</u>	<u>SLU</u>	<u>SVG</u>
TOTAL Sample (Households)_ N	1334	209	222	229	224	225	225
Sex:							
Male	41.4	36.7	41.0	41.7	42.5	40.5	45.3
Female	58.6	63.3	59.0	58.3	57.5	59.5	54.7
Age range:							
15 to 24 yrs	25.7	26.9	18.5	28.5	23.2	32.4	24.4
25 to 34 yrs	23.6	22.6	22.1	23.7	22.8	24.4	25.8
35 to 44 yrs	21.5	21.6	22.5	19.7	27.2	17.8	20.4
45 to 54 yrs	15.1	16.3	18.0	13.6	14.7	13.8	14.2
55 to 64 yrs	8.0	6.7	10.4	8.8	6.7	6.7	8.4
65 to 74 yrs	6.2	5.8	8.6	5.7	5.4	4.9	6.7
Education level: $\chi^2=159.50$; $df=35,1$; $p\leq 0.001$							
No formal education	3.5	3.4	2.7	6.2	0.9	3.6	4.0
Primary	28.2	22.6	45.5	30.0	6.7	24.4	39.6
Secondary	38.0	34.1	25.2	35.7	54.3	42.2	36.4
Skills/Vocational	7.0	10.1	4.1	8.8	7.6	5.8	5.8
College	15.0	18.3	16.2	13.7	21.1	14.7	6.7
University	6.9	10.1	5.9	5.3	6.3	8.0	6.2
Postgraduate	1.1	1.4	0.5	0.4	1.8	1.3	1.3
Other	0.2				1.3		
Est. Reading level: $\chi^2=27.96$; $df=10,1$; $p\leq 0.01$							
Not at all /Not very well	16.0	9.2	20.7	15.5	12.3	16.6	21.0
Quite well	32.6	38.2	27.5	28.3	35.0	29.6	37.5
Very well	51.4	52.7	51.8	56.2	52.7	53.8	41.5
Work status:							
Yes	72.7	73.4	68.0	69.9	79.5	73.8	71.6
No	27.3	26.6	32.0	30.1	20.5	26.2	28.4
Income: Monthly (EC\$ gross) $\chi^2=176.56$; $df=30,1$; $p\leq 0.001$							
None/No income	12.5	7.9	12.2	20.0	10.5	10.4	13.3
Less than \$1,000	31.2	12.0	45.7	35.1	13.9	34.7	41.8
\$1,000-2,000	27.2	30.4	21.7	24.9	38.3	27.0	22.2
2,001-5,000	19.9	31.9	10.9	14.2	30.1	14.9	19.6
5,001-10,000	2.0	4.2	1.4	0.4	2.9	2.7	0.9
Over 10,000	0.5	0.5	0.9	0.4	0	0.5	0.4
No response	6.7	13.1	7.2	4.9	4.3	9.9	1.8
Occupation II: $\chi^2=135.78$; $df=35,1$; $p\leq 0.001$							
Unemployed /Housewife/Student	27.1	28.5	31.9	29.3	17.4	26.2	29.0
Unskilled/Labourer/Domestic	14.5	12.6	14.8	9.8	19.3	12.4	18.3
Semi-skilled/Machine operators	5.6	7.7	4.2	1.8	7.8	9.8	2.7
Skilled/Tradesperson/Technical/ Clerical / Sales person	30.5	27.1	25.0	34.7	31.2	35.6	29.0
Small farmer/Micro business owner	5.7	1.9	10.6	4.9	1.8	3.1	11.6
Para-Prof/Small business owner or manager / Administrative	9.7	12.1	8.3	12.9	8.7	9.3	6.7
Med business owner or manager/ Semi-prof/ Large farmer	3.0	5.3	2.8	4.0	2.8	2.2	0.9
Prof/Large business mgr_ owner	4.0	4.8	2.3	2.7	11.0	1.3	1.8

Figure 1. Age & gender: by country

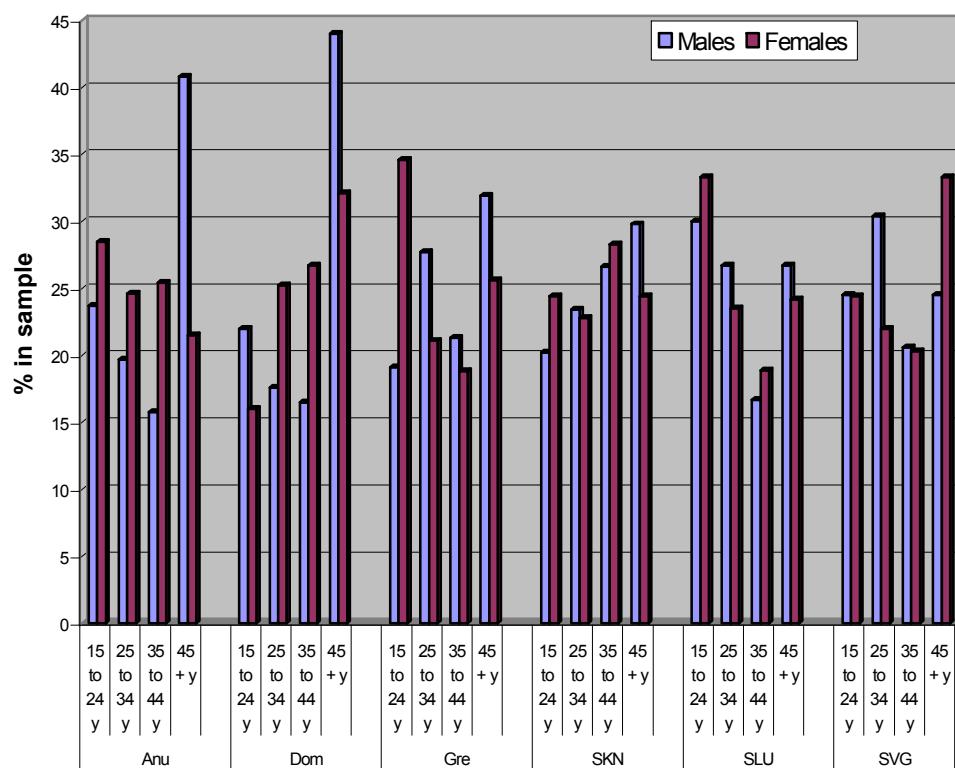
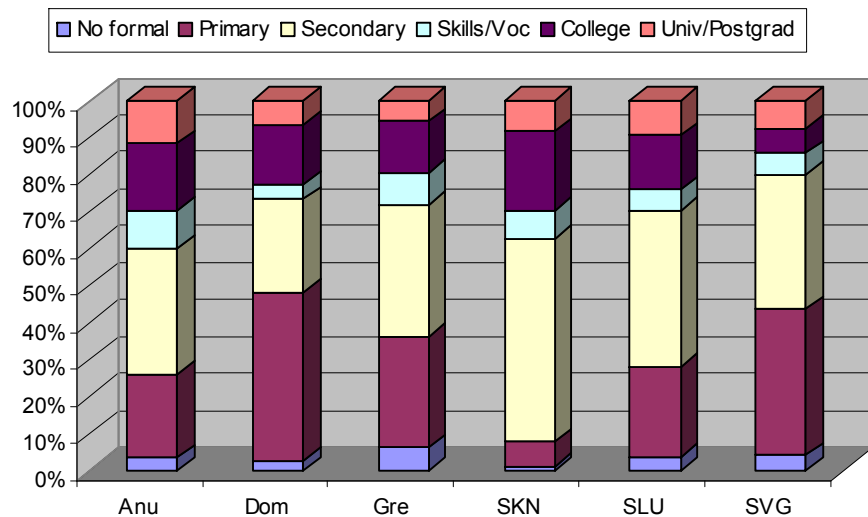
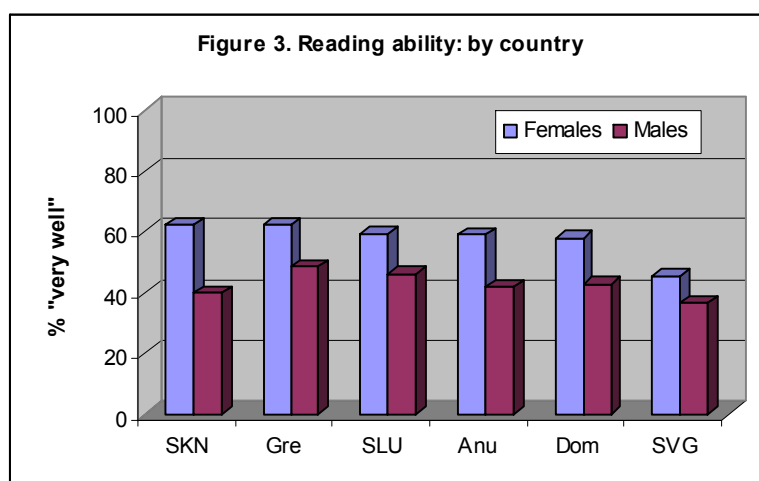


Figure 2. Education by country (last levels)





Work, Employment, Income: Almost three-quarters of the population (72.7%) worked (Table 1). Countries with largest percentage full-time employed (of those who worked) were: *St. Kitts & Nevis* (88.8%), *St. Lucia* (82.9%) and *Antigua* (82.7%). *Grenada* (72.3%) and *Dominica* (72.7%) had least full-time employees as well as most part-time employees (17.4% and 16.7% respectively). The highest proportion indicating “seasonal work” was in *Grenada* (7.1%), while the highest reporting “occasional work” was *St. Lucia* (6.1%).

Just about one-third (31.2%) earned less than EC\$1,000 monthly; another 12.5% earned no income at all. Those earning less than EC\$1,000 monthly were:

- Unemployed/Housewives/Students - 80.0%
- Unskilled/Labourers/Domestics - 65.1%
- Small farmers/Micro-business owners - 42.4%
- Semi-skilled/Machine operators - 36.9%
- Skilled/Technical/Sales persons - 22.5%
- Para-Prof/Small business owner/Admin. - 10.4%
- Med business owner/Semi-prof/Large farmer - 7.7%

Highest proportions **without income** were found amongst the youngest 15 to 24 year (29%) and oldest 45-and-over year (10.8%) age ranges ($\chi^2=224.07$; $df=18,1$; $p \leq 0.001$). When income was reviewed against occupations, highest earnings were for “professional/large business managers or owners (18.3% earned over \$5,000 monthly, and 67.3% between \$2,001 and \$5,000). *Dominica* had the highest unemployment (31.9%) and *St. Kitts & Nevis* the lowest (17.4%). *St. Kitts & Nevis* also had the highest proportion of: “professionals/ large business managers or owners” (11.0%).

Community work and residency: The majority of those working did so **outside** their residential communities (61.4%). **Dominica** had the highest proportion working **within** their communities (43.3%). Few (8.6%) commuted between different work locations - **St. Vincent & the Grenadines** had the highest proportion doing so – possibly due to its multiple island sites (Table 2).

Table 2. More about Household respondents' backgrounds; by country

	<u>TOTAL</u>	<u>Anu</u>	<u>Dom</u>	<u>Gre</u>	<u>SKN</u>	<u>SLU</u>	<u>SVG</u>
Employment location: those working $\chi^2=37.46$; $df=10,1$; $p\leq 0.001$							
In community	30.0	17.8	43.3	30.4	25.4	30.9	32.5
Outside community	61.4	72.6	46.7	61.4	70.6	61.2	55.0
In more than one town/village	8.6	9.6	10.0	8.2	4.0	7.9	12.5
Community residency (yrs):							
Mean	23.86	22.37	28.85	24.04	23.02	21.06	23.72
SD	16.51	16.45	18.15	16.35	17.08	13.95	15.93
Main Transport: $\chi^2=68.44$; $df=15,1$; $p\leq 0.001$							
Walk	19.8	20.2	19.2	18.1	27.8	15.1	18.2
Bus/Taxi/Van	53.3	39.4	49.5	67.0	43.9	63.1	55.6
Own vehicle	24.8	36.9	28.0	14.4	27.4	20.0	22.7
Other	2.2	3.4	3.3	0.5	0.9	1.8	3.6
Marital status: $\chi^2=42.71$; $df=20,1$; $p\leq 0.01$							
Single / Dating / Visiting	58.3	56.2	55.0	61.3	65.0	62.8	49.3
Common-law	9.5	8.9	9.5	8.9	2.2	13.0	14.2
Married	24.6	24.6	28.2	22.7	24.7	17.9	29.3
Separated / Divorced	3.9	4.9	3.6	2.7	5.8	3.6	3.1
Widowed	3.7	5.4	2.7	4.4	2.2	2.7	4.0
Children:							
# Living with you (<19y)?	1.29	1.09	1.12	1.45	1.21	1.38	1.46
# Children attending school	1.08	0.99	0.99	1.17	1.06	1.14	1.14
Religion: $\chi^2=482.77$; $df=45,1$; $p\leq 0.001$							
Roman Catholic	27.6	4.8	57.7	34.9	9.4	54.2	2.7
Anglican	14.2	24.5	0.9	13.5	22.4	8.4	16.0
Pentecostal	13.7	12.0	5.4	17.5	18.8	7.6	20.4
Seventh Day Adventist	9.8	9.1	5.9	16.2	4.0	8.4	14.7
Methodist	7.8	12.0	3.6	1.3	12.6	3.1	14.7
No church or religion	7.4	11.1	8.1	2.6	5.4	7.1	10.2
Baptist	5.7	5.8	7.7	3.1	9.0	0.9	8.0
Church of God	3.8	3.8	1.4	3.5	5.4	3.6	5.3
Rastafarian	2.6	2.9	1.8	1.7	3.6	3.6	2.2
Other	7.5	13.9	7.7	5.7	9.4	3.1	5.8
Church attendance: $\chi^2=67.78$; $df=20,1$; $p\leq 0.001$							
Not at all	13.0	12.4	9.5	10.9	13.4	14.2	17.8
Special occasions only	26.2	25.4	23.4	34.5	17.4	31.1	24.9
Monthly	13.9	16.3	15.3	5.7	20.1	14.2	12.4
Weekly	43.6	45.5	47.3	46.3	47.3	37.8	37.3
Daily	3.3	0.5	4.5	2.6	1.8	2.7	7.6

Respondents were very embedded in their communities: mean residency period was 23.86 years. Naturally, this was related to age, means increasing throughout the span i.e. 15 to 24 years (mean 14.96), 25 to 34 years (mean 19.06), 35 to 44 years (22.95), and 45 years and over (35.97).

Transportation: Just over one-half (53.3%) used public transportation in the form of “bus/taxi/van”, while one-quarter (24.8%) travelled within their own vehicles. By extrapolation vehicle ownership was highest in *Antigua & Barbuda* (36.9%) and lowest in *Grenada* (14.4%).

Family status: Persons in single, dating-, or visiting- relationships represented 58.3% of the sample; another 9.5% resided with spouses although not married. Married persons accounted for 24.6% of respondents - the highest proportion in *St. Vincent & the Grenadines* (29.3%) and lowest in *St. Lucia* (17.9%). Few were separated or divorced (3.9%), or widowed (3.7%). Vincentians had the highest number of resident children (mean = 1.46), and Antiguan, the lowest (mean = 1.09).

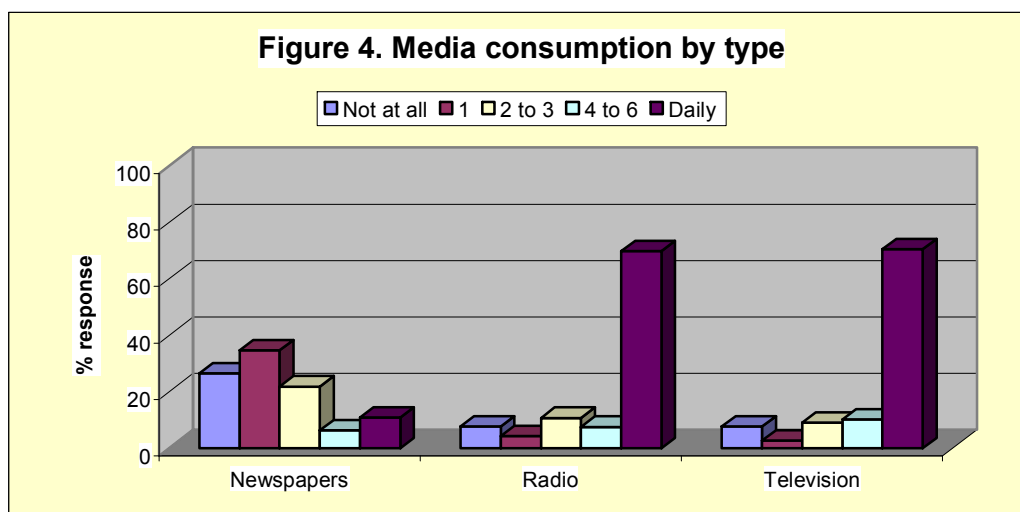
Religion and church attendance: Religion is a potentially important factor in how people view “the environment”, and the extent of felt personal responsibility for its management. The main religious denomination was Roman Catholic (27.6%), mostly evident in two (2) countries, *viz. Dominica* (57.7%) and *St. Lucia* (54.2%). Just over one-third Grenadians (34.9%) also belonged to that faith. The majority denomination found amongst Antiguan (24.5%) and Kittitians/Nevisians (22.4%) was Anglican. Also fairly well represented were Pentecostal (13.7%) and Seventh Day Adventists (9.8%), combined proportions being especially high in *Grenada* and *St. Vincent & the Grenadines*. Just less than half the respondents attended church weekly or more often (46.9%).

Pentecostal churchgoers had most regular attendance (Appendix 3) amongst identified religions, 59.9% attending weekly and another 4.4% daily. Interestingly, those indicating “other” religion attended with similar regularity (59.0% weekly). The “others” listed were: Evangelical, Fundamental Baptist, Holiness, Jehovah Witness, Open Bible, Praise & Deliverance Sanctuary, and Spiritual Baptist.

3.3. Information / Media usage profiles

Given the study’s focus, to inform the preparation of communication-based environmental interventions, it was important to determine media consumption patterns. This survey focused mainly on **print** (*newspapers*) and **electronic** (*radio* and *television*) media. Respondents were asked about: (a) the number of days they “generally” read/listened/watched each type (in ranges), and (b) their actual usage (*number of days*) during the previous one (1) week period (details in Appendices 4 to 6). They were also asked about the **main time periods** during which they listened to the radio and watched television – on **weekdays** and on **weekends** (Appendices 7 and 8). For each of these latter, they were to provide 1st and 2nd most likely time periods. As structured, the question was found tedious to administer and answer, therefore fewer time periods were asked of, second options being hardly used.

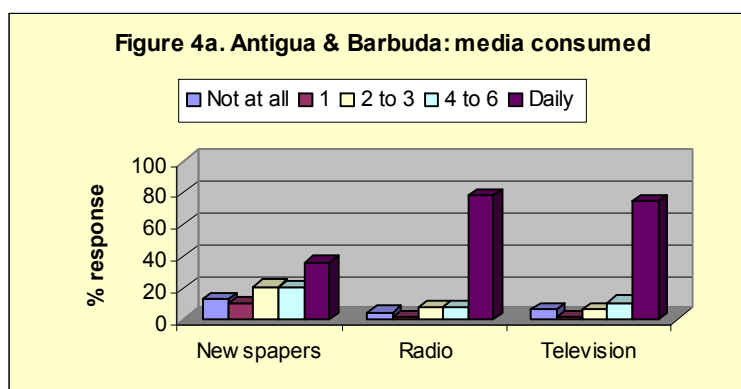
Findings showed **relatively high daily use of radio and of television throughout the region** (approximately 70%). This contrasted with reading of **newspapers**, which showed average **majority population use to be about once weekly**, although this latter pattern was not as clearly defined as that for the electronic media. Usage varied by country, those patterns shown in Figures 4a to 4f.



Firstly, for all countries media consumption patterns highlighted the relative predominance of daily television and radio usage over that for the newspapers. *Secondly*, it almost appeared that there were few occasional or “part-time” users of the electronic media – one listened/watched regularly or virtually not at all. The situation was different for newspapers, although a most likely cause could be the frequency of the publications (e.g. some countries publish only weekly). *Thirdly*, there was also multiple daily media use (even simultaneous) e.g. people listening to the radio and watching television at the same time. *Lastly*, such multiplicity of use makes media placement more difficult.

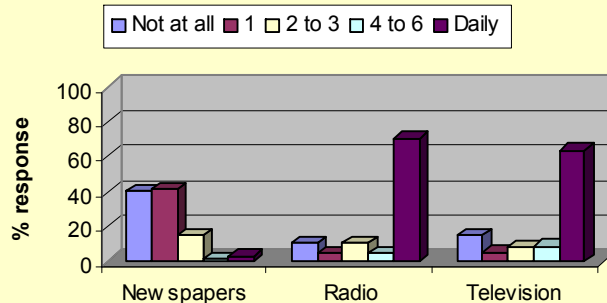
3.3.1. Media consumption profiles by country:

In *Antigua & Barbuda*, daily use of radio marginally exceeded that for television. There were more people not reading newspapers than not using the electronic media.



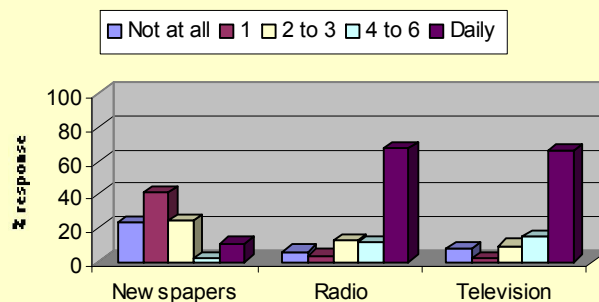
Dominica showed higher non-use levels for newspapers in comparison to the other media. Very few read daily (**Dominica** has no daily newspapers).

Figure 4b. Dominica: media consumed



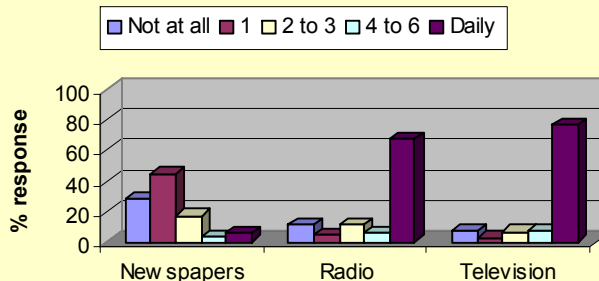
Grenada showed very similar levels of daily radio and television use. Approximately 40% read newspapers weekly. As with the other countries, there was a small percentage that did not listen and/or did not watch at all.

Figure 4c. Grenada: media consumed



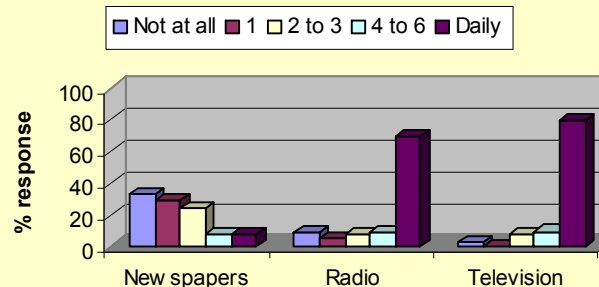
Television viewing was somewhat higher than was radio listenership in **St. Kitts & Nevis**. Otherwise, the usage pattern was quite similar to that for **Grenada**.

Figure 4d. St. Kitts & Nevis: media consumed

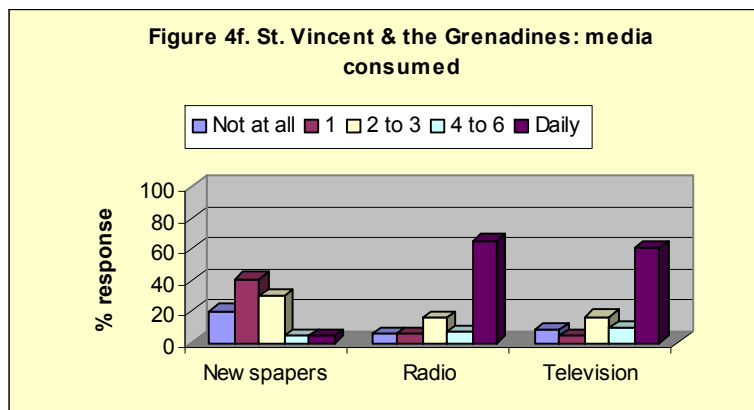


In **St. Lucia** it seemed more people clearly opted for the electronic than print media. Daily television viewing was the highest for the region.

Figure 4e. St. Lucia: media consumed



In *St. Vincent & the Grenadines*, daily radio listening was marginally more than daily television viewing. People were also more likely to view television 2-3 times per week than in other countries.



3.3.2. Newspapers

Just over one-quarter (26.4%) indicated *not* generally reading newspapers at all, with the largest such majorities in *Dominica* and *St. Lucia* (40.3 and 32.7% respectively). At the same time, 36.2% of *Antigua & Barbuda* respondents read the newspapers daily, and only 13.0% of that country's residents said they did not read newspapers at all. Mean use during the previous week mirrored the extremes i.e. Antiguans had highest (3.39) and Dominicans, lowest (0.84) respective means. In many ways, this newspaper-reading pattern also reflected reading abilities earlier reported. Relationships were further evidenced via age- and education-linked variables, older persons (45+ years) reading least (1.47 times in previous week) and so too those with lesser education. Younger persons read newspapers less frequently, but this could also likely be linked with lesser *interest* in this aging medium for communication. Those earning more money read newspapers more often.

3.3.3. Radio

Radio usage was at much higher levels than found for newspapers (Appendix 5), with 69.8% listening daily. This listenership was highest in *Antigua & Barbuda* (79% daily), which was also the country with most people using their own vehicles. Countries with the highest percentage not listening at all were *St. Kitts & Nevis* (11.2%) and *Dominica* (10.4%). This pattern was also reflected in the means representing the previous week, although *St. Lucia* had the lowest mean radio usage during that period (4.81). There were no clear relationships to other key variables.

The main time during which most persons listened to the radio (Table 3; Figures 5a and 5b), was between **6.00 a.m. and 12.00 noon** on weekdays (44.8%) as well as on weekends (30.1%). The wide time band used did not allow for breakdown into smaller units. This high usage period includes the time during which many people prepare for work and school, as well as conduct daily chores, There was also a fairly large proportion listening at "all times" i.e. it was likely less influenced by time of day, than by preference and/or convenience and/or access (in car, at work). People were more likely to listen to the radio during **weekdays** than on weekends.

Table 3. Most likely media consumption times: weekdays and weekends

		Most Likely Listening/Viewing Times						
		<i>NA/Not at all</i>	<i>12 mid- night -6am</i>	<i>6-12 noon</i>	<i>12noon- 6 pm</i>	<i>6-12 mid- night</i>	<i>All times</i>	<i>Other</i>
a. Radio								
	Weekdays 1 st	9.3	10.8	44.8	6.9	9.1	16.1	3.0
	2 nd	43.3	2.7	5.1	19.1	22.3	3.2	4.4
	Sat & Sun 1 st	20.4	7.6	30.1	10.8	7.0	19.2	5.0
	2 nd	57.8	1.2	3.7	14.1	15.8	3.9	3.5
b. Television_ local								
	Weekdays 1 st	17.8	4.1	12.0	9.3	44.9	6.3	5.6
	2 nd	61.2	2.3	4.1	6.6	17.3	2.6	5.9
	Sat & Sun 1 st	30.4	3.8	13.4	9.2	26.6	11.3	5.2
	2 nd	67.3	1.4	2.6	7.2	15.0	2.6	3.8
c. Television_ cable								
	Weekdays 1 st	25.5	4.4	11.3	10.7	27.7	17.1	3.3
	2 nd	62.9	2.0	2.6	6.5	17.3	4.1	4.6
	Sat & Sun 1 st	28.1	2.6	11.0	9.8	18.7	25.2	4.8
	2 nd	67.2	1.2	2.1	6.3	14.1	4.6	4.5
d. TV_ regional								
	(i) Cable Vision	79.9	0.6	1.7	1.8	7.4	4.3	4.4
	(ii) Hype	94.8	0.2	0.2	0.9	1.4	1.1	1.4
	(ii) Tempo	77.6	0.3	1.3	2.6	6.5	7.9	4.0

3.3.4. Television

Television viewing was similar to that found for radio – high viewership with 70.5% watching daily (also Appendix 6). Highest levels were in *St. Lucia* (80.2%) followed closely by *St. Kitts & Nevis* (77.2%) and *Antigua & Barbuda* (75.2%). *Dominica* had the highest percentage of persons who did **not** generally watch TV at all (14.9%). Unfortunately, the survey questionnaire did not address “possessions” e.g. TV ownership, hence it is not known how preference vis-à-vis access influenced patterns. Average viewing also reflected general viewing to a great extent. Interestingly, radio and television require far **less active** consumption – instead largely needing passive presence (*this has implications for personal health, which may/may not extend to environmental health*).

Most viewing took place during the evenings i.e. between **6.00 p.m. and 12.00 midnight**; 44.9% reported this as their main weekday time and 26.6% as their main weekend time. Overall, the **weekend viewing pattern was more fragmented than during the week**. Possible reasons may include (a) the relative importance of church attendance to many; and (b) the fact that the survey combined Saturdays and Sundays as “weekend”, although nightly patterns might differ. Cable television viewing closely mirrored that for local TV viewing (see also Figures 5a and 5b).

St. Lucian residents appeared far more “addicted” to television than were other nationals: only 5.8% did **not** watch local TV on weekdays (compared to e.g. 27% Dominicans), and only 15.2% did not watch cable TV (compared to e.g. 40.4% of Vincentians). That country’s higher comparative viewing levels were also evident on weekends.

Figure 5a. Weekday electronic media use

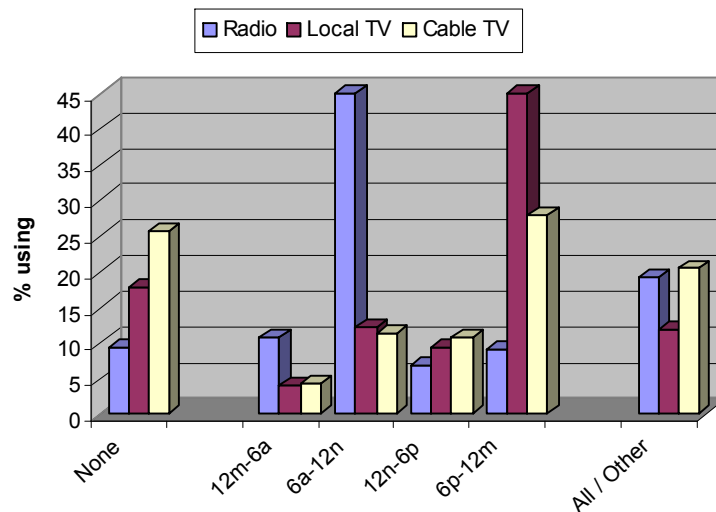
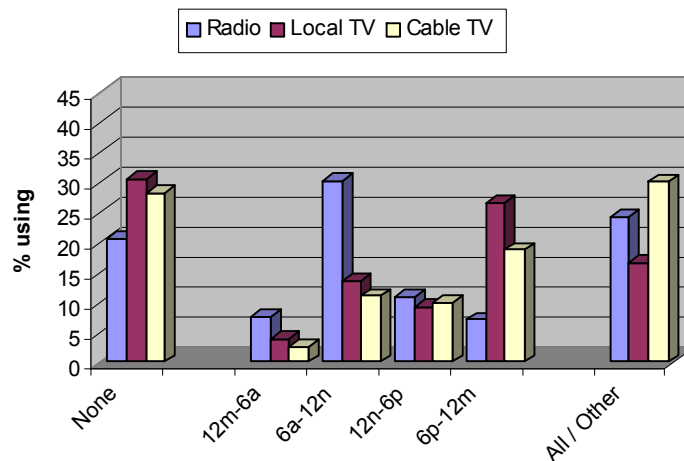


Figure 5b. Weekend electronic media use



Regional television: Findings suggested media placement challenges (Table 3). Of the three (3) channels about which respondents were asked, viewership was highest for “*Tempo*” (22.4%), followed by “*Cable Vision*” (20.1%), then “*Hype*” (5.2%). Almost as expected, viewership of *Tempo* was also higher for *St. Lucia* than for other countries. **This extremely low viewing rate is clearly problematic if there was hope of finding from amongst them, a channel suitable for regional environmental message distribution.** Naturally, the respective stations’ programming directives could further drive viewing. At country level for example, some programmes are not carried as independent feeds, but instead used by the various media houses as discretionary options.

3.3.5. Comparing Print and Electronic media usage:

There were direct relationships between print and electronic media consumption i.e. people had certain levels of media appetite that were concurrently satisfied via print and electronic usage (Table 4). As newspaper usage increased, so did electronic media usage – for both radio and television. Also, the highest proportions of those **not** listening to the radio and/or watching television were found for those who did **not** generally read newspapers. Although this overall non-usage is relatively low, there remain implications for communication intervention.

Table 4. Relationship between weekly print & electronic media usage (*all*)

	Newspapers (x/wk)				
	0	1	2-3	4-6	Daily
Radio (x/wk)					
$\chi^2=54.98$; $df=16,1$; $p \leq 0.001$					
0	13.8	7.4	4.2	6.1	1.4
1	4.6	4.4	5.9	--	2.1
2-3	11.5	12.4	10.5	8.5	5.7
4-6	4.6	8.9	9.1	8.5	5.7
Daily	65.4	66.9	70.3	76.8	85.1
Television (x/wk)					
$\chi^2=69.20$; $df=16,1$; $p \leq 0.001$					
0	16.6	5.7	2.8	4.9	2.8
1	2.9	3.3	1.7	2.5	0.7
2-3	10.5	8.6	9.4	9.9	6.3
4-6	9.3	9.5	12.9	9.9	9.2
Daily	60.6	73.0	73.2	72.8	81.0

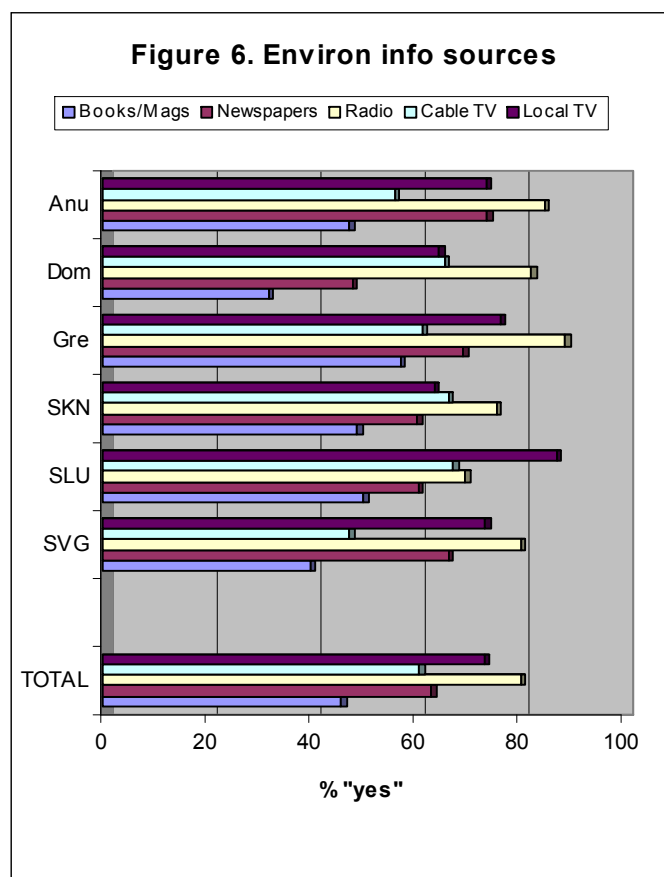
3.4. Environmental Information/Media Sources & Effectiveness:

Respondents were asked of the main sources from which they heard/saw/read information about the environment, the approximate frequency with which they did so, as well as the relative effectiveness of various tools used to communicate about the environment.

3.4.1. Sources for environment information:

The most-mentioned source for environmental information was radio, from which 79.9% of respondents got such information. It was most mentioned in all countries (Figure 6), but especially **Grenada** with 88.6% of respondents indicating “yes”. The exception was **St. Lucia** where radio was mentioned by only 69.3%, their most used source instead being local TV. This is not surprising based on their previously indicated TV viewing preference. **Local TV** was overall the second most mentioned source for environment information (72.9% saying “yes”), followed by **newspapers** (62.9%). Importantly, **cable television** was less mentioned as a source for environment information than was local TV. **Books and/or magazines** were the least likely places respondents would obtain information on the environment – this likely in keeping with reduced reading habits.

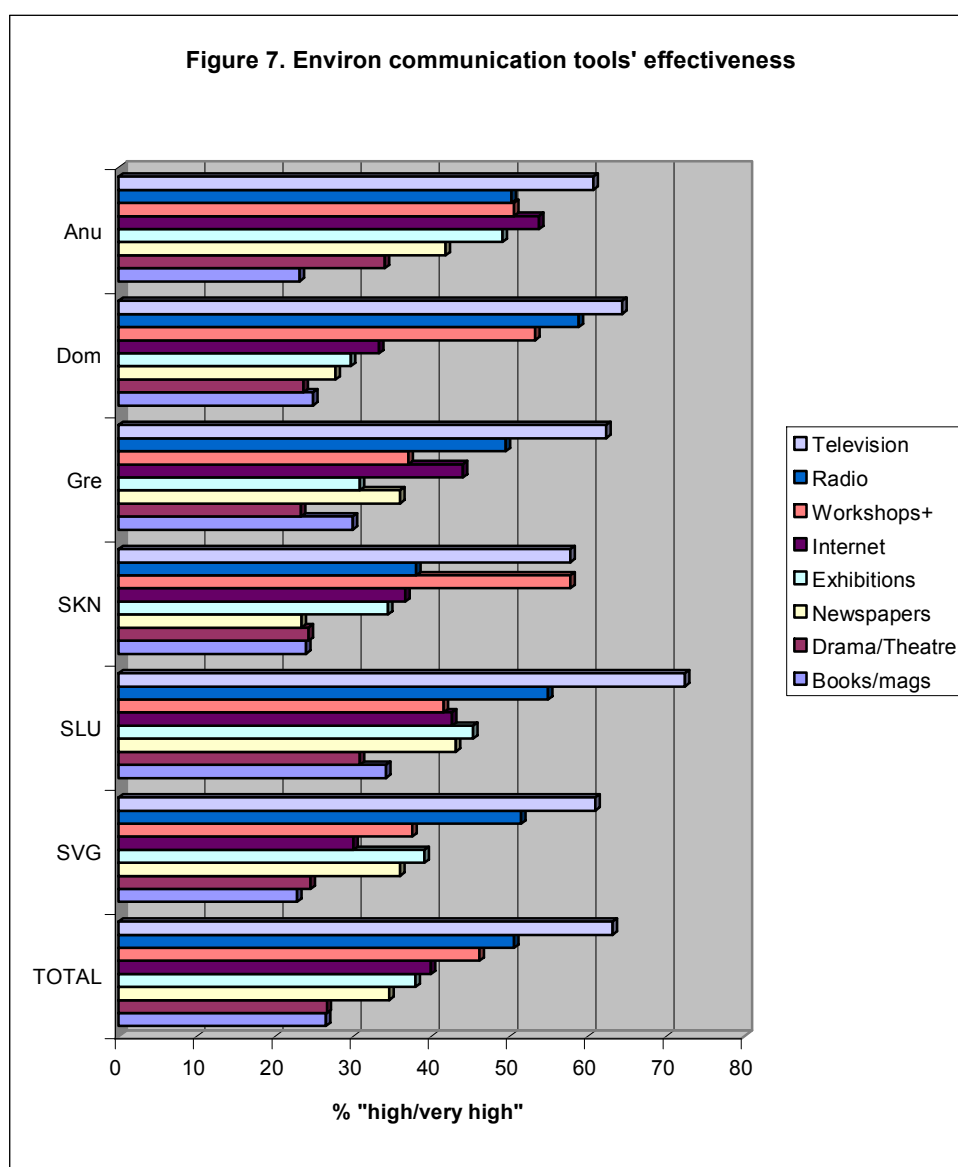
How often persons obtained environment-related information varied by media used, as well as by country (Appendix 9). The electronic media were most likely to be “regular” sources, and again, it was **St. Lucia** residents who were more likely to rate them as such. This subjective rating of regularity would also be likely related to *inter alia*, overall use of media, interest, and frequency with which related articles/items were represented in them.



3.4.2. Media/Information Effectiveness

Although radio was where audiences received most of the information on the environment, it was television that was estimated most effective means of communicating with targetted audiences, regardless of country (Figure 7). A total of 63.1% of respondents said effectiveness was either “very high” or “high”. *St. Lucia* residents’ preference for TV was again evident. Regionally, **radio** was however, estimated second most effective for such communication, a total of 50.5% indicating it to be “very high” or “high” (see also Appendix 10). Country exceptions were:

- *Antigua* - Internet was the second most effective tool
- *St. Kitts & Nevis* - workshops were equally as effective as television



This relatively high rating of workshops' effectiveness for *St. Kitts & Nevis* might be related to the higher-than-average levels of educational completion and occupations earlier reported for the country. Workshop-type gatherings are likely amongst the most interactive tools possible for such communication – the main option for engaging in question-and-answers sessions. They are however, also amongst the most expensive. Nevertheless, they featured quite prominently for all countries as being highly effective for providing information on environment issues. Given the type of attention respondents were reported to have given during the survey, such a finding could be understandable. It also indicates desire for participatory engagement.

Least effective tools were “**books/magazines**” and “**drama/theatre**” (26.5% and 26.6% respectively saying “very high/high” effectiveness). The situation with books is related to low use/involvement, but for drama/theatre is possibly influenced by e.g. lesser exposure, access and/or precedent.

Except for television and radio, responses regarding effectiveness of communication tools when compared with the respondents' education and age showed significant relationships (Appendices 11 and 12). One stark trend was seen for “**workshops/seminars**” (with “exhibitions” showing a similar trend) where **the higher the respondent's educational level the more likely they were thought to be effective**. There are several factors that could result in such a finding e.g.

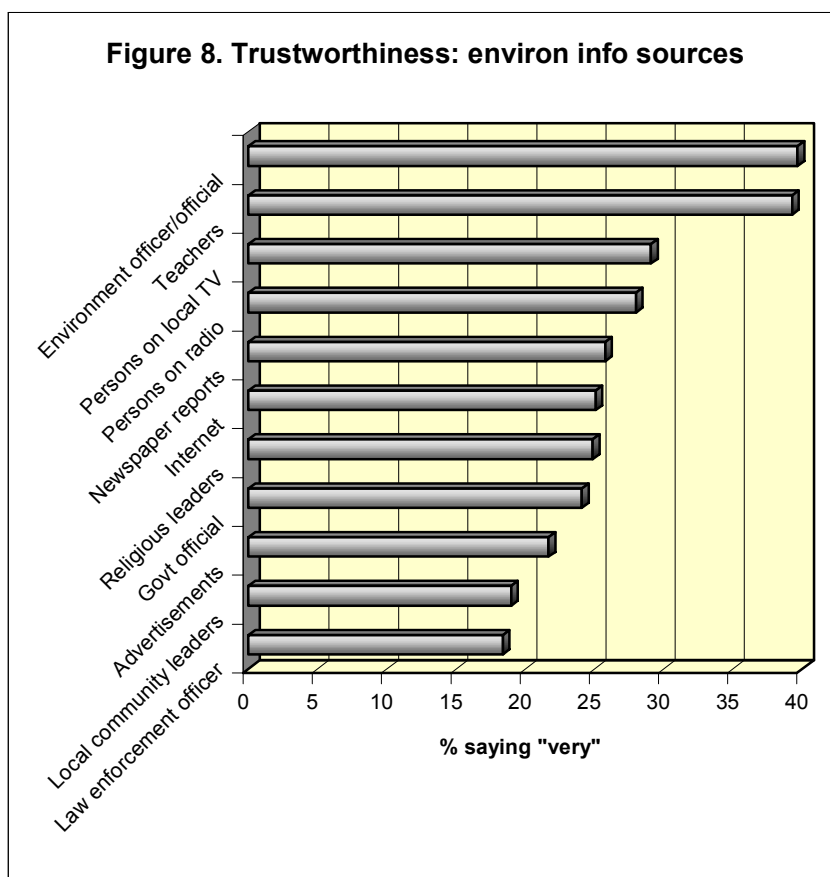
- More educated persons are likely to have been exposed to workshops and seminars, and for a longer time
- Persons generally invited to such fora tend to be the more educated
- Unless highly participatory, such groups tend to focus on inputs from the more highly educated
- Lesser educated are less likely to feel comfortable in such fora – partially for the above reasons

Our “Internet age” requires fairly high literacy to adequately assure effectiveness. It also caters to immediacy. These realities seemed clearly evident since it was (a) the more educated; and (b) the younger, respondents who were more likely to find the Internet effective. Further considerations of **what effective Internet communication would require** for its audiences are:

- Sufficient personal interest to log-on and/or otherwise appropriately engage to a site
- Sufficient differentiated attractiveness to be separated from the tools' inherent clutter/noise
- Sufficient ease-of-use to ensure focus on content rather than negotiability
- Sufficiently interesting content to ensure desirability of use
- Sufficiently strong messages to be interpreted as a call-to-action
- Remaining sufficiently current to ensure repeat visits/use

3.4.3. Media/Information Trustworthiness:

Respondents were asked about the extent to which they trusted various sources of environment information, including from the electronic media. **Sources with vested authority obtained most favourable ratings: environment officers/officials were the ones most persons regarded as “very” trustworthy (21.7%), followed by “teachers” (Figure 8).**



Persons charged with media reporting e.g. on TV and radio, were felt to be “very” trustworthy sources by just under one-third respondents. Officers of the law did not engender the trust found for others – *which would have implications for compliance*. Local community leaders were also not so highly trusted.

Results suggested that relationships between State and civil society substantially influenced the extent to which residents trusted various messages and bearers of such information. In each country (Appendix 13), it was either environment officers or teachers that held pride of place in respect of trust. **Government officials, local community leaders and law enforcement officers were trusted more in *Dominica* than anywhere else.** Certainly, their system of local governance that fairly strongly focuses on village councils, and places residents in closer proximity to seats of decision-making, is partly responsible. In comparison, more residents of *Antigua & Barbuda* (and of *St. Lucia* to a slightly lesser extent) trusted the distant **Internet** as a source of environment information than found in other countries (36.3% and 35.0% respectively said “very” trustworthy).

There were also relationships with education and age (Appendices 14 and 15), in respect of receiving trusted environment information e.g.

- Younger respondents were more likely to trust “educative” type sources e.g. **teachers, newspapers, Internet**, than were older respondents.
- Older respondents were more likely to trust “profiled” persons/images perceived to be with authority e.g. **persons on TV and radio, religious leaders, and Government officials**.

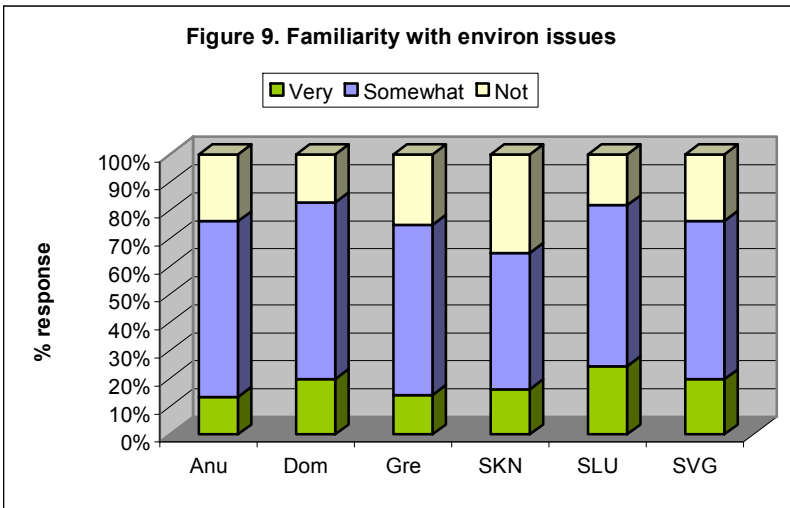
3.5. Environmental awareness and knowledge

The extent to which respondents were aware of environmental issues and/or had specific component knowledge was determined by asking them several questions e.g. what was their familiarity with related issues and their governments’ responsiveness? How did they describe: “the environment” in general and specifically, “protected areas”? What did they feel were environmental threats? What phenomena did they estimate to have changed in recent times?

3.5.1. Familiarity with issues:

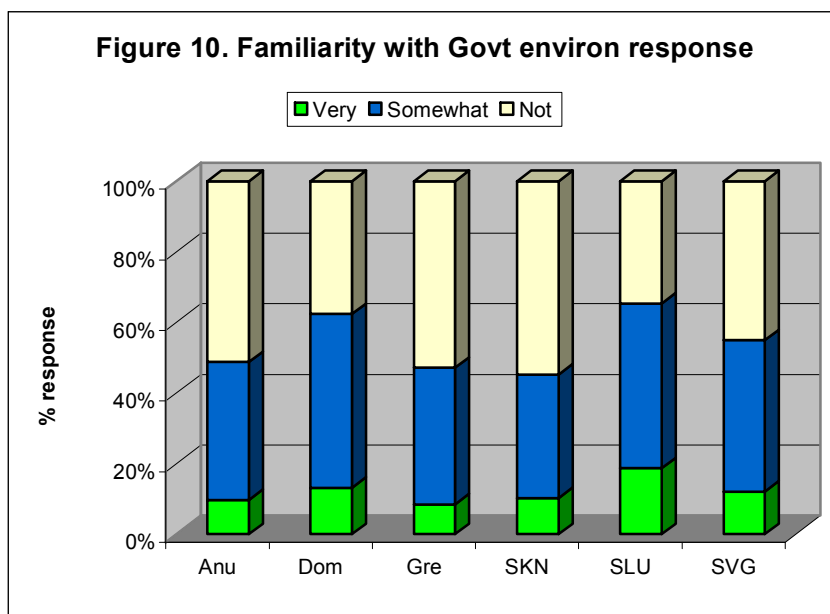
One basic question asked was of perceived “familiarity” with the topic (Figure 9).

Most respondents (58.1%) said they were “somewhat” familiar. Smaller proportions said they were “very” familiar (18.0%) or “not” familiar (23.9%). *St. Lucia* had the highest proportion of respondents “very” familiar (24.4%), followed by *Dominica* (19.8%) and *St. Vincent & the Grenadines* (19.7%). It is interesting that these countries have the most promoted Protected Areas.



Such familiarity was also related to other factors (Appendix 16) e.g. the proportion saying they were “very familiar” increased with:

- Increasing levels of **education**, except at postgraduate level
- Declared interest in/**concern for the environment**
- Knowledge of **Protected Areas** in the island/country.



Residents were less familiar with governments' responses (Figure 10) to environmental issues: Only 12.1% was “very” familiar, another 42.0% “somewhat” and 46.0% “not” familiar. Again, *St. Lucia* residents were most familiar (18.7% said “very”), followed by *Dominica* (13.1%) and *St. Vincent & the Grenadines* (12.1%).

Familiarity with environmental issues in general as well as governments' response to such issues, were related to **media use** (Table 5), significant in both situations for newspaper usage. Increased radio and television use were also more likely to be associated with increased familiarity with governmental responsiveness. Respondents' descriptions of what they understood about “the environment” were instructive (Box 1 and Appendix 17).

Table 5. Familiarity with the environment: relative to media usage

	Mean times during last week ...		
	<u>Read newspaper</u>	<u>Listen to the radio</u>	<u>Watch TV</u>
Familiarity with environmental issues	***	n.s.	n.s.
Very	1.99	5.28	5.61
Somewhat	1.82	5.14	5.31
Not	1.08	4.78	5.10
Familiarity with government's response to environmental issues	***	**	*
Very	1.97	5.63	5.64
Somewhat	1.89	5.19	5.46
Not	1.40	4.82	5.12

Box 1. Sample of responses to what all respondents know, heard, understand re “the environment”

Our surrounding, our habitat... It is dirty, people not taking care of it and bad disposal of waste ... surroundings we need for pleasant, fruitful, stress-free and character building life... being polluted by different chemicals... Degradation can be brought about by careless habits and poor attitudes ... environment being destroyed and damaged effect that man is having on the environment, we need to protect it for children's benefit ... Land, air, water, river, birds, animals live together... Beautification of public areas... Neighbours living next to you... environment changing through global warming and otherwise, such as climate changes... It caught throwing garbage in certain areas you have to pay fine of \$5000... Clean air, less pollution if we could control the environment there will be less cutting down of trees, less erosion, high rainfall ... Keeping earth safe. Burning of plastic, protecting the forest, rivers, beaches... Keep out dirty water, and avoid polluting to stop mosquito, rats... Pollution, global warming, greenhouse effect... Protect marine life and forestry... Farmers need to be careful with substance they use... Global temperatures increasing and polar ice caps melting... what concerns you in your area or country example violence, crime, pollution, smoking of marijuana ...A dirty environment will not attract tourist to our country... they are going to build a jetty in Toucuc. It will destroy the beach. I will not be able to fish ... Things that cannot be replaced by man like river, sea, waterfalls ...trees, forest, rivers what God give us... A clean area, you have to get rid of old rubbish, tins, old trees and so check flower pots... for us to come together and united, express ourselves... Sometimes we get hurricane and bad weather... If they protect the beach, atmosphere, we will live in a better environment... should be protected to pass on to children and grandchildren ...Because of excessive pollution ozone layer affected and this causing the planet to warm up. This in turn creating a great change in world's climate... People having toilets in their yard and pigs, goats and sheep should not live where people live ...men do not urinate on the road ...government and environmental officials trying to get people to keep St. Lucia clean ...Eco-system where animals and people live together as one in habitat ...No proper shelter in case of natural disaster...Too much noise... Community where you find different species... place of peace, love, tranquility, anyways that's what its supposed to be... deteriorating rapidly and in a few decades if it isn't curbed we're all gonna die... Everywhere in Soufriere... all about hurricane ... environment not safe, you cannot walk as you want, fellows walk with knives and put guns by your neck... Fixing swamp near by ... A gift from God to us to cherish and enjoy and pass on ...

3.5.2. Factors encouraging awareness:

In order to better understand geneses of interest, awareness and familiarity with environmental issues, respondents were asked what had “stirred their interest” and/or had an impact on them in the past. This was to include *events, things seen, heard, read, or experienced*. The rationale was that: (a) such types of events/involvements could result in future encouragement – for them (or others) not attracted to and/or not responsive to environmental issues; and (b) these issues may influence communication interventions. Results were processed and categorized for household and departmental respondents. Captions and key directions are summarized below (also Appendix 18):

Regional/local events

Responses seem to be dominated by natural disasters and their observed impact e.g. *hurricanes, floods, earthquakes, and volcanoes*. There were several other regional or local events and/or observations that also appeared to have impacted respondents e.g. *drought, landslides/slippages, garbage* (also see also degradation), *changed weather patterns, dust, and new infrastructure developments*.

Global events

Several disasters were mentioned as having resulted in increased awareness; electronic mass media communication had increased people’s access to information about global- and environmental-events, and their impacts. Interestingly, many of those reported might more accurately have been classified as “population disasters” with resulting human impact, than “environmental” events. This marginal distinction was also observed in other type of events referenced below.

Environmental degradation

This category presented with the most references, and suggested that nearby events had lasting impacts on respondents’ awareness of “the environment”. Solid waste management was given much attention e.g. *excess garbage, sources and reasonableness of its compilation, and relative adequacies in its collection*. References were also made to situations creating discord e.g. noise and smoke pollutions, or for which there had been obvious changes.

Felt-impact from involvement in environment activity

There was a short list for this category that focussed on people’s active involvement e.g. *taking part in clean-up campaigns, courses of study, or via work activities*. A few learned vicariously e.g. through a family member’s activities.

Communication efforts

Respondents were exposed to a range of communication efforts, media, tools, channels; they all seem to have left some impact regarding the environment: *advertisements, documentaries, dramatic presentations, flyers, movies, pamphlets, news items, newspaper articles, serialized programmes, talks*.

Generic negative life-situations

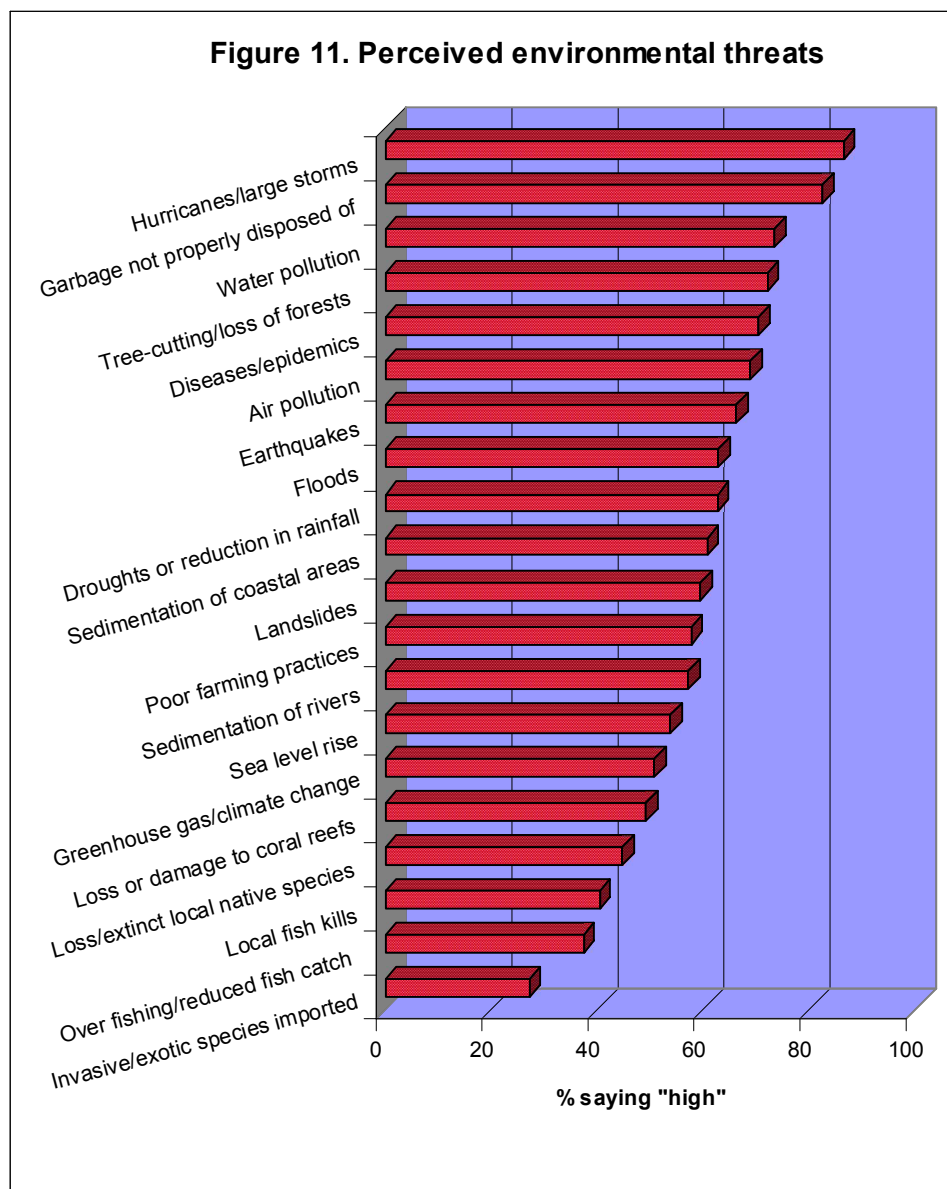
In response to this question, respondents were asked, respondents spoke to the human condition e.g. *communal interdependence, drugs, gambling, housing and privacy, murder, revolt, teenage pregnancy, unemployment, youth*. It is not clear whether the question was clearly understood; if it was, these responses would mean an extension to their thinking of the environment.

General issues/references

This catchall section addressed issues also referenced elsewhere, but mentioned without evidence, e.g. degradation.

3.5.3. Knowledge about environmental issues/concerns

Environmental threats: One component by which “knowledge” was interpreted, was how people viewed threats to the environment. Respondents were asked whether they thought each of several situations to be “high”, “low”, or “no” threat. They also had a “don’t know” option. The same types of issues said to have increased personal awareness were also considered threats (Figure 11 and Appendix 19).



Hurricanes had clearly wreaked residual havoc in people's minds and dominated their perceptions of how the environment could impact lives. Despite (or maybe because of) the irregularity and relative unpredictability of such events, they represented one of the dominant phenomena regarded as a threat (86.4% said "high threat").

Also considered a high threat by many (82.4%) was **"garbage improperly disposed of"**, not unexpected given previous references. At the low-end of the threat scale were **"invasive /exotic species brought here"** and **"over-fishing/reduced fish catches"** (27.2% and 37.3% respectively said "high"). Importantly, **these and other situations were not well understood**, based on the relatively large proportion saying: "don't know/not sure". Such lack of understanding will require specific attention in any communication intervention. Somewhat surprising was that so many responded said "tree-cutting that is not monitored/ loss of forests" was a high threat (72.1%). This suggests that despite any perceived communication failures, there has indeed been residual effect.

Data were also analyzed against other key variables *viz.* *country, age, education, familiarity- with and concern about- environmental issues* (Appendices 21 to 25).

Country: *St. Lucia, Dominica* and *Antigua & Barbuda* residents saw most of the respective phenomena as "high" threats. It seemed issues had greater relevance in countries previously exposed e.g. given that *Antigua & Barbuda's* is amongst the driest countries in the region, residents listed "droughts" as a high threat. Similarly, Dominicans, still shaken by a relatively recent earthquake, noted that they were threats. The higher levels of threat expressed by St. Lucian residents are less readily explained, yet it may be influenced by: (a) worldwide recognition of the Pitons as an environmentally important site (UNESCO World Heritage Site); (b) the fact that many environment organization and agencies have offices there; and (c) their greater levels of television viewing.

Age: There were few clear relationships with age, except that those aged 35 to 44 years seemed more likely to regard various phenomena as threats. One reason could be the age group's greater responsibilities – as well as the fragilities to which they are exposed. Another factor could be that many were at points in their careers where they may have benefited from some of the various workshops/seminars earlier discussed – hence resulting in increased knowledge of such matters.

Education: Relationships with education were highly instructive. *Firstly*, the more "complicated" phenomena (and/or their explanations) were more understood by those with higher levels of education e.g. "sedimentation", "greenhouse gases", and "invasive or exotic

species". The further assumption however, is that one would have to understand a phenomenon to regard it as a threat. *Secondly*, increased threats of more basic phenomenon were clearly understood by those without formal education e.g. *garbage improperly disposed of, water pollution, floods, etc.* These persons could also be the ones more exposed to negative effects of the phenomena. An important *third* point is that when ranked, threats from hurricanes and storms were the highest for each educational level, except those with postgraduate education.

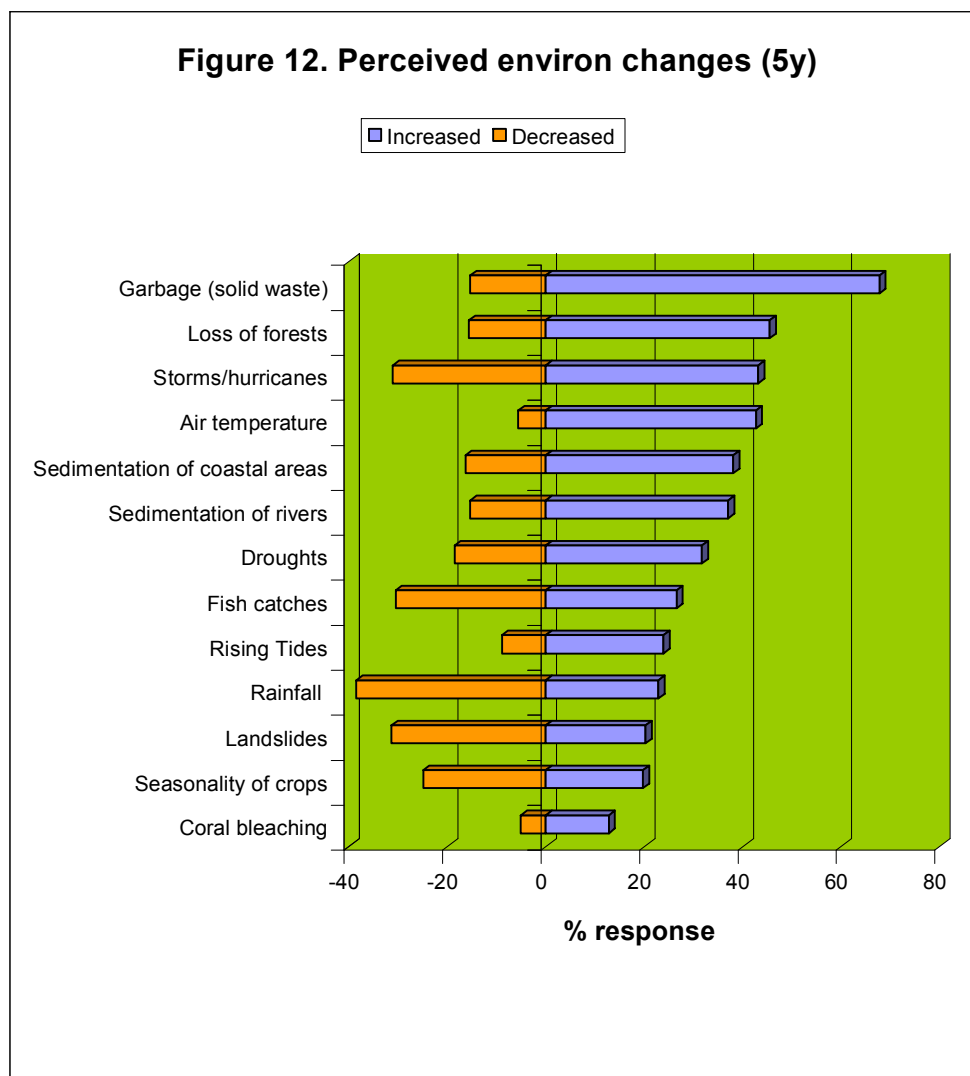
Familiarity with and concern about environ issues: Those most familiar with and/or concerned about environmental issues, were most likely to regard almost all the phenomena about which they were asked, as threats.

Environmental changes: Asked about events increasing their environment awareness, many respondents mentioned "changed patterns". This concept was further explored by asking "whether they had seen or heard about changes during the past five (5) years -- as it related to specific aspects of the environment". Some phenomena had been much asked about during the survey; others were new. Response options were: (i) *increased*; (ii) *decreased*; (iii) *neither increased nor decreased*; (iv) *both increased and decreased*; and (v) *don't know/not sure*. One glaring finding was the relatively high level of "don't know" responses (Table 6), 72.5% of respondents saying they did not know about "coral bleaching". Unknowing was also quite high for "rising tides" (41.7%), sedimentation of "rivers" (34.5%) and "coastal areas" (30.8%). Importantly, country resources would clearly have an impact e.g. *Dominica* would likely know far more about rivers than would *Antigua & Barbuda*.

Table 6. Perceived environmental changes during past five (5) years

	DK/Not sure	No change /neither	Increase	Decrease	Both Increased & Decreased
Coral bleaching	72.5	7.6	12.8	5.1	1.9
Rising Tides	41.7	16.2	23.9	8.9	9.2
Sedimentation: rivers	34.5	9.3	37.1	15.3	3.7
Sedimentation: coast areas	30.8	11.0	38.1	16.3	3.9
Air temperature	29.3	10.7	42.7	5.6	11.8
Seasonality of crops	26.8	15.5	19.8	24.9	13.0
Fish catches	23.0	10.2	26.6	30.5	9.7
Loss of forests	21.4	13.5	45.5	15.6	4.0
Droughts	19.7	23.2	31.7	18.5	6.9
Landslides	19.2	24.4	20.3	31.3	4.8
Rainfall	9.6	12.7	22.9	38.5	16.3
Storms/hurricanes	7.8	11.2	43.2	31.1	6.7
Garbage (solid waste)	4.9	6.0	67.8	15.3	6.1

Amongst changes that respondents were very clear about was an **increase in garbage** (67.8%). Perceptions were more equitably divided regarding e.g. *hurricanes/storms*, *rainfall*, *landslides*, and *droughts* (see also Figure 12).



Perceptions also varied by country, by knowledge of biodiversity, and by experiential and cultural differences. Such intra-regional variations were all statistically significant (Appendix 26). Feedback suggested that residents had indeed been sensitized by changed patterns for these phenomena, and these seemed to vary by country. It appeared for example, that St. Lucia's environmental management programme was bearing fruit as reflected by respondents' perceptions.

3.5.4. More about Protected Areas:

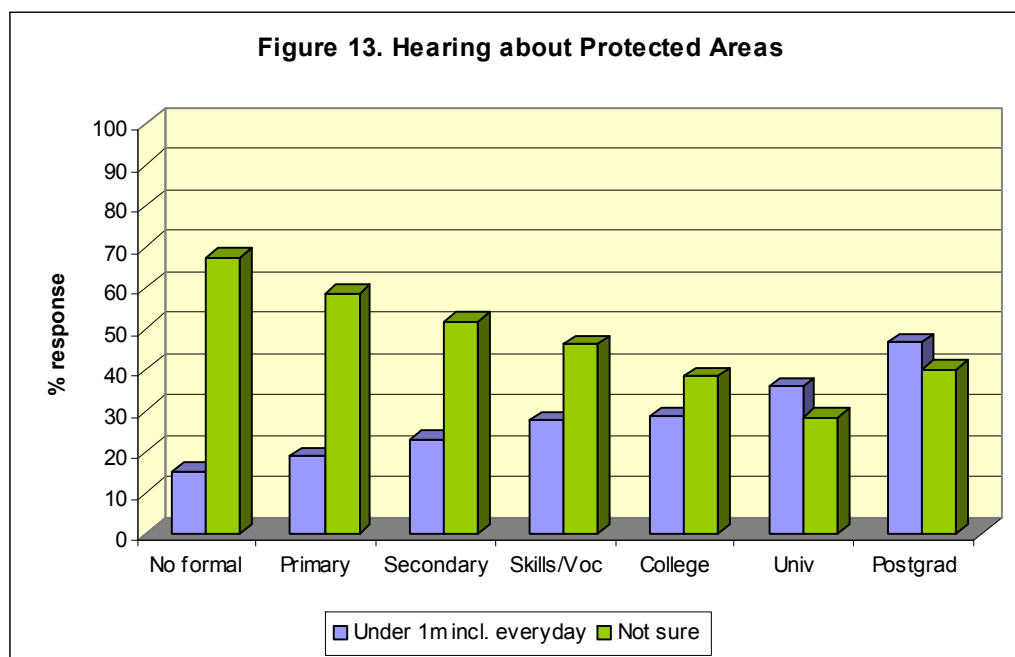
The entire line of questioning about “protected areas” was found problematic, commencing from the pretesting stage of the questionnaire. Several reports during data collection suggested that this trend continued. Many respondents were unsure of the concept and what was being asked of them, and the several related survey questions increased their sense of uncertainty. The first way in which they were asked was: “when was the last time you heard anything about **Protected Areas**”? The results were insightful (Table 7): just over half of all respondents (50.1%) said they were “not sure”. That proportion was much reduced for **St. Lucia**, where 33.3% gave that answer. For them, many had heard of Protected Areas recently i.e. within the last month (27.5% compared to the mean of 18.5% for all respondents over the same period), and 10.8% even reported hearing of them daily.

Table 7. Recall and knowledge of Protected Areas: by country

	TOTAL	Anu	Dom	Gre	SKN	SLU	SVG
When was the last time you heard anything about Protected Areas ?							
$\chi^2=67.85$; $df=25,1$; $p \leq 0.001$							
Everyday	5.4	3.4	5.5	3.5	3.2	10.8	5.8
Under one (1) month	18.5	14.0	22.4	17.1	13.7	27.5	16.0
1-6 months ago	13.0	14.5	14.2	15.8	10.0	13.1	10.7
6 months to a year ago	8.5	8.2	6.8	8.8	10.0	7.7	9.3
Other	4.5	4.8	3.7	2.6	5.9	7.7	2.7
Not sure	50.1	55.1	47.5	52.2	57.1	33.3	55.6
Do you know of any Protected Area in your island/country?							
$\chi^2=55.15$; $df=10,1$; $p \leq 0.001$							
Yes	66.8	63.2	75.2	62.4	50.9	78.7	70.1
Not sure / I might	10.4	10.0	8.6	12.7	12.9	6.7	11.2
No	22.9	26.8	16.2	24.9	36.2	14.7	18.8

Education made a stark difference in how recently persons said they had heard the term “Protected Areas” (Figure 13). Recency increased as education increased, while related uncertainty more or less decreased. This finding potentially spoke to exposure as well as comprehension e.g. could it be that educational extremes might be similarly exposed but with different impacts (*including awareness, recall*) due to knowing vis-à-vis unknowing of the phrase?

Approximately two-thirds (66.8%) knew of Protected Area(s) in their island/country. Again, St. Lucian residents had highest claim of such knowledge (78.7%), followed by Dominicans (75.2%). **St. Kitts & Nevis** respondents were least certain that they knew of any such Areas (36.2% said “no”).



Respondents were also asked of areas they thought: (a) *were currently* Protected Areas, and (b) *should become* known as Protected Areas. Examples of these results by country are in Box 2, with further details in Appendices 27a to 27f. Each country presented its own list of *current*, *believed-to-be-current*, and *potential* Protected Areas. Those almost universally identified included: *beaches, botanical gardens, churches, coastal areas, coral reefs, islands, museums, parks, rainforests, schools, prisons, (mangrove) swamps, water catchments, waterfalls, and zoo.*

Box 2. Sample of Protected Areas mentioned: by country (*existing and/or potential*)

Antigua & Barbuda:			
▪ Barbuda	▪ Dolphin Fantasy	▪ King George Grounds	▪ Rainforest
▪ Betty's Hope Estate	▪ Fort James	▪ Maiden Island	▪ Schools
▪ Bird Island	▪ Friars Beach	▪ Mangrove swamps	▪ Shirley's Height
▪ Botanical Gardens	▪ Government places	▪ McKinnons Swamp	▪ Stingray City
▪ Coastal areas	▪ Gujuna Island	▪ Monk Hill	▪ Wallings Dam/Estate
▪ Coral reefs	▪ Harbour	▪ Museum	▪ Willowby Bay
▪ Desalination plant	▪ Harmony Hall	▪ Nelson's Dockyard	
▪ Devils Table	▪ Jabbock	▪ Pot Works Dam	
Dominica:			
▪ Antrium	▪ Emerald pool	▪ Layou Valley area	▪ Roseau River
▪ Artizes Beach	▪ Fresh water lake	▪ Marigot Fishing site	▪ Scottshead fisheries
▪ Boiling Lake	▪ Geneiver Heritage Park	▪ Marine environment	▪ Spanny Falls
▪ Botanical Gardens	▪ Grand Bay	▪ Middle ham Falls	▪ Sulphur spring
▪ Cabrits	▪ Indian River	▪ Morne Anglais	▪ Tarish Pit
▪ Carib Community/ Territory	▪ L' excalur Tete Chien	▪ Morne Diablotin	▪ Tourcaire Marine
▪ Coral / Coral reefs	▪ Lakes	▪ Parrot Reserve	▪ Trafalgar falls
▪ Central forest Reserve	▪ Laudat Lake	▪ Rodney's Rock	▪ Valley of Desolation
Grenada:			
▪ Annadale Water	▪ Central Forest Reserve	▪ La Sagesse Beach	▪ Moliniere
▪ Archaeological sites	▪ Concord Waterfalls	▪ Lagoon Road	▪ Natural Works
▪ Balthazar Estate	▪ Fort Frederick	▪ Lake Antonie	▪ Perseverance
▪ Barnier Reefs	▪ Grand Anse	▪ Leaper / Leper Hill	▪ Sandy Island
▪ Beausejour	▪ Grand Etang	▪ Levera Beach/ Park	▪ St. George's city
▪ Black Point	▪ Grand Etang Lake	▪ Mt. Carmel waterfalls	▪ Telescope Beach
▪ Caribs Leap	▪ Janteen Park	▪ Mt. Gazo	▪ Tibo beach
▪ Carmaboyne Park	▪ Kick em Jenny volcano	▪ Mt. Hartman	▪ Willhead Red Fountain
St. Kitts & Nevis:			
▪ Basseterre	▪ Carib community	▪ Independence Square	▪ Prime Minister house
▪ Beaches	▪ Caribelle Batik	▪ Lodge Great House	▪ Rainforest
▪ Berkley Memorial	▪ Central Forest Reserve	▪ Marine Environment	▪ Rawlins Plantation
▪ Black Rock	▪ Dandus Pond	▪ Mount Liamgua	▪ Romney Manor
▪ Bloody Point River	▪ Dieppe Bay Reef	▪ Mt. Tiamuiga and Nevis Peak	▪ Sir Thomas Warner's Tomb Stone
▪ Brimstone Hill	▪ Fisheries	▪ Nelson's Dockyard	▪ Turtle Sanctuary
▪ Business places	▪ Ghauts	▪ Newtown Bay Rd	▪ War Memorial
▪ Canarse Mangrove	▪ Government property	▪ Porte Zante	▪ Winifield
St. Lucia:			
▪ Anse Chastnet	▪ Descartiers Forest	▪ La Tille Waterfalls	▪ Sir Arthur Lewis College
▪ Anse Cochon	▪ Fon D' Or	▪ Laborie Bay	▪ Sulphur Spring
▪ Anse Gen. Arawak site	▪ Forestierre Rainforest	▪ Louvette/ Louvert	▪ Tikaye
▪ Anse La Raye waterfalls	▪ Frigate Island	▪ Maria Island	▪ Tobago Cays
▪ Babonneau rainforest	▪ Grand Anse	▪ Marquis Plantation	▪ Troumasse river
▪ Balenbouche	▪ Gros-Islet Park	▪ Morne Le Blanc	▪ Turtle Sanctuary
▪ Barre de l'sle Rainforest	▪ Grand Anse Beach	▪ Pigeon Island	▪ Vermont Nature Trails
▪ Cedar Heights	▪ Grand Bay	▪ Pitons	▪ Viex Fort/-Recreation Park/ -Swamp
▪ Choleseul	▪ Grand Etang Forest	▪ Pralines/ Bay/ Beach	▪ Winfield Forest area
▪ Derek Walcott Square	▪ La Soufriere	▪ Rat Island	▪ Zoo
St. Vincent & the Grenadines:			
▪ Argyle Beach	▪ Coloraine River	▪ Layou Petroglyphs	▪ Salt Pond Mangrove Forest
▪ Arrow Vale Park	▪ Dr. Cyrus Museum	▪ Majorca watershed	▪ Tobago Cays
▪ Baliceaux	▪ Fall of Balcune / Balaine	▪ Marine Sanctuary	▪ Turtle Sanctuary
▪ Bambamreaux Beach	▪ Fort Charlotte	▪ Montreal Gardens	▪ Vermont Nature Trails
▪ Black Point	▪ Indian Bay	▪ Morne Garu	▪ Vermont Table Rock
▪ Buccament Bay	▪ Kings Hill Forest	▪ Petit Biahia Beach	▪ Warriacou Beach
▪ Carib community	▪ La Soufriere / Soufriere	▪ Richmond / - Dry River	▪ Young Island

Understanding of the term “Protected Areas” (Box 3 and Appendix 28) was typified by references to sites legally demarcated, controlled and managed by governments to ensure sustainable appropriate resource use, restrict unauthorized encroachment, and assure longevity to availability of such resources and their related products for national and visitors’ enjoyment.

Box 3. Understanding of “Protected Areas” (verbatim from household & Dept. samples)

Specially set aside protected by law... under security e.g. forest reserves and museums...attract lot of tourist to come to our shores... Protected because threatened by farming, destroying forested areas for housing & lumber & also destruction of wildlife & natural habitats... designated portion of land or water protected by law as it regards its use and preservation... Managed areas where species allowed to strive under natural conditions with little interference from man... nurseries for young species... animals and birds can live and people cannot hunt & kill them... conservation & protection of historical and important sites to foster enrichment & protection of cultural heritage... Like coastal areas, place where we would likely have floods. Places where soil easily eroded... when there is a storm you can shelter... protected of course by spirits... certain places trees should not be cut because help to hold soil & bring in water... cant walk in and do what you like, you have to show respect... preserved to look more beautiful... you should not go to fight and curse... protected that you could go & leave your house open... No protected area. Everywhere violence, no respect for children or adult, lots of dirty words...place that is interesting, you could go there relax and enjoy yourself... where you take friends on special occasion...Like beaches where they protect garbage from entering sea, water fronts to stop sea damaging people houses... don't see they protecting anything, depends on how much tourist coming each year & amount of money spending... where you take your girlfriend and chill out...Tourist attraction own by govt. ... They don't let certain people enter...forest & other such place, animals allowed to roam free & multiply... police patrol protecting school children and troubled areas...like hospitals, prisons, place for mental people they keep people safe & protected... kept as natural habitats where deforestation and construction of buildings not allowed... demarked zone established by law & govt. policies to be protected from degradation, destruction, citizens and meant for preservation & conservation particularly relating to water & natural forest... reserved for national parks... Secured by govt./country to protect endangered species, wildlife & trees... species decreasing & need to be protected to create better population... Where they block road to prevent sea taking over...protect from crimes, health, pollution... coral reefs being damaged where there is a decrease in fish, birds or damage of beaches... When people come and talk about things that are good they call it protected areas... general public has little or no access... your land, houses, valuables...Protecting using notice boards & fenced areas... places with potential tourist sites where they protect nature & other wildlife in danger of over hunting & fishing... special or well-balanced ecosystem... environ mgmt measures employed for sustainable use of resources or area... No area in St. Lucia termed protected areas... generally restricted to persons knowledgeable about how to properly manage it... By employing security or guard our natural & cultural resources so viewers would not destroy them... need protection for economic, recreation, livelihood & for heritage and scientific purposes ...

3.6. Attitudes toward the environment:

The survey made several determinations beyond awareness and knowledge – extending to people's attitudes towards “the environment” as well as to Protected Areas.

3.6.1. Expressed concerns about the Environment:

Respondents were asked how concerned they were about *the environment* and *Protected Areas*, and to what extent they might develop greater levels of concern and/or interest in the future (Table 8). Approximately half expressed *high* or *very high* levels of current concern or interest. For all countries, this was seen slightly higher for “the environment” (54.5%) than for “protected areas” (47.3%). However, *St. Kitts & Nevis* had highest levels of *unconcerned* persons for both *the environment* (23.2%) and *Protected Areas* (29.1%). Those residents were also least likely to develop future interest (21.0% said “none” or “little” chance). Concurrently, residents of *St. Lucia* were **more** likely to increase their concern/interest in the future (71.5% said “very high” or “high”).

Table 8. Concerns about the environment, protected areas & receipt of further information: by country

	TOTAL	Anu	Dom	Gre	SKN	SLU	SVG
What is your current level of concern /interest about the environment ?							
$\chi^2=61.37$; df=20,1; $p\leq 0.001$							
Very High	24.0	15.0	30.6	22.4	24.1	24.2	27.1
High	30.5	34.5	26.1	34.2	26.3	30.5	31.6
Average	32.2	34.0	32.4	33.8	26.3	33.2	33.3
Little	10.4	13.6	9.5	8.8	14.7	10.3	5.8
None	2.9	2.9	1.4	0.9	8.5	1.8	2.2
What is your current level of concern /interest about Protected Areas ?							
$\chi^2=54.70$; df=20,1; $p\leq 0.001$							
Very High	21.0	17.5	24.4	18.5	18.8	23.3	23.1
High	27.3	20.9	26.2	34.8	27.2	28.3	25.8
Average	32.7	39.8	29.4	33.0	25.0	35.9	33.3
Little	13.1	16.0	10.0	11.0	18.8	9.4	13.8
None	6.0	5.8	10.0	2.6	10.3	3.1	4.0
How much chance is there you might develop greater concern/ interest in the future?							
$\chi^2=63.01$; df=20,1; $p\leq 0.001$							
Very High	26.9	23.3	32.1	25.9	23.2	30.6	26.2
High	33.1	30.1	29.4	40.8	26.3	41.0	30.7
Average	24.7	29.1	25.3	20.2	29.5	19.4	24.9
Little	10.9	12.6	11.8	11.0	10.3	7.2	12.9
None	4.4	4.9	1.4	2.2	10.7	1.8	5.3
How likely are you to develop a greater level of interest in receiving information on the Environment and Protected Areas in future?							
$\chi^2=57.85$; df=20,1; $p\leq 0.001$							
Very likely	43.2	32.7	47.5	49.8	32.9	55.9	39.1
Somewhat likely	29.2	35.6	26.2	27.3	31.9	24.3	30.7
Not sure	22.4	24.4	22.2	19.8	25.4	17.1	25.8
Somewhat unlikely	1.6	3.4	1.8	0.4	1.9	0.9	1.3
Very unlikely	3.6	3.9	2.3	2.6	8.0	1.8	3.1

There were no statistically significant relationships between any of these responses, and gender or age. Although not significant, younger respondents i.e. 15 to 24 years, were *least* likely to express “very high” concerns or interest. In contrast, **relationships with education were directly related and highly significant for each of these questions – current and future interest/concern increasing with education.** Media consumption also held direct relationships with interest and concern (Table 9), i.e. reported future potential interest/concern increased for those with higher media usage, especially those who showed high use of newspapers and radio. Among any other reasons why TV might **not** have been predictive in this respect, is the much greater *variety* of viewing options (e.g. via cable TV) and hence the potential for increased *clutter* that any information messages on environment/protected areas would have to outdo. The survey did not seek details regarding viewing preference.

Table 9. Concern about the environment: relative to media usage

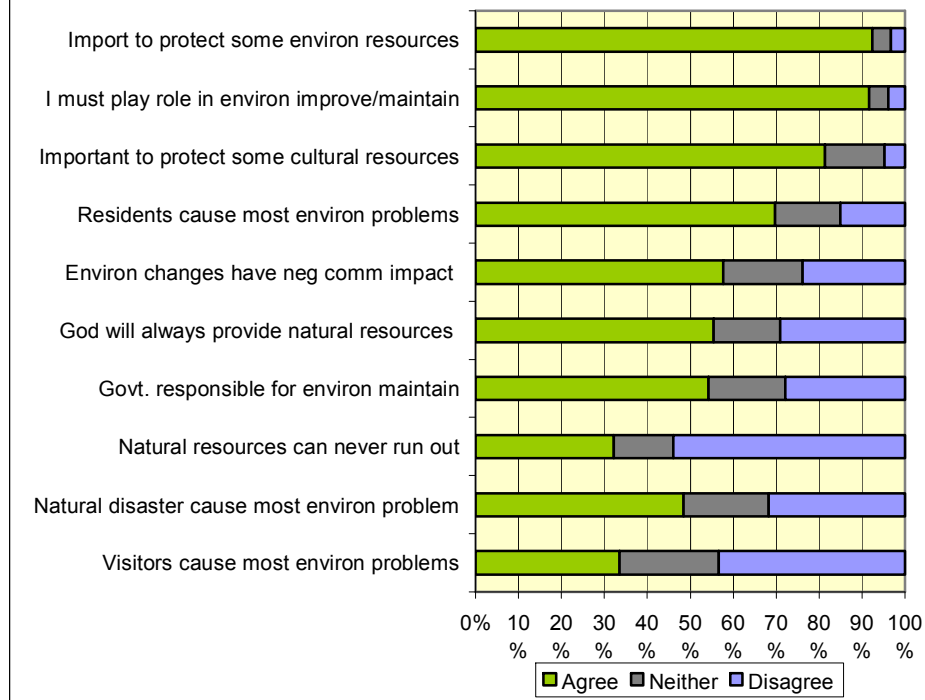
	Mean times during last week ...		
	<u>Read newspaper</u>	<u>Listen to the radio</u>	<u>Watch TV</u>
What is your current level of concern /interest about the environment?	***	***	n.s.
Very High	1.86	5.45	5.34
High	1.85	5.21	5.54
Average	1.58	4.95	5.14
Little	1.28	4.80	5.27
None	0.70	3.00	4.74
What is your current level of concern /interest about Protected Areas?	***	**	n.s.
Very High	1.86	5.31	5.47
High	1.83	5.26	5.53
Average	1.69	5.00	5.15
Little	1.33	4.94	5.20
None	0.91	4.11	5.10
How much chance is there you might develop greater concern/interest in the future?	**	***	**
Very High	1.91	5.22	5.49
High	1.77	5.20	5.53
Average	1.55	5.02	5.08
Little	1.32	5.19	5.04
None	0.95	3.20	4.51

3.6.2. Attitudes about the Environment

Attitudes to the environment were measured by responses to statements of causation, impact, responsibility and onus. Possible responses were: *strongly agree*, *agree*, *neither agree nor disagree*, *disagree*, and *strongly disagree* (Appendix 29). Responses for “strongly agree/agree” and “strongly disagree/disagree” were combined, following which results were sorted by **overall strength of belief** – regardless of direction (Figure 14). **These clearly showed that residents willingly took responsibility for the environment, and the protective/preventative actions that needed to be**

taken to avoid negative impacts. They were also quite reluctant to divert such responsibility to any other being, including God, natural disaster, the government, and/or visitors.

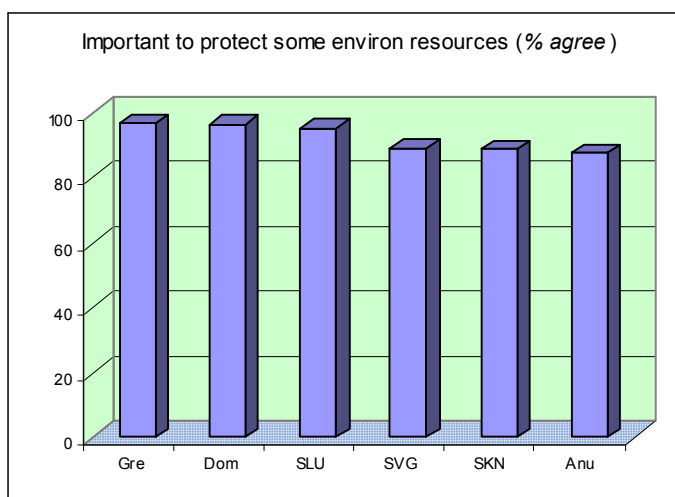
Figure 14. Attitudes re environment



Results were also analyzed by country (Appendix 30). Profiles for agreements are described below:

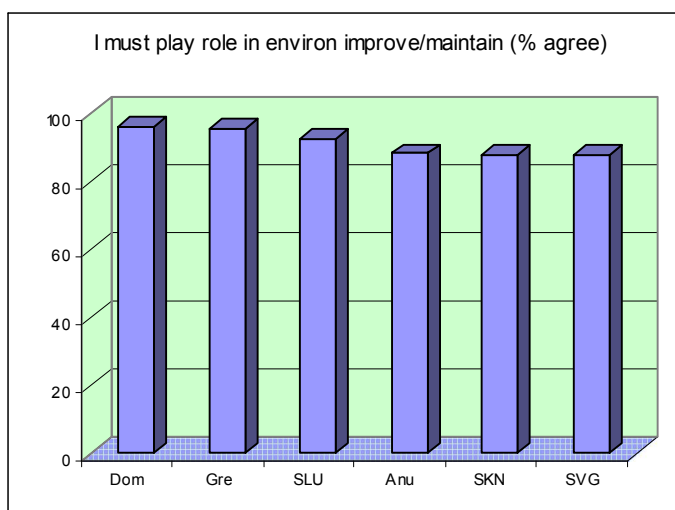
It is important to protect some resources present in our environment, such as mangroves, coral reefs and forest areas

There was consistent high response to this statement. Countries with most Protected Areas and/or shown herein with higher levels of environmental consciousness, were more likely to have higher responses i.e. *Grenada, Dominica, and St. Lucia*. Questions of existing resource endowments however, remain open.



I must play a role in improving and maintaining the environment

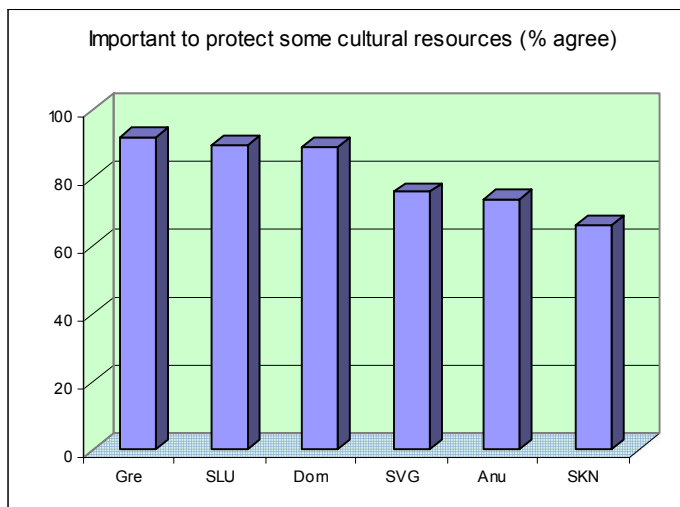
The same three (3) countries again featured prominently regarding residents' roles in improving or maintaining environmental situations.



It is important to protect some cultural resources, such as Amerindian Sites

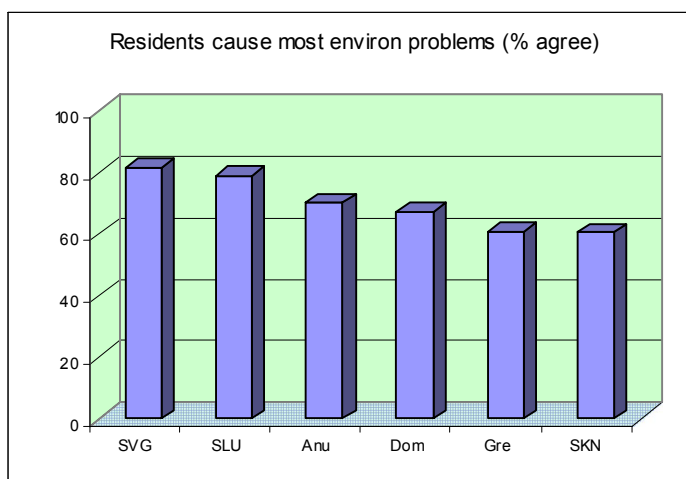
The raised consciousness was again evident of *Grenada*, *St. Lucia* and *Dominica* extended from the physical through cultural resources. More of these residents than of the other countries, recognized importance in protecting such resources.

Residents of *St. Kitts & Nevis* were least likely to agree with the importance of such efforts (despite Brimstone Hill).



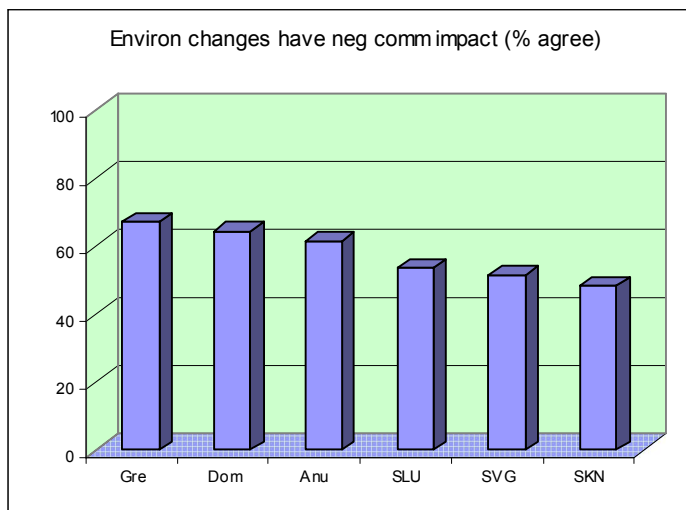
Most environmental problems are caused by people in this country

This position was a little difficult to reconcile, since similar claims were being later made about residents of other countries, or natural disasters. *St. Vincent & the Grenadines* and *St. Lucia* residents were most strongly of the view that it was their collective failures that resulted in environmental problems. Those from *Antigua & Barbuda* were of similar view but were slightly less convinced.

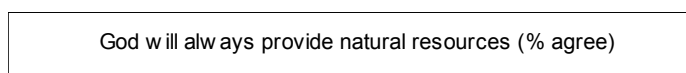


Changes in the environment are having a negative impact on my community

There seemed most evidence of community-level impact from environmental changes in *Grenada*, although not overwhelmingly so. From the responses, it appeared that *St. Kitts & Nevis* residents were most protected from such insults - alternatively any felt negative impacts were due to causes other than environmental changes.



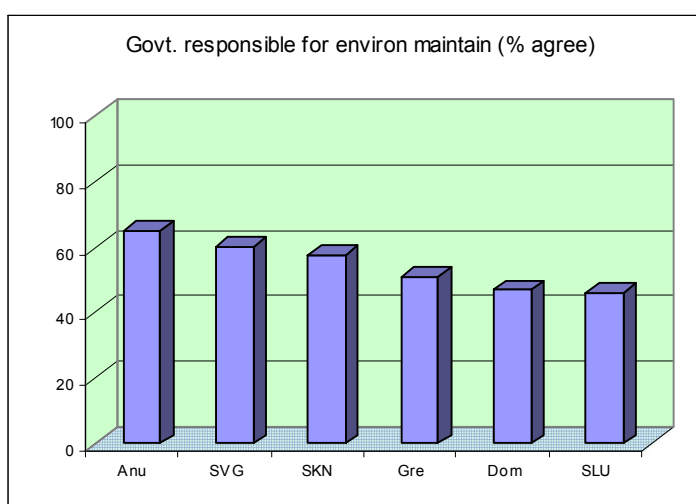
God will always provide natural resources for our needs



One of two (2) countries reporting the most regular church attendance, i.e. *St. Kitts & Nevis*, also felt their eternal abundance quite strongly. Also taking the position with similar proportions was *St. Vincent & the Grenadines*. Interestingly, although with thin margins, these same two also had larger Pentecostal followers. The St. Lucian residents seemed to have been converted to a position where more onus was with them.

The government is responsible for maintaining the environment

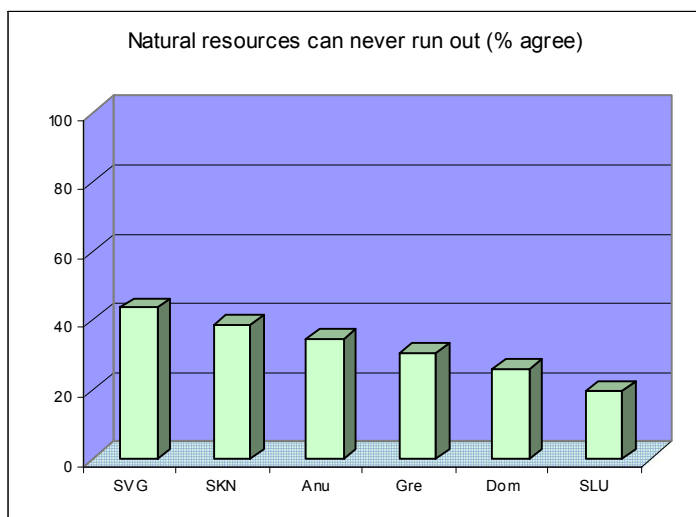
Attitudes about onus for maintaining the environment differed by country. On the one hand, countries like *Antigua & Barbuda*, *St. Vincent & the Grenadines*, and *St. Kitts & Nevis* felt that such responsibility belonged to their governments. Other countries' residents were somewhat less committed to that position.



Natural resources can never run out

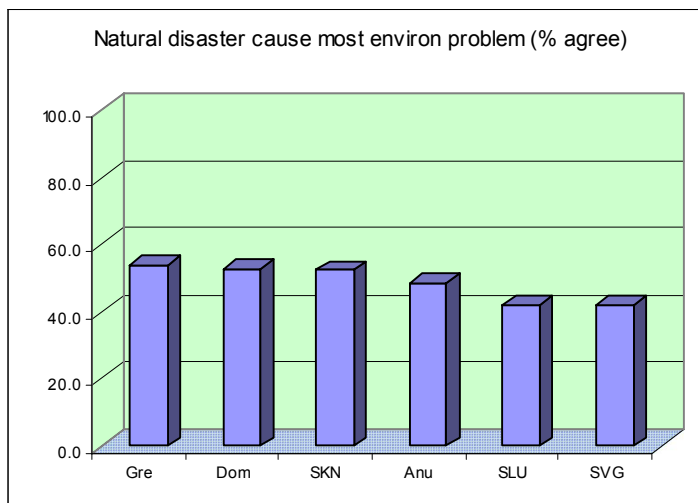
Resources' remaining in perpetuity, was a position mostly agreed by Vincentian residents, although those from *St. Kitts & Nevis* and *Antigua & Barbuda* were not that far removed. Interestingly, these countries comprised multiple-island chains that indeed added to actual/perceived extensiveness.

Overall, this was one of only two (2) statements with which a majority of respondents disagreed.



Most environmental problems are caused by natural disasters like hurricanes and earthquakes

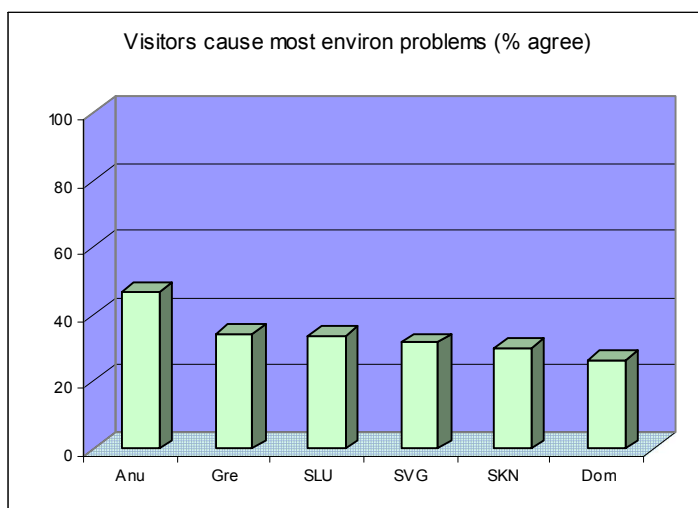
Grenadians' memory of recent hurricane damage no doubt contributed to their higher levels of agreement about impact of natural disasters. However, the other example used i.e. earthquakes, was what could have resonated with Dominicans, recalling their 2004 earthquake.



Most environmental problems are caused by people in other countries

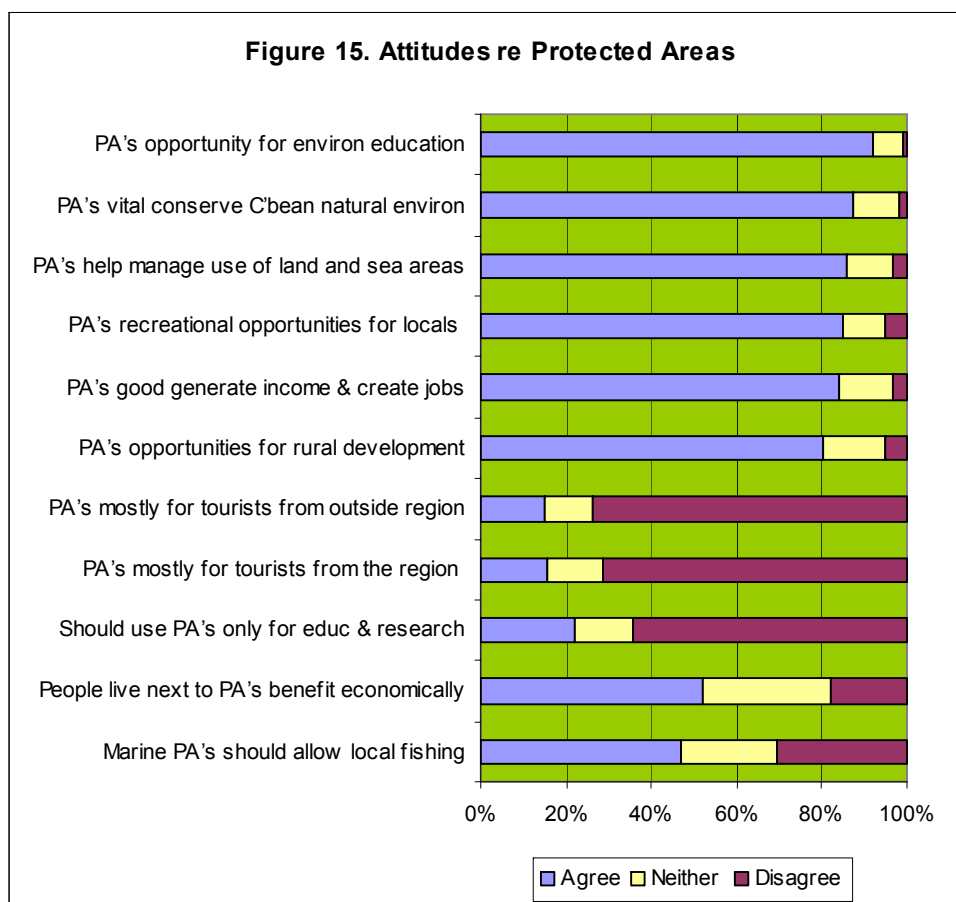
This was the other statement with which the majority of respondents did not agree. *Dominica* was the country where least residents agreed, and *Antigua & Barbuda* that with most agreeing.

Here, expressed attitudes could have been related not only to environment issues, but also visitor perceptions (further related to e.g. total numbers, frequencies, and lengths of stay).

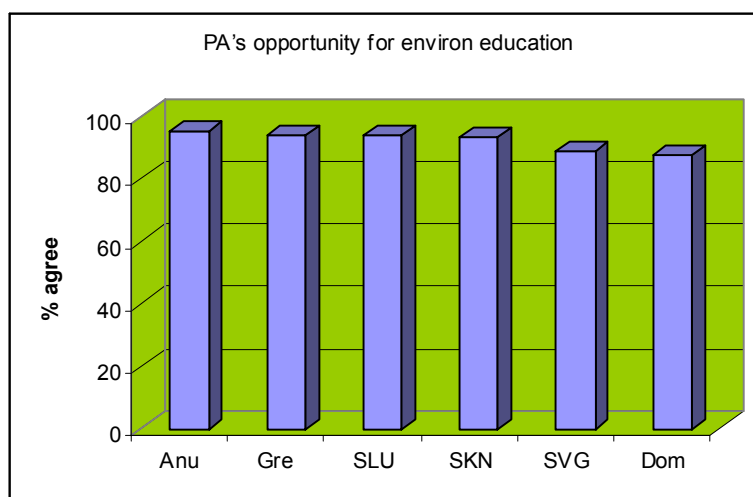


3.6.3. Attitudes about Protected Areas

A similar line of questioning was put to respondents about "Protected Areas" – statements about which they were to *agree* or *disagree*, and indicate *how strongly* (Appendix 31). These statements addressed cultural/contextual relevance of Protected Areas, as well as perceived best practices for sustainable utilization. Results in Figure 15 have been sorted to reflect respondents' **strength of beliefs**, whether *positive* or *negative*. These showed that the current focus on intervention via information, education and communication was well positioned. The statement suggesting that: "Protected Areas can create opportunities for environmental education" saw virtual consensus of agreement (37.5% *strongly agreed* and another 54.5% *agreed* to a total agreement of 92%). There was also strong agreement with statements about sustainable local use and retained benefits. **Where there tended to be disagreement was for statements that suggested limiting use of resources -- regardless of reason** e.g. for regional or foreign visitors, or solely for education and research.

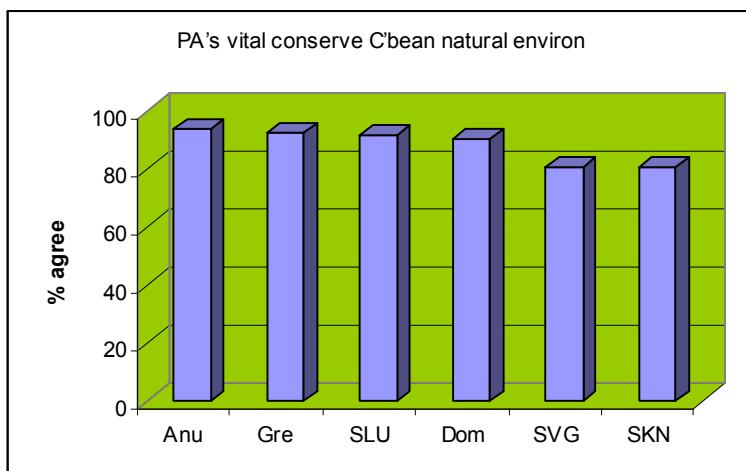
Figure 15. Attitudes re Protected Areas

Attitudes to Protected Areas were also analyzed by country as below (Appendix 32). Once more, experiences with implementing resource management procedures seemed to influence response.



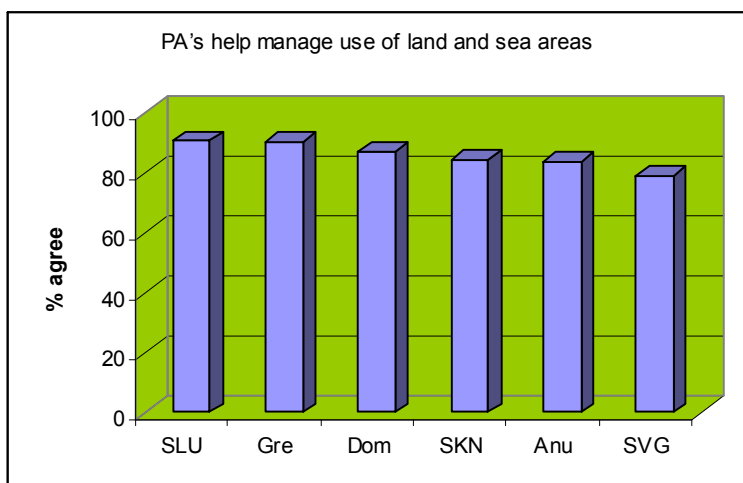
Protected Areas can create opportunities for environmental education

All countries felt similarly about the opportunities that Protected Areas provided for educating publics on the environment. Interestingly, economic buoyancy and its potential impact on prioritization of education might have influenced response strength.



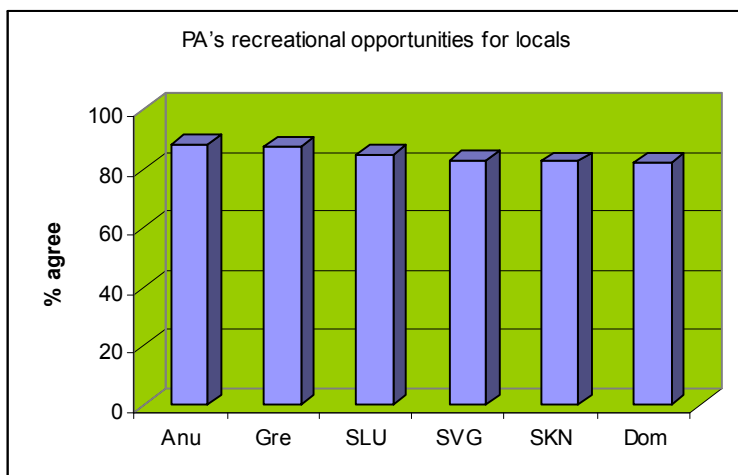
Protected Areas can make a vital contribution to the conservation of the Caribbean's natural environment

Countries largely agreed on Protected Areas' importance to the region's natural environment. Beyond that, there seemed no ready explanation for the relative degrees of agreement.



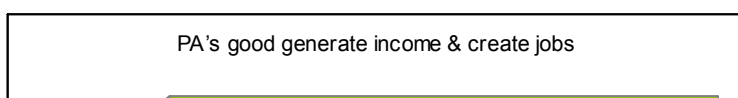
Protected Areas can help to manage the use of our land and sea areas

This was also a statement about which there was uniformly strong agreement. It seemed that countries with more visible and/or reknown Protected Areas were more likely to recognize their management value.



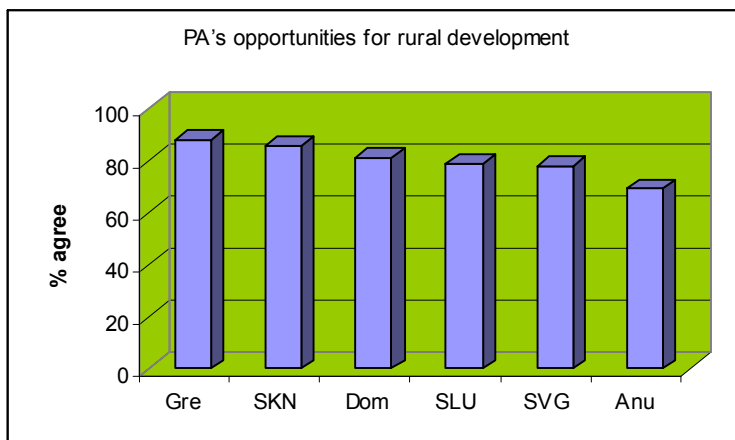
Protected Areas can provide recreational opportunities for locals

This was another statement highlighting regional similarities. It also likely spoke to general value of recreational activities therein.



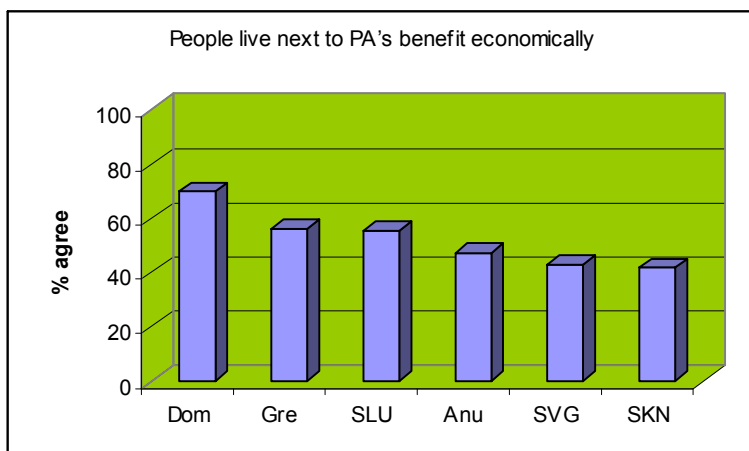
Protected Areas are a good way to generate income and create jobs

Responses showed that countries with more diverse economies and/or less clearly dependent on natural resources for revenue, were less likely to agree.



Protected Areas can provide opportunities for rural development

The same situation for income and job creation may have obtained for responses to the statement regarding rural development as a benefit from Protected Areas. Alternatively, those countries with greater degrees of "rurality" seemed more likely to agree. Yet another explanation could be related to the extent to which such benefits had accrued to date.



People who live next to a Protected Area benefit economically from the Protected Area

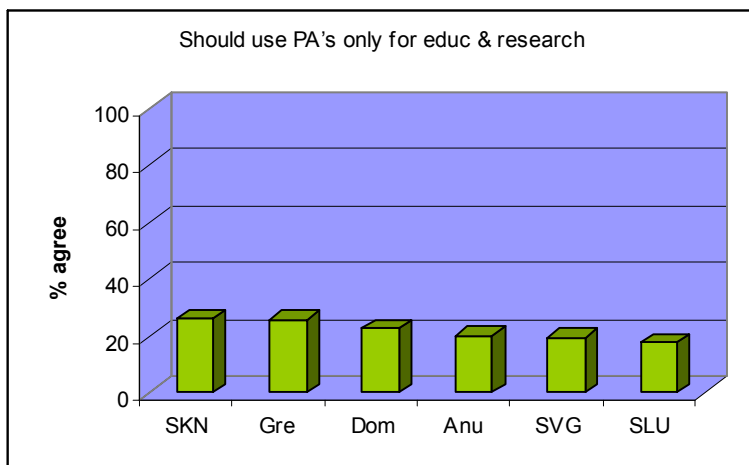
There was greater diversity of country response to the statement of proximal benefits from Protected Areas. Residents from *St. Kitts & Nevis* were least likely to agree, while those living in *Dominica* most agreed (See also Appendix 33).

Marine PA's should allow local fishing

Marine Protected Areas should allow some fishing by local fishermen

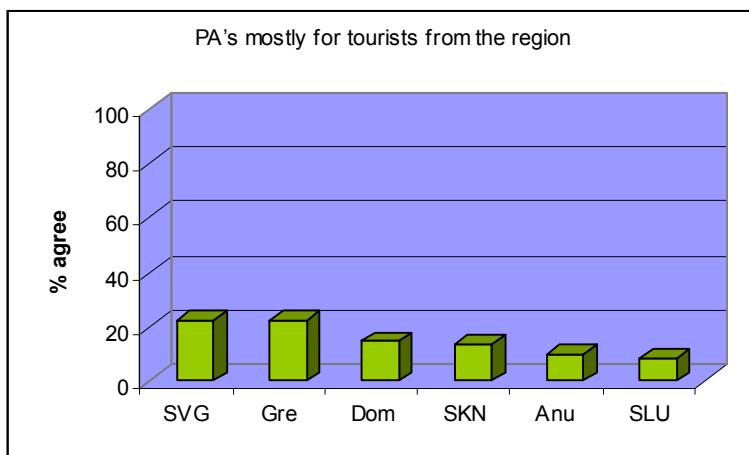
Relative overall importance of the sea, fishing, and/or Marine Protected Areas, varied by country. This was reflected in differential responses to this statement.

In fact, here was where most **uncertainty** was expressed (vis-à-vis agreement/ disagreement).



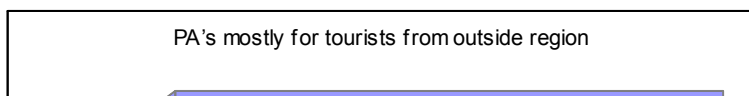
Protected Areas should be used only for education and research

This statement triggered evident negativity from the majority of respondents. Further, strength of sentiments was similar across countries.



Protected Areas are mostly for tourists from the region

This was another statement where there was majority disagreement. As before, residents from St. Lucia were weakest in their agreement (and strongest in their opposition).



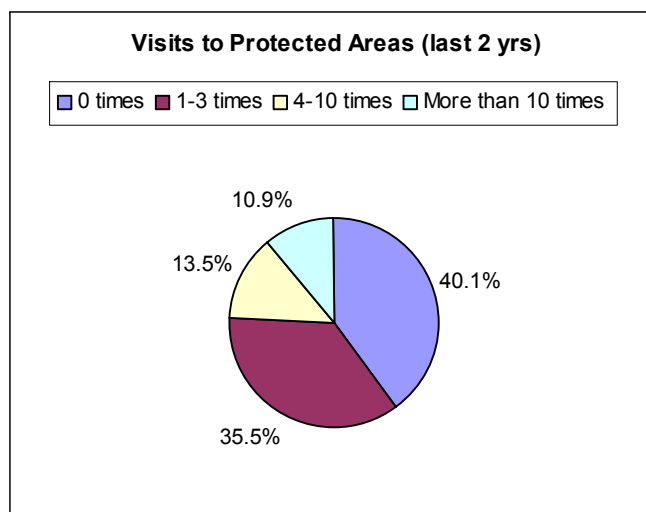
Protected Areas are mostly for tourists from outside the region (*not locals*)

Least favour was expressed for the concept of limiting Protected Areas' usage (actual/perceived) to foreign visitors (again with *St. Lucia* in strong opposition). *St. Vincent & the Grenadines* was the country most amenable to suggested emphasis on non-local /-regional visitors.

3.7. Behaviours and practices related to the environment:

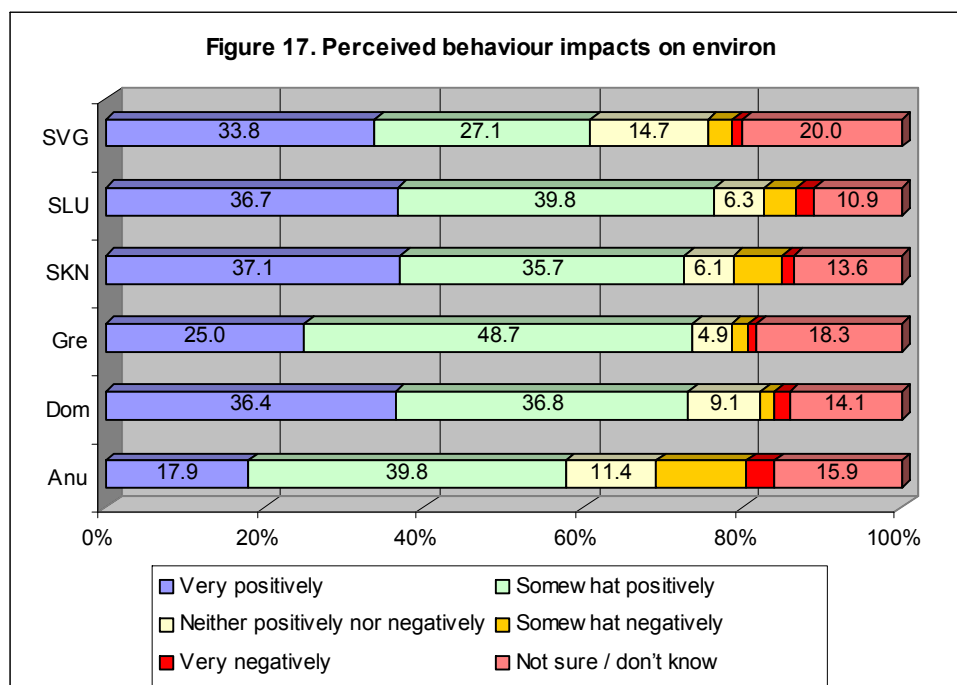
The levels of awareness, knowledge and attitudes were important underlying determinants to behaviours. However, it is actual behaviours that might best suggest baselines, or start-points from which (further) interventions proceed. The study therefore asked about a few behaviours to illustrate how respondents actually lived their lives – and whether they translated environmental interests and/or concerns to action, *viz.* *How often had they visited Protected Areas recently? Had they recycled waste materials? How did they think their actions (whatever these were) impacted the environment?*

The larger proportion of respondents (40.1%) had not visited a Protected Area within the previous two (2) years (Figure 16 and Appendix 34). In *St. Vincent & the Grenadines*, this group represented almost one-half (47.4%) the population. Residents of *St. Lucia* were most likely to have paid at least one (1) visit during the period. Only 10.9% indicated visiting more than 10 times.



Just about two-thirds (67.9%) said they “recycled, reused, reduced”, waste materials. While the question was not very specific, it suggested basic “consciousness”. Dominicans were least involved in such activities, which was somewhat surprising given: (a) their heightened awareness of the natural environment (see also paragraph below); and (b) their lower level of economic buoyancy.

In another, less action-based question about behaviours, respondents were asked how they thought their daily activities impacted the environment. Most either said “somewhat positively” (38.0%) or “very positively” (31.3%), only few willing to admit (Figure 17) to negative behaviour and/or impact (6.5%). Residents of *St. Vincent & the Grenadines* were those most uncertain of potential impact (6.5%).



3.8. Actions needed to protect the environment:

Regardless of current behaviours, the assumption was that action was needed to contain any further environmental degradation. Respondents were asked what specifically *they* could do “to prevent environmental quality from getting worse”. Answers addressed: managing surroundings; reusing, recycling, reducing materials; making personal changes in attitudes, behaviours; changing and/or better enforcing regulatory frameworks; and acting via information, education and communication efforts – including formation of action, advocacy and support groups (Box 4 and Appendix 35)..

Box 4. What respondents could do to prevent environmental quality from getting worse

Surroundings' management:	Personal attitudinal, other behavioural changes
<ul style="list-style-type: none"> Make sure my surroundings and environment clean; Clean my side and don't wait on road gang to do it; Continue to clean river; Contribute to cleaning and beautification of environment Separate your garbage & use garbage trucks to dispose of garbage; Bury cans and tins; More garbage bins; Stop dumping garbage in 	<ul style="list-style-type: none"> Make peace with my neighbours; Don't hang out with certain friends and avoid violence; Stop the violence done to nature; Activities to entertain the young persons in the community Encourage people to act positive; By being an example, community role model; I and I could keep on cleaning, planting and educating my

Box 4. What respondents could do to prevent environmental quality from getting worse

<p>river/ on the road; Old building and old vehicles must be cleared away</p> <ul style="list-style-type: none">▪ Nothing to breathe mosquitoes; Don't waste water, clean draws and flower pot to be free of mosquitoes;▪ Using a car with a smaller engine would produce less CO2; Make sure my vehicle is service often so it will not smoke too much	<p>youths; Continue my part and share my knowledge;</p> <ul style="list-style-type: none">▪ Make sure my grandchildren have a good place to grow up;
Recycle, Reuse, Reduce:	Regulatory framework, systems' management:
<ul style="list-style-type: none">▪ Reduce the use of chemicals and pesticides that are harmful to the environment// Stop using plenty chemicals; Stop using Baygon;▪ Recycle and use biodegradable stuff; Use food peeling for manure	<ul style="list-style-type: none">▪ Enforcement of laws; Policing more effectively; More supervision; Follow instructions of environment officers; Maintain the standard;▪ Stop importing plastics // Stop the plastic bottles
Information, Education, Communication <i>incl.</i> form action/advocacy/support gps	
<ul style="list-style-type: none">▪ Be more educated about the environment by reading more// Educate self; Increase my knowledge on the environment; Be more aware and seek information about the environment;▪ Write articles, impress, speaking to elders, youths doing the right thing; Speak out for change; I am in the position to educate people about the environment I will do it▪ If I see someone littering the environment, tell them to stop; Speak to my neighbours to secure their garbage properly	<ul style="list-style-type: none">▪ Get group together and do environmental work; Organize group and clean every end of month; Join organization that protest; Have discussions on pros and cons with friend; Discuss environmental issues when people gather at my home; Form environmental group and talk to people on effectiveness and what can happen▪ Help public to understand effect of negative action; Teach students conservation methods, discussions with churches about environment; Educating people and seeking further assistance from Dept. of Environment and Solid Waste▪ Educate young people in proper hygiene and good practices; Educate my kids; Have school education on environment;

Responses also suggested some personal responsibility being taken for existing problems, but the more definitive direction was towards better engaging others who might not be/have been acting appropriately in respect of environmental practices – regardless of whether these were family members, neighbours, communities at large, or the authorities incl. government.

Similar responses were obtained when respondents were asked a similar question about “the **community's** role” in preventing environmental degradation. Here, there might have been even greater tendency to ascribe need for action to others within the community, than to selves (Appendix 36). More was also wanted of authorities in assisting communities to “do the right thing” e.g. more infrastructure, and policing.

3.8.1. The roles of information, education and communication:

The study assumed there was an important role for information, education and communication (IEC) in ensuring environmental protection. Respondents were asked: “*what should be done to make*

people more aware of the environment and the impact they have/can have on it”? Findings showed (Appendix 37) a **very** important role for strategic IEC-based interventions using an extensive range of options, varying by e.g. *audiences, channels, message, media, management strategies*, and *intended outcomes*. People wanted multi-faceted situation management, signifying the following:

1. The general population was insufficiently knowledgeable about environmental matters.
2. Information dissemination should use all mass media **as well as** more participatory situations such as community group meetings and engagements; there seemed high interest in this type of face-to-face approach. Interestingly, there was no mention of the Internet as an appropriate means of communication.
3. Integrating environmental education into the formal system should be a consideration.
4. Sessional formats should conform to current IEC trends: discursive, interesting and incisive, as well as authoritative. Messages and presentations needed to cut through competitive clutter.
5. There were numerous examples with which the population could relate – these could be used as reference points as well as to indicate actual/potential trends’ impact.

3.8.2. The role of legal and regulatory mechanisms:

The extent to which authorities should intervene was more clearly enunciated in what respondents thought should be done. Importantly, there were calls for *inter alia*,

1. Strengthening the legal framework within which to regulate environmental management.
2. Adopt a stricter approach to regulation and enforcement.
3. Ensure increased compliance via increased policing and supervision.
4. Increase the cadre of personnel qualified to implement environment-related policing activities.
5. Ensure provision of sufficient (other) resources for appropriate implementation.

4. DEPARTMENTS/AGENCIES WITH ENVIRONMENTAL FUNCTIONS:

In order to examine actual environmental activities, more specifically communication-based ones, the study sought Departmental/Agency/Company feedback via a parallel survey. Questions were focussed on identifying adequacies of implemented strategies and resources available to and/or used by entities charged with environmental management and/or with some component assumed to involve environmental responsibilities. Respondents’ focal areas were not mutually exclusive, but included (Appendix 38): *advocacy, agriculture, attraction management, beautification, coastal resources/fisheries/ maritime systems’ management, disaster management, forestry management, public awareness/education, public health, public relations, site preservation, and solid waste and wastewater -management*. Almost one-third (30.3%) were Government Departments (Table 10), a similar proportion (27.6%) registered here as Non-Governmental Organizations (NGO’s). The proportion of agencies classified as “public sector” was higher in **Grenada, St. Vincent & the Grenadines**, and **Antigua & Barbuda**. Just over one-half (56%) of entities interviewed in **Grenada** were classified as “Other”, these mainly being in the private sector.

Table 10. Departments' classifications and basic communication approaches

	TOTAL	Anu	Dom	Gre	SKN	SLU	SVG
Organization/Institution type:							
$\chi^2=85.08$; $df=25,1$; $p \leq 0.001$							
Government Department	30.3	16.7	20.0	8.0	44.0	40.7	48.0
Non-governmental organization (local or national)	27.6	11.1	56.0	8.0	32.0	37.0	16.0
Public Sector Agency	17.9	22.2	8.0	28.0	12.0	11.1	28.0
Other (incl. private)	17.9	27.8	8.0	56.0	12.0	--	8.0
Environmental organization	4.8	22.2	8.0	--	--	3.7	--
Non-governmental organization (regional or int'l)	1.4	--	--	--	--	7.4	--

4.1. Demographics

More males (57.3%) than females were represented amongst the 145 persons interviewed (Table 11), with the exception of *Antigua & Barbuda*, where females outnumbered males (58% vs. 41.2% respectively). This was apparently not an occupation in which the youngest or oldest persons were engaged; 4.2% were 15 to 24 years, and 9.7% were over 55 years. Instead, just over one-third (34.7%) were aged 35 to 44 years. Most were however highly educated, 52.1% having at least a first degree. *St. Kitts & Nevis* had the highest proportion of respondent officials for whom secondary education was the highest level attained. On the other hand, more than one-third (36.0%) of those interviewed in *St. Vincent & the Grenadines* had postgraduate degrees.

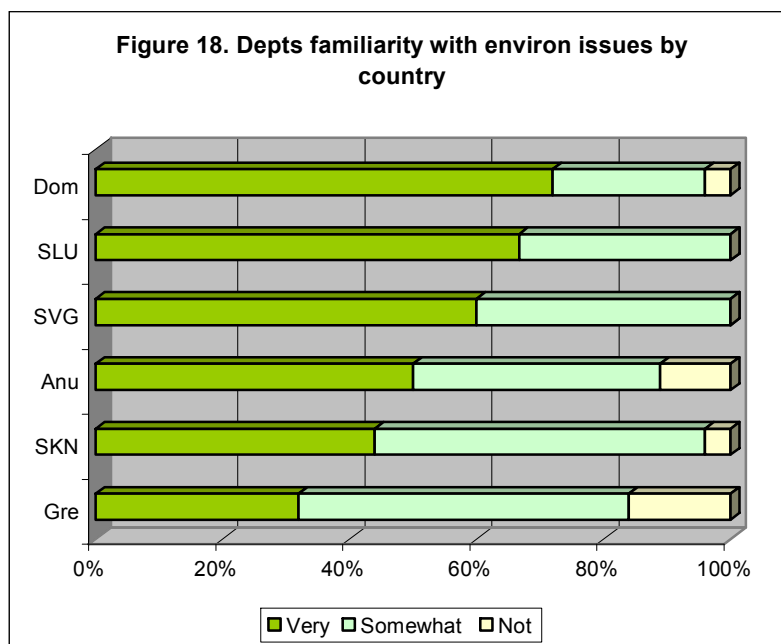
Table 11. Departments' demographic background: by country

	TOTAL	Anu	Dom	Gre	SKN	SLU	SVG
TOTAL Sample (Departments)_ N	145	18	25	25	25	27	25
Gender:							
Male	57.3	41.2	56.0	64.0	60.0	65.4	52.0
Female	42.7	58.8	44.0	36.0	40.0	34.6	48.0
Age range:							
15 to 24 yrs	4.2	--	4.0	--	16.7	--	4.0
25 to 34 yrs	23.6	38.9	16.0	32.0	25.0	11.1	24.0
35 to 44 yrs	34.7	38.9	32.0	32.0	29.2	44.4	32.0
45 to 54 yrs	27.8	11.1	32.0	28.0	16.7	37.0	36.0
55 to 64 yrs	9.0	11.1	16.0	8.0	12.5	7.4	--
65 to 74 yrs	0.7	--	--	--	--	--	4.0
Education level:							
Primary	4.9	--	12.0	--	4.0	11.5	--
Secondary	15.3	16.7	16.0	8.0	32.0	11.5	8.0
Skills/Vocational	6.9	5.6	4.0	4.0	12.0	11.5	4.0
College	20.8	22.2	8.0	28.0	16.0	23.1	28.0
University	34.7	50.0	40.0	40.0	24.0	34.6	24.0
Postgraduate	17.4	5.6	20.0	20.0	12.0	7.7	36.0

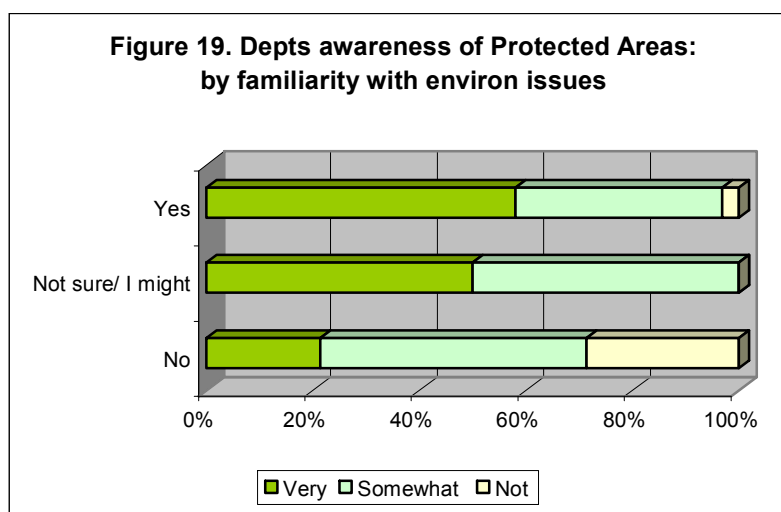
4.2. Awareness and knowledge

Overall, 54.5% of the Departmental sample was “very” familiar with environmental issues, another 40% being “somewhat” familiar (Appendix 39). Results suggested that such familiarity increased with age, and men were more familiar (and/or confident in saying they were) than were females.

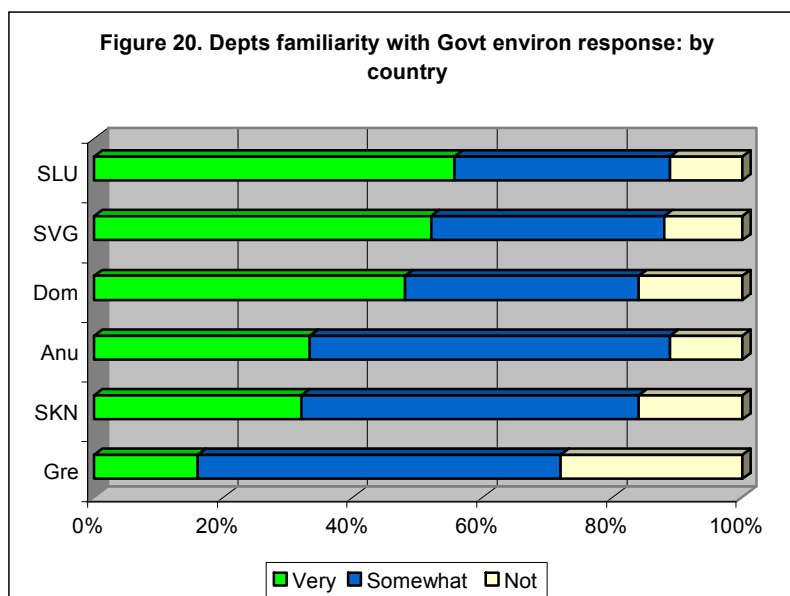
Department representatives in **Dominica** were the most familiar (Figure 18 and Appendix 39) and those in **Grenada**, the least aware (72% and 23% respectively said “very”). One of the first immediate differences was in respective country samples, that of **Grenada** being the most “different”, comprising more private sector representatives than the others.



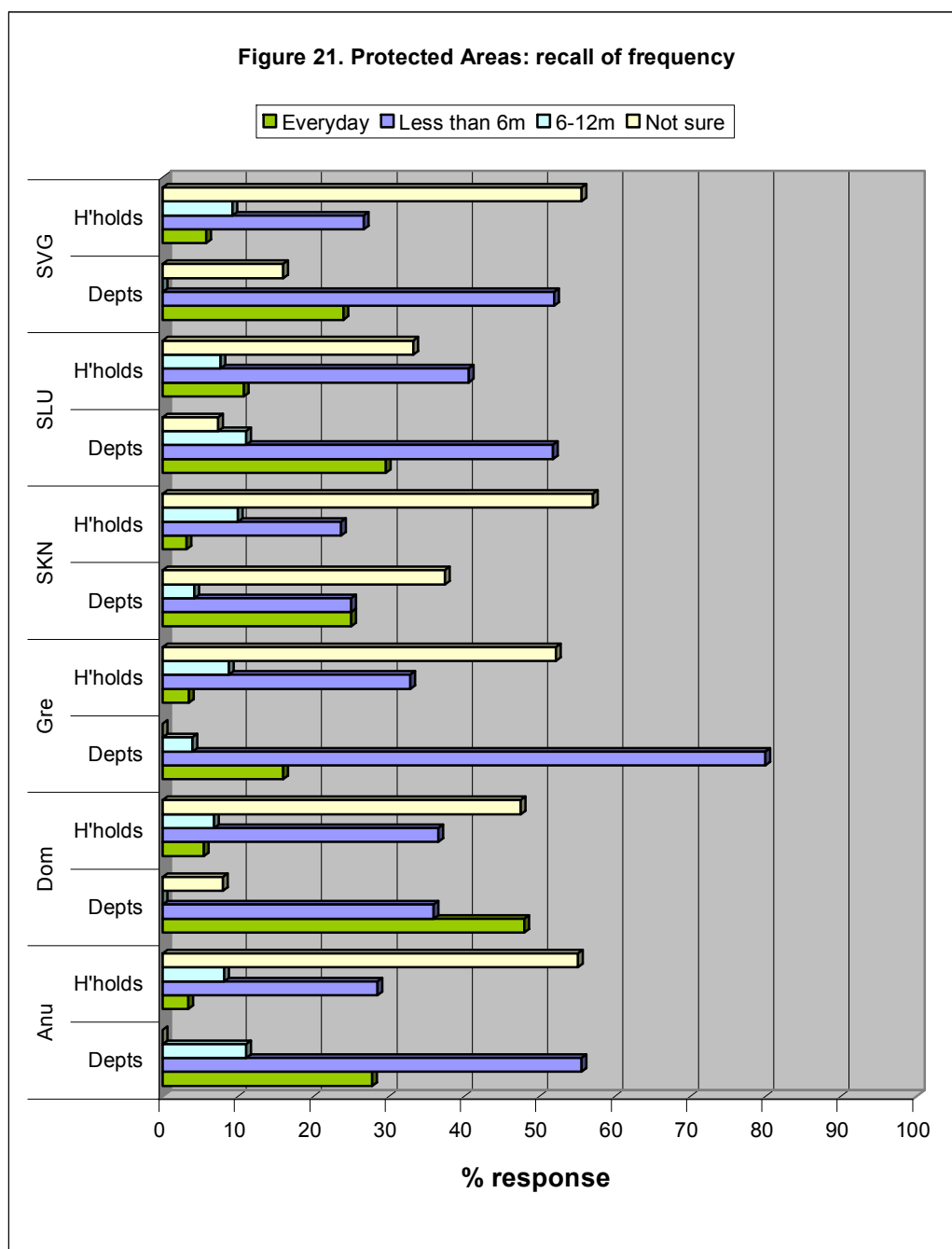
Asked about awareness of Protected Areas in their island/ country, most of the respondents who knew of nationally Protected Areas (58.1%), were “very familiar” with environmental issues (Figure 19). Concurrently, the majority of those not knowing of such areas indicated limited familiarity with environmental issues (50% said “somewhat” and 28.6% “not at all”).



Fewer were aware of their governments' response to environmental issues, 40% saying they were "very" familiar, another 44.1% being "somewhat" familiar. Familiarity level was highest in **St. Lucia** (55.6% said "very"), but extremely low in **Grenada** where only 16% were "very familiar" with State response (Figure 20 and Appendix 40). Despite the disparity, such differences were not statistically significant. The majority of respondents knew of Protected Areas (89%), and **all** these respondents were very familiar with how their Governments responded to environmental issues.

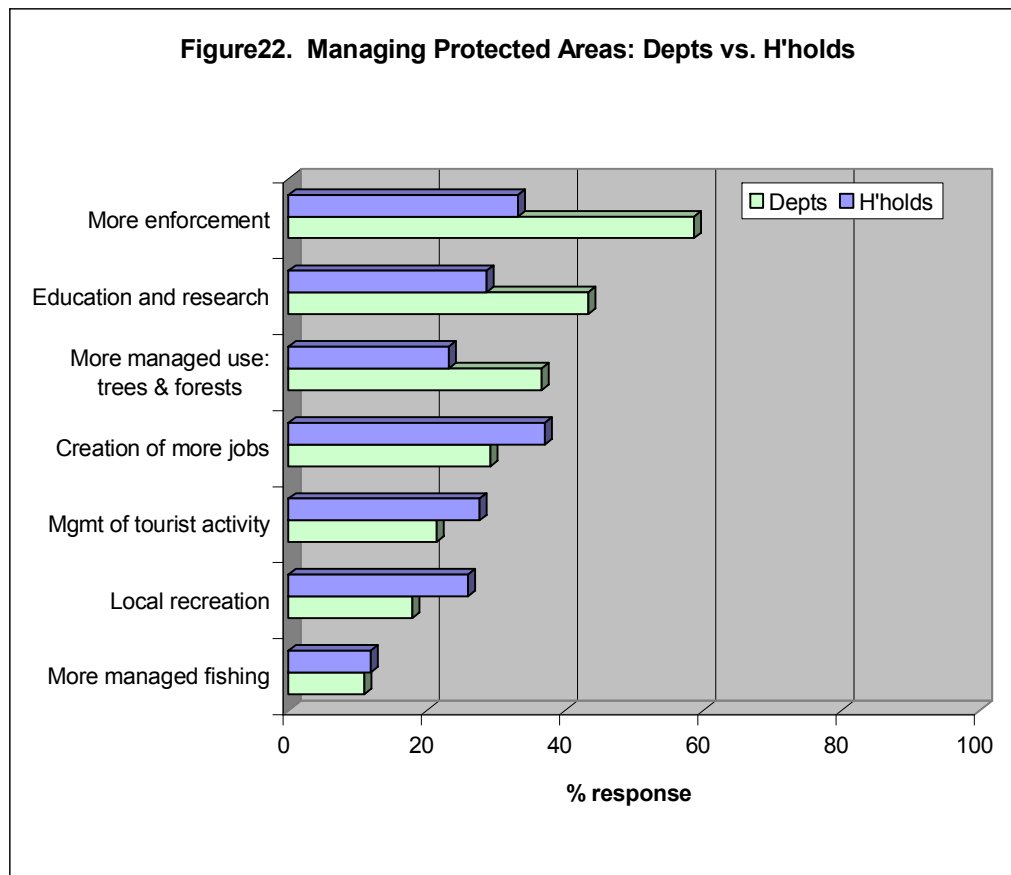


Although some were unsure of when they last heard anything about Protected Areas (118%), two-thirds (66%) had fairly recent recall, hearing about them within the previous month (Appendix 41). **St. Kitts & Nevis** Departmental representatives were least certain when they had last heard of such areas (37.5% saying "not sure"). Further information about both generic environment issues as well as about Protected Areas, was however welcomed by the large majority, regardless of country. It was interesting to compare these responses with those from Household respondents (Figure 21): Departments seemingly had more information than was being conveyed to their constituents.

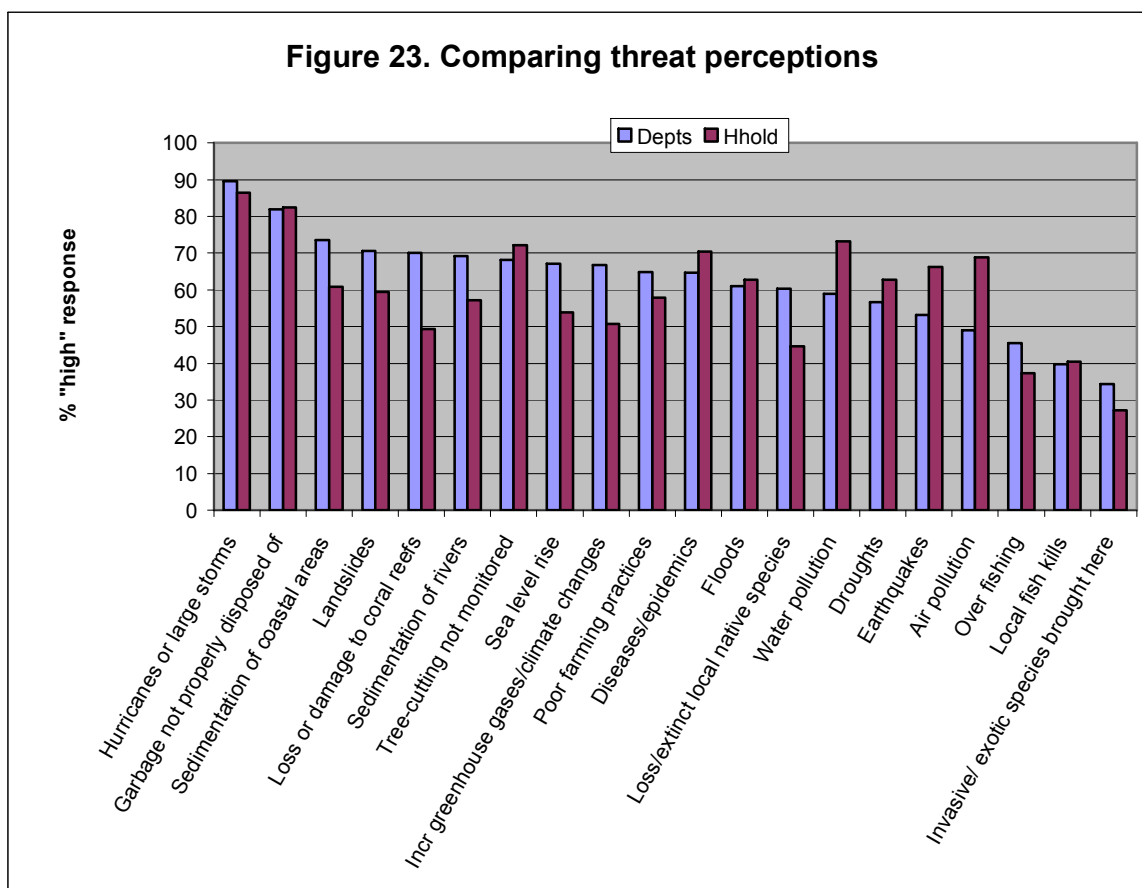


The main types of changes that Department representatives wanted to see in managing Protected Areas were: **more enforcement** (58.6%), **education and research** (43.4%), and **more managed use of trees and forests** (36.6%). Their responses were compared with those obtained via the household sample (Figure 22). The critical areas differed somewhat: while enforcement was important to both, household respondents were a little more interested in job creation and securing their and other persons' livelihoods than was evidenced from Departmental representatives'

reports. Interestingly, recreational-type values were either of lesser importance or felt in less need of management. As elsewhere found, matters of the sea were not of top priority.



The question of perceived threats to the environment was asked of both Household and Departmental respondents. There was complete concurrence between the two (2) groups regarding **hurricanes** and **garbage improperly disposed of** as elements posing greatest threat (Figure 23). Except for those items, agreement regarding extensiveness of threat differed between the two groups.



The findings show that **Department respondents had a greater sense of coastal/marine areas being under threat than did household respondents** – in keeping with relatively lowered emphases being given such issues by the Household sample. This included elements such as:

- Sedimentation of coast areas
- Loss or damage to coral reefs
- Sea level rise
- Over-fishing

Issues less likely to be reported as “high” threats by Departmental than Household respondents were: *diseases and epidemics, water and air pollution, droughts, and earthquakes*. What these have in common is the **direct felt personal impact** – regardless of one’s life situation. Interestingly, there were also marginally fewer Household than Departmental respondents who felt “tree-cutting not properly monitored” to be high threats – possibly due to successful communication efforts.

Country responses again suggested **St. Lucia** to likely be most generally aware (Table 12), those respondents identifying the greatest number of phenomena as threats. It still appeared there was a slight tendency to respond based on country experiences.

Table 12. Departments' perceived "high" threats of various environmental phenomena: by country (% response)

	Those saying " high " threat: by country					
	Anu	Dom	Gre	SKN	SLU	SVG
Hurricanes or large storms	76.5	96.0	96.0	88.0	88.9	88.0
Garbage or litter that are not properly disposed of	70.6	96.0	72.0	84.0	88.9	76.0
Sedimentation, or dirtying of coastal areas	47.1	80.0	68.0	72.0	88.9	76.0
Landslides	58.8	76.0	64.0	60.0	84.6	76.0
Loss or damage to coral reefs	70.6	60.0	68.0	72.0	81.5	68.0
Sedimentation, or dirtying of rivers	35.3	83.3	72.0	48.0	85.2	80.0
Tree-cutting that is not monitored, or loss of forests	52.9	60.0	64.0	56.0	92.6	76.0
Increased greenhouse gases/climate changes	64.7	60.0	60.0	72.0	63.0	80.0
Sea level rise	70.6	62.5	68.0	68.0	63.0	72.0
Poor farming practices	68.8	56.0	56.0	56.0	76.9	76.0
Diseases/epidemics	58.8	72.0	68.0	60.0	74.1	52.0
Floods	70.6	32.0	64.0	68.0	81.5	52.0
Loss/extinction of local native species	64.7	68.0	52.0	64.0	59.3	56.0
Water pollution	58.8	60.0	24.0	60.0	88.9	60.0
Droughts or reduction in rainfall	64.7	40.0	44.0	60.0	69.2	64.0
Air pollution	58.8	48.0	28.0	52.0	53.8	56.0
Over fishing/reduced fish catch	58.8	36.0	16.0	68.0	38.5	60.0
Earthquakes	47.1	64.0	40.0	64.0	65.4	36.0
Local fish kills	50.0	39.1	20.0	48.0	44.4	40.0
Invasive or exotic species that are brought here	47.1	44.0	--	48.0	26.9	44.0

When Departments' perceived threats using different phenomena were analyzed relative to "level of familiarity with environmental issues", there were few significant differences (Appendix 42). There was however, somewhat of a tendency for those "very familiar" with environmental issues to classify the more "technical" phenomena as "high threats". This of course, speaks to the potential for further dissonance between communicator and recipient and/or increased need for care in communication efforts. The sub-group of Departmental respondents who were "not familiar" with environmental issues, tended to mirror the Household sample more closely in responses.

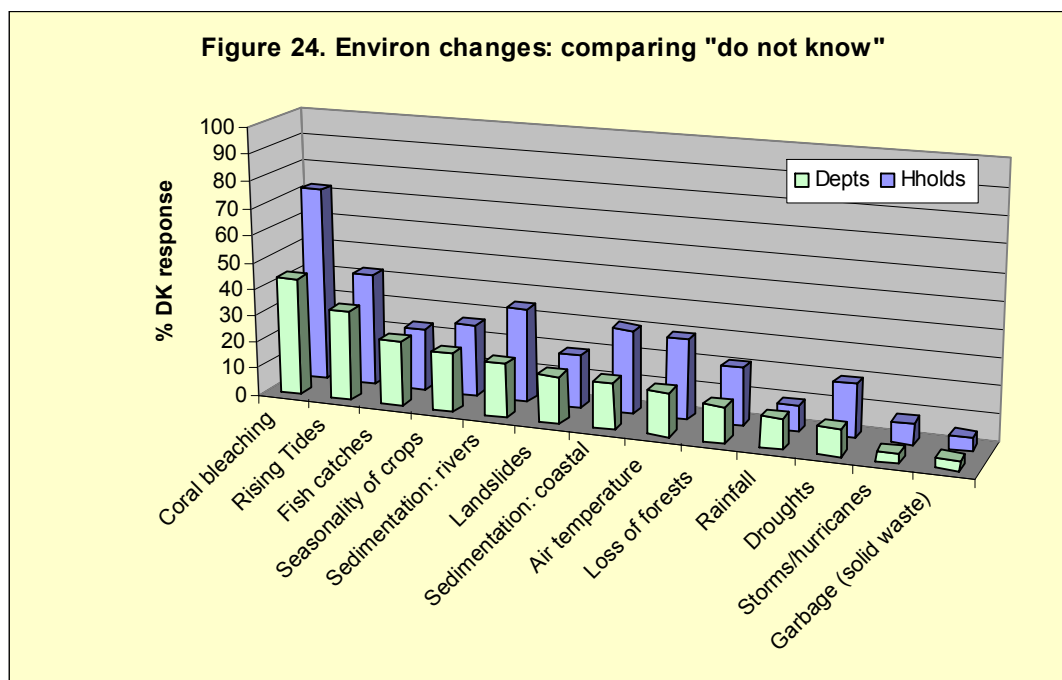
Another measure of Departments' knowledge was how they perceived environmental phenomena to have changed during the previous five (5) years, *if at all* i.e. whether they had either increased-, or decreased-, or whether they had observed an equal change (of increased- and decreased-). A "don't know /not sure" option was also provided. These respondents with higher "expert status" tended to think the **great majority of phenomena had increased** during the period. Results in Table 13 are sorted to reflect the extent to which respondents took a position, regardless of the phenomena. **Rainfall** and **seasonality of crops** were the only ones they felt to have decreased. Further, for **rainfall**, a relatively high proportion suggested there had been *both increases and decreases*. This

could possibly be interpreted as e.g. (a) more unseasonable rainfall and/or (b) increased disparity between wet and dry periods.

Table 13. Departments' response to environmental changes during past five (5) years

	DK / not sure	No change /neither	Increased	Decreased	Both Increased & Decreased
Garbage (solid waste)	3.5	2.8	<u>77.1</u>	13.2	3.5
Storms/hurricanes	3.5	12.1	<u>56.7</u>	22.7	5.0
Droughts	9.9	26.1	<u>45.1</u>	10.6	8.5
Rainfall	11.3	13.4	23.2	<u>34.5</u>	17.6
Loss of forests	13.2	14.6	<u>48.6</u>	20.8	2.8
Air temperature	16.0	11.1	<u>60.4</u>	2.1	10.4
Sedimentation of coastal areas	17.4	6.3	<u>57.6</u>	15.3	3.5
Landslides	17.5	23.8	<u>35.0</u>	20.3	3.5
Sedimentation of rivers	20.1	8.3	<u>54.2</u>	14.6	2.8
Seasonality of crops	21.5	20.8	23.6	<u>24.3</u>	9.7
Fish catches	24.3	8.3	<u>32.6</u>	31.9	2.8
Rising Tides	33.6	14.7	<u>39.2</u>	7.0	5.6
Coral bleaching	43.8	6.9	<u>39.6</u>	7.6	2.1

Departmental respondents' **unknowing** of changes in various phenomena was compared with those from the Household sample (Figure 24). Differences were seen for: coral bleaching, rising tides, sedimentation of rivers and of coastal areas, air temperature, loss of forests, and droughts. For each, Household respondents were less likely to commit to a position.



4.3. Communication practices

The most important focus of Departmental interviews was in seeking information about Communication practices, and resources available for their implementation. The importance of this line of investigation was actually increased via the Household survey where there were calls for more-, and more effective- environmental communication efforts.

Environment practitioners were asked of: frequency of communicating with target groups, communication strategies and methods employed, and average annual budgets (Table 14).

4.3.1. Communication frequency:

St. Lucia reported highest frequency of communication, almost one-quarter (23.1%) saying they did so 2-3 times per **week**. *Dominica* was not far behind, 17.4% reporting such frequency. Overall, frequencies varied substantially, **main defined schedules being monthly** (19.9%), **weekly** (17.7%) or **quarterly** (10.6%). "Other" frequencies comprised intermittent/ad hoc/as needed/as felt needed, and were mostly registered by *Grenada* (with higher private sector sample composition).

Table 14. Departments' basic communication approaches

	TOTAL	Anu	Dom	Gre	SKN	SLU	SVG
Frequency of communication with target group:							
$\chi^2=71.14$; $df=30,1$; $p\leq 0.001$							
2-3 times a week	9.9	--	17.4	4.0	--	23.1	12.5
Weekly	17.7	38.9	8.7	12.0	12.0	19.2	20.8
Every 2 wks	2.1	--	4.3	--	--	3.8	4.2
Monthly	19.9	22.2	26.1	8.0	24.0	19.2	20.8
Every 3 months	10.6	5.6	17.4	4.0	4.0	19.2	12.5
Other	24.8	11.1	13.0	72.0	24.0	3.8	20.8
Don't know/Can't tell	14.9	22.2	13.0	--	36.0	11.5	8.3
TOTAL:	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Communication strategies (each = % "yes"):							
Mass Media campaigns	47.9	58.8	64.0	52.0	40.0	37.0	40.0
Public Education campaigns	37.8	17.6	58.3	16.0	36.0	66.7	24.0
Ad hoc communication approaches	26.8	11.8	60.9	16.0	4.0	48.1	16.0
Targeted communication plans	19.1	25.0	17.4	20.0	8.0	37.0	8.0
An active Communications Programme/filled post	12.1	12.5	8.7	4.3	20.0	14.8	12.0
Advocacy Campaigns	11.5	12.5	22.7	4.2	--	25.9	4.0
Other	52.5	41.2	73.7	40.0	60.0	33.3	68.0
Communication methods (each = % yes):							
Radio	62.5	47.1	72.0	60.0	56.0	70.4	64.0
Television	55.6	52.9	56.0	56.0	48.0	70.4	48.0
Brochures/flyers	47.6	61.1	76.0	20.0	36.0	63.0	32.0
Newspapers	46.1	41.2	36.4	56.0	24.0	66.7	48.0
Internet	21.0	25.0	40.0	20.0	12.0	14.8	16.0
Don't communicate	9.2	--	4.5	28.0	16.0	3.7	--
Other	48.2	43.8	71.4	36.0	36.0	33.3	72.0
Average annual communication budget:							
$\chi^2=88.80$; $df=40,1$; $p\leq 0.001$							
Less than EC\$ 10,000.00	13.2	--	20.0	8.0	8.0	11.5	28.0
EC\$ 11,000.00 - \$25,000.00	2.1	--	--	8.0	--	--	4.0
EC\$ 26,000.00 - \$30,000.00	3.5	--	--	8.0	--	--	12.0
EC\$ 31,000.00 - \$ 40,000.00	2.8	5.6	4.0	8.0	--	--	--
EC\$ 41,000.00 - \$ 50,000.00	3.5	5.6	--	--	4.0	3.8	8.0
EC\$ 51,000.00 - \$ 60,000.00	1.4	--	--	--	4.0	3.8	--
More than EC\$ 60,000.00	11.1	16.7	20.0	12.0	4.0	3.8	12.0
No precise budget allocation	38.9	22.2	56.0	--	56.0	65.4	28.0
Don't Know	23.6	50.0	--	56.0	24.0	11.5	8.0
TOTAL:	100.0	100.0	100.0	100.0	100.0	100.0	100.0

4.3.2. Communication strategies and methods:

Departments were asked of strategies and methods most used for communication – with multiple options for responding. Responses were however indicated without prompting. **Communication efforts seemed mainly to use undifferentiated mass media, public education and/or ad hoc approaches.** Only 19.1% said they used targetted communication planning in their IEC approaches, and 12.1% had a post filled by a practitioner from which there was active, ongoing programme implementation. There were several respondents indicating use of “other” strategies instead of/in addition to those listed. However, those identified were actually methods/tools i.e. *E-mail, Group meetings, Internet, and Fieldwork*.

Main methods reiterated an undifferentiated strategic approach, *viz.* **radio** (62.5%), **TV** (55.6%), **brochures** (47.6%), and **newspapers** (46.1%). Those responding were allowed to identify all methods used. As many as 9.2% said they “did not communicate”, *Grenada* having the highest proportion (28%). Almost one-half (48.2%) said there were (still) “other” methods used to reach their target groups.

Relationships between communication behaviours and category of Department/ Agency were further examined (Table 15). There were neither clear nor consistent trends based on Department-type. What was confirmed was the multiplicity of communication approaches used -- regardless of the entity, and an apparent absence of an integrated marketing communication approach.

Table 15. Departments' communication approaches; by category of Department

	Public Sector	NGO (local)	NGO (Regional)	Govt.	Environ	Other
Communication Frequency:						
DK	8.0	35.0	--	4.9	14.3	7.7
2-3x/wk	--	15.0	50.0	14.6	--	3.8
Wkly	36.0	7.5	--	19.5	--	19.2
Every 2 wks	--	2.5	--	4.9	--	--
Monthly	16.0	12.5	--	29.3	57.1	11.5
Every 3 m	8.0	17.5	--	12.2	14.3	--
Other	32.0	10.0	50.0	14.6	14.3	57.7
Communication Strategies:						
(Each = % “yes”)						
Mass media campaign	50.0	45.0	50.0	55.8	57.1	34.6
Public Education campaigns	26.9	38.5	--	62.8	42.9	7.7
Ad hoc	15.4	35.9	--	38.1	14.3	11.5
Targeted communication plans	23.1	17.9	--	24.4	14.3	11.5
Active Comm. prog/filled post	8.0	5.1	--	29.3	--	4.0
Advocacy campaign	3.8	15.4	--	20.0	14.3	--
Other	46.2	47.4	100.0	56.4	42.9	57.1
Communication Methods:						
(Each = % “yes”)						
Radio	73.1	51.3	100.0	86.4	71.4	23.1
Television	61.5	46.2	100.0	75.0	85.7	19.2
Brochures	50.0	45.0	--	63.6	57.1	23.1
Newspapers	73.1	33.3	100.0	58.5	28.6	19.2
Internet	23.1	20.5	--	20.9	14.3	23.1
Other	34.6	53.8	--	60.0	42.9	40.0
Don't communicate	3.8	7.9	--	4.7	--	28.0
Communication Budget:						
Less than EC\$ 10,000.00	12.0	17.5	50.0	11.4	--	11.5
EC\$ 11,000.00 – \$25,000.00	4.0	--	--	2.3	--	3.8
EC\$ 26,000.00 – \$30,000.00	16.0	--	--	2.3	--	--
EC\$ 31,000.00 – \$ 40,000.00	8.0	2.5	--	--	14.3	--
EC\$ 41,000.00 – \$ 50,000.00	--	5.0	--	4.5	14.3	--
EC\$ 51,000.00 - \$ 60,000.00	--	2.5	--	2.3	--	--
More than EC\$ 60,000.00	20.0	15.0	--	4.5	14.3	7.7
No precise budget allocation	16.0	40.0	50.0	56.8	28.6	30.8
Don't Know	24.0	17.5	--	15.9	28.6	46.2

4.3.3. Budgetary allocations:

Further supporting lack of clearly defined and implemented communication plans, was absence of annual **budgets** assigned to these activities. *Firstly*, many of those interviewed **did not know** what their Departments'/Agencies' communication budgets were (23.1%). The most common response was that there was "no precise budget allocation" (38.9%). Such apparent fluidity was mostly reported in *St. Lucia* (65.4%), *Dominica* and *St. Kitts & Nevis* (56% each respectively). Amongst the remaining, **allocations were either high** (11.1% said it was "over EC\$60,000 per year"), **or low** (13.1% had annual budgets of "less than EC\$10,000").

It is not clear how "no precise budget allocation" was interpreted, and whether all respondents used the same / similar definitions. Possible follow-up questions to further clarify this could have been e.g.

- *Were monies found as required?*
- *Was there any initial allocation even if it was changed during the year?*
- *Was the spending related to the issue to be communicated?*
- *How much spending was planned/proactive vis-à-vis unplanned/reactive?*

4.3.4. Communication effectiveness

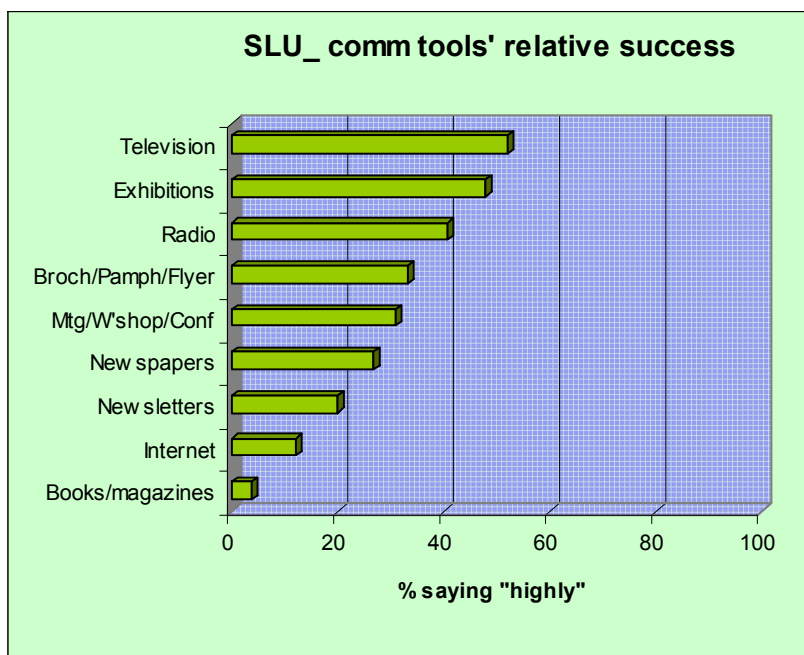
Given the several tools used in communication deliveries, and alternatives which might/might not be regularly used, Departmental representatives were asked of adjudged past effectiveness, i.e. how successful they felt the respective tools to be. In order of "highly" effective, tools were (Appendix 43): (a) meetings/workshops /conferences; (b) radio; (c) television; (d) exhibitions; (e) brochures/pamphlets/flyers; (f) newspapers; (g) newsletters; and (h) books/magazines. Country profiles are as below:

Country overviews of effectiveness: Countries gaining most traction from communication efforts were *St. Lucia, Antigua & Barbuda, Dominica* then *St. Vincent & the Grenadines*. Importantly, profiles of tools' effectiveness were different for each country. *St. Kitts & Nevis* and *Grenada* presented profiles that were different from the other countries – hardly any tools were estimated to be highly successful, or effective.

St. Lucia:

Effective communication in *St. Lucia* mirrored habits of the population: watching TV. Here, 51.9% of Departments rated the tool highly effective, making it the most effective about which they were asked. Exhibitions and radio were also quite effective.

Similar to other countries, books and magazines were not considered to be useful. In fact, with the exception of brochures/pamphlets/flyers, reading materials were amongst the least highly rated.



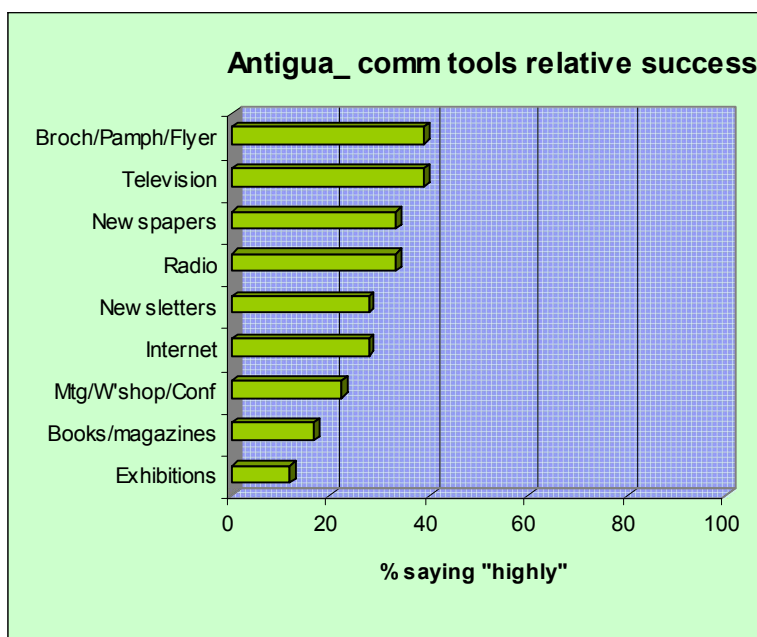
One factor to be considered for *St. Lucia* is the retention of French Creole as a **spoken** language, thereby suggesting a possible reason for the lesser use of or value placed on the written word. That fact also reduces the effectiveness of written social marketing communication, which is traditionally /currently used in English.

Antigua & Barbuda:

Tools working well in *Antigua & Barbuda* were brochures / pamphlets / flyers, and television; estimated at the same levels of effectiveness (38.9% saying "highly").

Newspapers/newsletters and the Internet all found relative favour with this population.

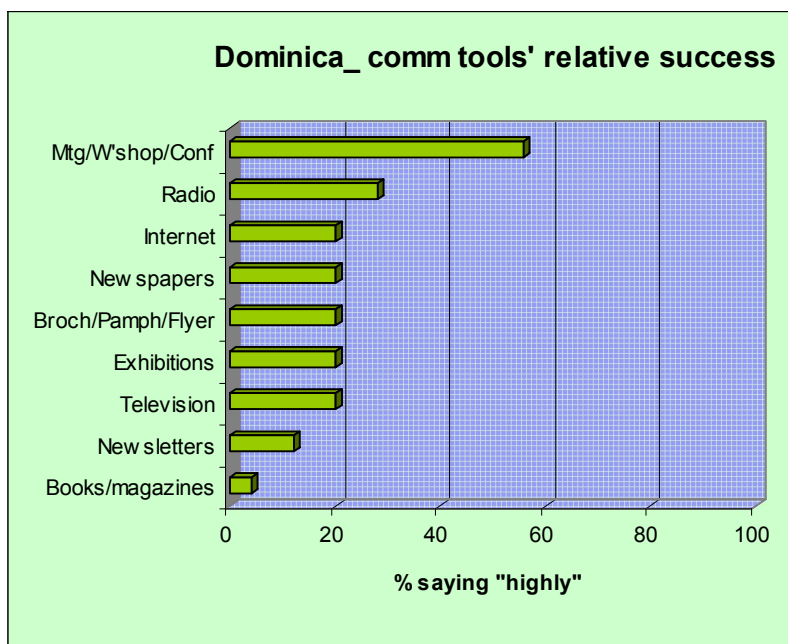
The population seemed less interested in face-to-face, interactive sessions. Meetings, workshops, conferences, exhibitions did not rate highly at all.



Dominica:

In direct contrast, the ***Dominica*** population seemed to revel in meetings, workshops, conferences and the like. The mode's effectiveness outstripped other tools about which Dept reps were asked. Radio and the Internet were also regarded quite effective, moreso than **television**.

This profile is an interesting one as it speaks about *inter alia*, literacy (general English and the French Creole situation as obtains in **St. Lucia**), and education levels (low levels for the older residents).

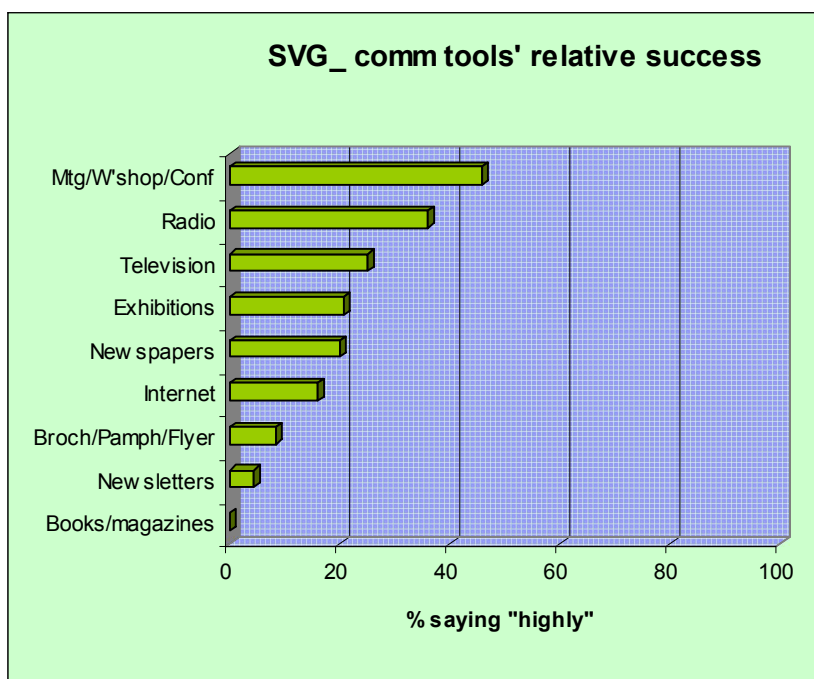


Dominica has a scenario where radio reach is somewhat diffused. Residents in certain extreme parts of the island have at least similar access to stations from neighbouring French islands as they do to local, English-speaking stations/broadcasts.

St. Vincent & the Grenadines:

The island chain of **St. Vincent & the Grenadines** responded similarly to meetings, workshops, conferences, as did Dominican residents. That tool was most often rated "highly" effective.

Radio and television were also quite highly rated as effective.

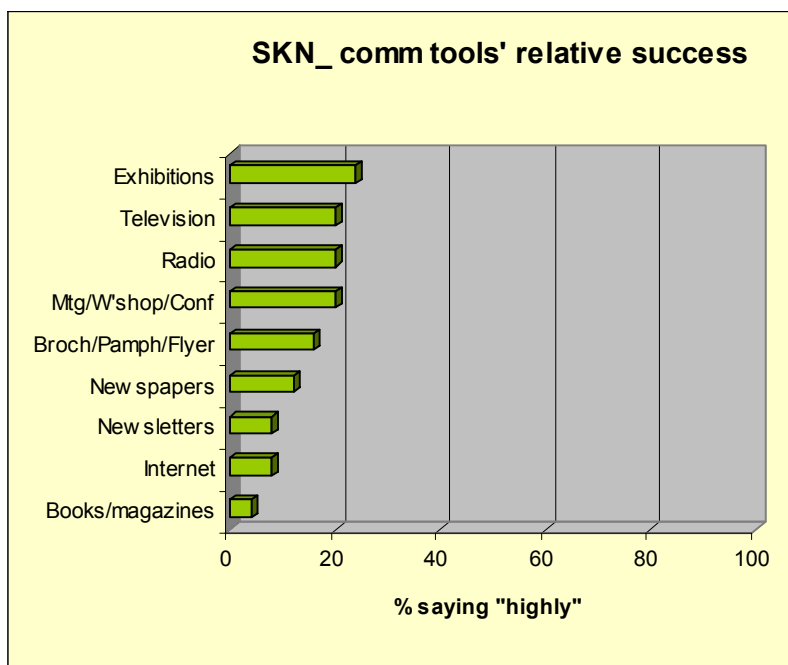


St. Kitts & Nevis:

The twin-island of **St. Kitts & Nevis** was different in its communication response, Department reps saying exhibitions were highly effective tools. In similar vein, small groups also worked e.g. meetings workshops, conferences.

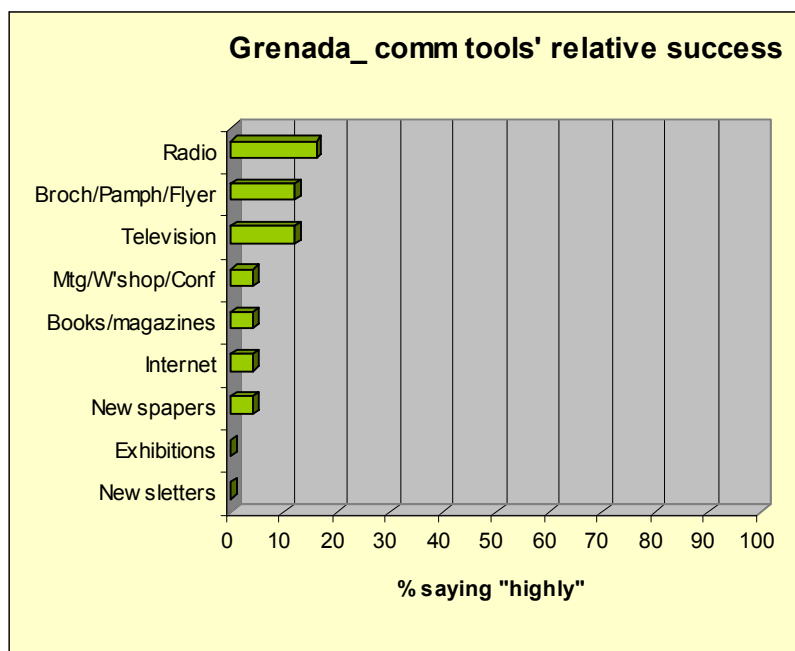
Similar to most other countries, television and radio continued to show fairly good response.

Overall however, this country along with **Grenada** was among the least receptive to previous communication efforts.

**Grenada:**

The **Grenada** responses highlighted what could have been due to sampling "different-ness".

Grenada was least likely of all the countries to record success with communication tools used for environment issues. Secondly, limiting success was virtually universal. Lastly, the relative importance of at least one (1) tool, viz. books/magazines, was ranked in the highest order for effectiveness seen (5), when compared with other countries – although with low percentages.



Amongst the many important questions to be asked, is the extent to which private entities might use different tools to those used by other entities with environment communication focus.

Results highlighted here speak mainly to “highly effective” ratings. Overall however, interpretation for **planning** purposes needs to account for the full profile of results, e.g. not discounting what was rated: “moderately” effective. It should also be remembered that definitions were subjective, but in the respondents’ minds could also have been comparative (*how would effectiveness of radio compare with television, or brochures?*)

Comparing adjudged success with household sample’s estimates of effectiveness:

Analyses were conducted to compare Departments’ estimates of the relative success of communication tools, with Households’ estimates of tools’ relative effectiveness. The only variables that could be used were however, dissimilar i.e. Households were asked to indicate “no effect”, “little effect”, “average effect”, “high effect”, or “very high effect”. Departments on the other hand, were asked to estimate the tools’ success as: “not at all”, “very limited”, “moderately”, or “highly”. For purposes of the analyses, the Households’ “high” and “very high” responses were combined, and all others estimated as being respectively, somewhat comparable. Another adjustment was made to the data prior to making such comparisons i.e. the “do not know” responses were omitted, leaving the universe of valid responses as those with knowledge/experience of such tools, and were able to respond. Responses are compared in Figures 25a and 25b.

The findings showed that for each tool, consumer-estimated effectiveness was higher than adjudged by communicators. Amongst possible reasons for this disparity are: (i) dialoguing limitations between them; (ii) limiting fora for exchange of information between communicators; (iii) the fact that consumers receive information from multiple sources, many of which might not be initiated locally/regionally; and (iv) limitations to the communication research that might have highlighted such disparity.

More about communication measurements: *How did countries measure the “effectiveness” of their communication efforts?* Respondents were asked of the “kind of feedback mechanisms used to measure effectiveness of (their) strategies/campaigns/ initiatives”. They were not prompted by specific responses, and multiple responses were facilitated. Results indicated (Table 16): **“group discussions”** as the **most used method** (37.1% said “yes”), **followed by “questionnaires”** (25.9% used them), and **“public awareness surveys”** (16.3% said “yes”).

Importantly, one-quarter (25.2%) of Departments/Agencies’ respondents said they did **not** communicate, proportions highest in **St. Kitts & Nevis** (48%) and **Grenada** (40%). “Other” methods used in measuring communication efforts were: *level of participation, examinations, comments from the public, monitor spillage, extent of disaster on homes or persons, look at farming practices, call-in programmes, hits on the Internet, evaluation forms, and community inspectors.*

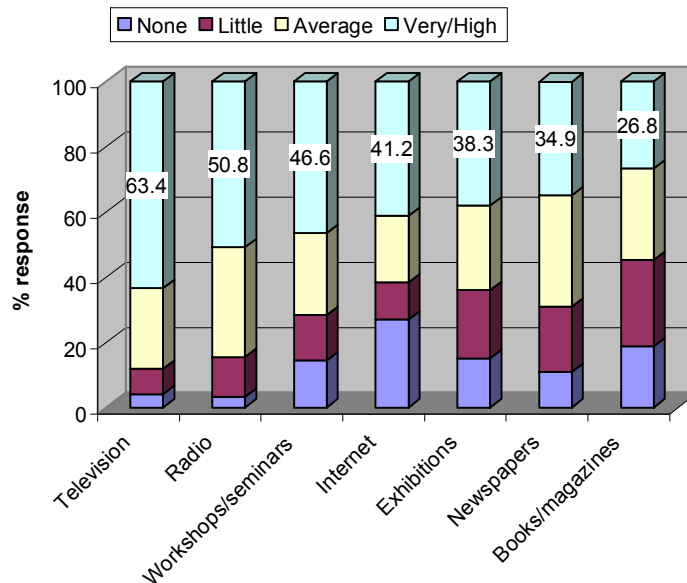
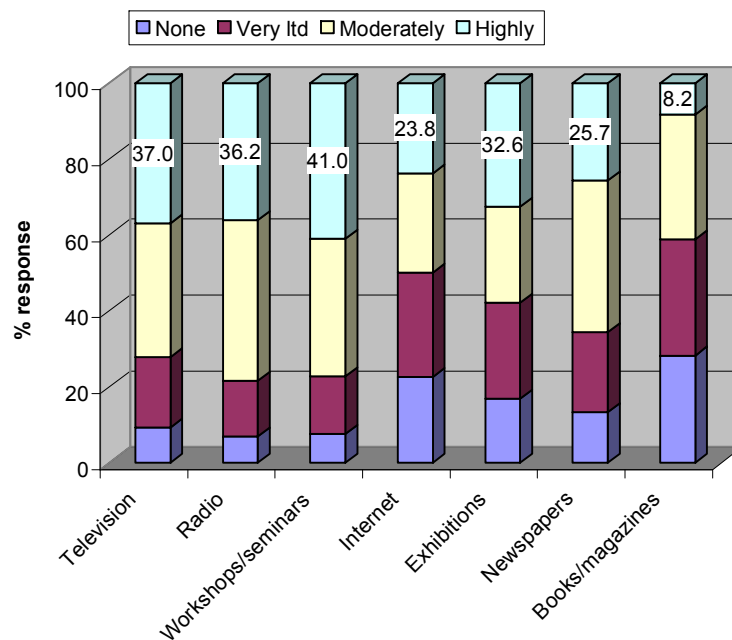
Figure 25a. H'holds_ comm tools effectiveness**Figure 25b. Depts_ comm tools rel success**

Table 16. Measuring communication effectiveness and reasons for communicating

	TOTAL	Anu	Dom	Gre	SKN	SLU	SVG
Measuring communication effectiveness: (%=yes):							
Group discussions	37.1	42.9	48.0	24.0	28.0	51.9	29.2
Questionnaires	25.9	53.3	12.0	17.4	12.0	33.3	37.5
Public Awareness Surveys	16.3	40.0	12.0	4.0	20.0	25.9	4.2
Public Education Audit	11.5	28.6	4.2	4.0	8.0	25.9	4.2
Polls	3.6	14.3	--	--	--	--	8.3
Other	29.6	22.2	59.1	20.0	28.0	18.5	32.0
None	25.2	--	20.8	40.0	48.0	3.8	32.0
Most valuable communication reasons (%=yes)							
To change behaviour	67.1	70.6	88.0	52.0	32.0	92.6	66.7
To share information	65.0	76.5	80.0	64.0	52.0	59.3	62.5
To gain public support	45.3	52.9	63.6	24.0	72.0	42.3	20.8
To identify the barriers for adopting preferred attitude change	27.0	29.4	52.2	8.0	8.0	25.9	41.7
To influence policy	23.1	23.5	28.0	24.0	4.0	33.3	25.0
To examine the factors that favour the change	22.7	41.2	30.4	--	8.0	33.3	29.2
To gain media support	18.3	41.2	16.7	16.0	24.0	11.1	8.3
Other	29.0	11.8	52.6	16.0	40.0	14.8	40.0

Reasons for communicating were also investigated, again without prompting for specific answers. Here it was seen that (Table 16) “**to change behaviour**” was the most-mentioned reason (67.1%) regionally. It was also the most-mentioned for: *Dominica, St. Lucia, and St. Vincent & the Grenadines*. This was followed quite closely by: “**to share information**” (65%), then more distantly by “**to gain public support**” (45.3%).

Barriers, challenges, and strategic planning: It was clear that communicating with differing publics on environmental issues was no easy task. Despite the call for information, those charged with such responsibility were finding it difficult. This situation was highlighted when Department/Agency/allied representatives were asked of their: (i) greatest challenges when communicating on environmental issues, (ii) challenges restricting effective communication, and (iii) plans for strategically managing scenarios faced.

The **challenges** were seemingly encountered at several levels (Box 4), but some were much more evident (or spoken of) than others e.g.

- Mobilizing communities while overcoming the various cultural inhibitors to participation and behaviour change – especially in the context of the environment
- Being able to adequately articulate and deliver the substantive issues, thereby ensuring audiences’ sufficient understanding of issues

The *first-mentioned* challenge appeared more inclusive and restrictive: without audiences there was no potential *for* communication. Closer inspection indicated a range of issues presenting even within-category, but it also spoke to the type of experiences that had been encountered and recognition given those encounters.

The roles that environmental practitioners were asked to undertake seemed to include being social workers and psychologists: the question was whether or not they were sufficiently equipped.

Interestingly, the next category of challenge suggested that practitioners were also being made to feel somewhat inadequate even within areas that were their own forte. They were being confronted with challenges at virtually all points of communication e.g. messages, media, delivery channels, and even audience definitions. Making the situation more difficult was that some audiences lacked basic skills with which communicators wanted to work: literacy and/or education.

A few responses indicated other resource constraints, including their populations' lack of basic appreciation of environmental situations that *should* concern them.

Box 4. Greatest **challenges** when communicating on environmental issues with target groups

1. Culture, Community Mobilization/Participation, Behaviour Change <i>Getting people to do anything ... How it will benefit the community ... Getting persons together in one forum to discuss the issues ... To get them to participate in programs and projects ... Behaviour pattern ... Getting persons in some communities to attend meetings // workshops ... Preconceived ideas brought to forum ... To get the fishers to attend meetings and workshops ... Poor attendance at meetings ... Poor cooperation among members ... Reaching the young people in the community on a comfortable level ... Older people should be setting the example need the will power ... To get their attention ... Lack of interest ... Varying need of target group ... Get them to change their behaviour ... Some persons don't see their capability in effecting change ... To change the culture or the mind set of people because of the influence of politics</i>
2. Articulation/comprehension /delivery incl. language & literacy <i>Explaining in a manner the average person will understand ... Getting farmers to understand on how it will benefit them ... Relating the issue so that the audience would see it as important ... Choosing the correct medium to reach specific groups ... To get them to understand what they are doing have a very negative impact ... We have not properly altered the message to suit the target audience ... To apply the knowledge gained ... Language ... Making persons conscious as to the importance of the environment ... Language barrier ... Showing persons how to contribute towards improving the environment ... Dissemination of information to all the communities ... I target the tourist by putting information on the Internet ... Problems are not easily identified when a short term stigma attach to participation in working in the environment e.g. by disposing of waste ... Getting persons to understand the reason for keeping the environment clean ... To get the message across to individuals ... Getting them to understand the importance of the exercise ... Education</i>
3. Limiting resources <i>Finance and lack of support from certain government agencies ... Cost involved in mitigation ... Lack of money to pay ... Not enough resources available for awareness campaigns ... Limited capacity as it relates to staffing ... There is no office for our operations it limits the scope of our work ... Administrative set back ... Financial... The lack of a communication specialist ... More travel facilities on nature trails ... Getting resources ... Not enough equipment to demonstrate ... Lack of information to impact ... Accessing support for undertaking environmental management activities ... Education on applicable standards and enforcing compliance to these standards ... Weak regulation</i>
4. Perceived importance/value of the environment & Substantive environmental issues <i>Acceptance of the value of environmental resources ... Having people realize there is a problem ... Some people think that it is not important or it is boring ... People tend not to care of the environmental issues ... Negative comments from people in authority ... Addressing issues of garbage disposal ... Addressing issues of cutting of trees ... Pressing issues not viewed ... Lack of concrete evidence</i>
5. Other: <i>Explaining the distance ... Difficult to convey information due to noise ... Ignorance ... Persons not willing to listen ... Sustainability of the programs ... Motivation ... I have no group. Visitors will pass the messages on to others ... Personal hygiene ... Applicability ... People's comments with the activities ... Other issues taking priority, for example, AIDS, crime ... Resistance to change ... Timing ... Social economic issues</i>

Asked of **barriers** to effective communication, the same basic issues seemed once more to resonate as they did for “challenges” regarding the more generic environmental questions (Box 5).

Box 5. Greatest **barriers** hindering effective communication on environmental issues with targets

Persons perception ... Education level ... Persons resisting change ... Opportunity cost ... Financial ... Getting the message across to them ... Abstractness of subject matters involved ... Lack of trained persons ... Lack of good service ... Getting everyone to come to same understanding ... Unmonitored development or enforcement ... Lack of interest ... Literacy – continue doing things that was wrongly done by parents ... People just selfish don't care about others ... Lack of resources ... Too much red tape ... Lack of responsiveness ... Information not getting out to target group as it should ... Political influence ... Raising consciousness as to importance of the environment ... Educate on applicable standards and enforce compliance to these standards ... To show people in tangible way how good environmental practices can impact them ... Needs a resource person ... Policy ... Lack of policies ... Language ... Not enough media advertisement ... Putting theory into practice ... Leadership ... Continue to hold public awareness campaigns ... Ways of communication ... Government and its ad hoc means of dealing with environmental issues ... Enforcement of laws ... To tell them stop troubling the eggs when they find the nest ... To stop killing the young turtles ... Lack of environmental sector groups ... Communication information sold is not too relevant ... Lack of participation from target groups ... Do not see environment issues of great importance ... Cost of communication ... People look at us as youth group and not a legal organization ... Competing for time ... Funding ... Willingness to participate in any program ... Different messages and objectives ... People want incentives and compensation ... Terminology ... Ignorance ... Indifference ... Regulative framework is weak ... Cultural ... Timing ... Education ... General public not a reading public ... Barriers can be viewed in same way as challenge ... Lack of knowledge ... Resources ... Clarity of message ... Presentation of message ... Lack of equipment ... Proper environment plans

There was a real problem in getting environmental messages across to the appropriate public(s) while simultaneously assuring reasonable comprehension, impact, and sustainable outcomes. There seemed a distinct gap between (a) those with the knowledge; and (b) some of those without knowledge and/or from whom greater buy-in and action were required. The *languages* of communication appeared to present the most basic barrier: examples here suggesting being verbally adept was insufficient.

What plan did these practitioners have to overcome the challenges and barriers presented?

The burden for change was clearly shown to be via more, effective information, education and /or communication approaches. In fact, careful examination of responses (Box 6) showed that **some environmental communicators seemed to accept their relative failures almost as personal- and/or professional- weaknesses, typified by the following statement:**

... Improve my standard, seek more training, new ways to get the message across and capture people attention ...

Other barriers included resource constraints, most being financial but also limiting skilled personnel to assist with or actually do the requisite jobs. All these would need to be implemented within a policy framework that is reasonably enforced without undue interference. Beyond these however, it again was clear that **real efforts were being made to manage the quagmire of problems being encountered in getting the messages across.**

Box 6. Plans to overcome challenges & barriers to improve future communication on environ issues

Information, Education and Communication
<i>By continuous education ... Would like to host workshops and meetings on environmental issues ... Hold more community meetings and outreach programs. Making greater use of the media for public awareness ... Through continued awareness program ... Frequent meetings with target groups ... Increased the continuity and frequency of information given and more importantly break down the level of the information given so that all would comprehend ... Advertisements. Create action groups ... Hold house to house campaigns, area campaigns and environmental awareness campaign on a public basis ... More participation information sent to the people, change of media method ... By using other media - TV, videos to show impact of a degraded environment and the loss it will cause society ... Printing of bilingual leaflets, brochures ... Language ... The use of television is more interesting so I would suggest this type of media more ... Collaborating with the environmental ministries to raise interest on environmental issues ... Getting information in schools ... More aggressive communication strategy ... Conduct surveys ... Find out the preferred time ... Try to do things that will attract people attention ... By liaising with all major stakeholders involved in environmental management work. Developing proper mechanisms to address issues affecting them ... Figure out ways to convince people showing them in a tangible way the solution that are required ... Train more, community and school involvement</i>
Resources
<i>More budget allocation and getting the impact of all stakeholders ... Requesting staff and recruit staff approved ... Staff capacity building ... Have a knowledge person in that specific field ... We have set up micro enterprises to raise funds ... Engage a resource person with communication skill ... More resources technical competent persons ... Give persons tokens e.g. items like t-shirt, caps, etc ... Allocation of more resources that targets environmental issues ... I would go into a heavy cost recovery program and putting a specific budget to challenges and barriers ... By acquiring money to have persons recruited and trained. Use of enforcement of laws to change people attitude ... Employment ... Solicit businesses for financial support ... Look to AGOS for support ... Having accountability by other sectors</i>
Policy, Legal & Regulatory Framework & Management
<i>It is a requirement by law ... Government policy ... If the government can have a marine police to overlook the beaches and implement a law with a heavy fine or penalty ... We need to have stringent policies in place with a bit of flexibility ... Creating a policy ... Too much politics</i>
Programmatic
<i>Try to put in place simple programs ... Propose to manage protected areas</i>
Other
<i>Speaking about what is affecting them and family ... A concerted effort with all stakeholders ... Trying to get the public more involved in what is being done. Also try to get easier access of resources from authorities ... By being patient and preserve more ... Organize social, games night ... Evaluate them ... Its an ongoing process // Battle keep on working</i>

4.3.5. Preparedness for tasks:

Given the communication challenges and barriers faced by those with responsibility, it was important to determine how well prepared Departments, Agencies and the like, felt themselves to be. There were three (3) institutional levels about which functioning questions were asked: **management, technical, administrative** (Table 17). Management levels were reportedly best prepared, 61.5% of respondents saying they were “extremely well” prepared, compared to 43.5% of technical- and 19% administrative- staff.

Table 17. Departmental preparedness to manage environmental communication challenges: by country

	TOTAL	Anu	Dom	Gre	SKN	SLU	SVG
Mgmt preparedness for challenges:							
Extremely well	61.5	87.5	54.2	82.4	40.9	61.9	54.5
Moderately	32.8	6.3	41.7	17.6	45.5	33.3	40.9
Not at all	5.7	6.3	4.2	--	13.6	4.8	4.5
Tech staff preparedness for challenges:							
Extremely well	43.5	56.3	60.0	47.1	22.7	47.4	33.3
Moderately	44.3	18.8	40.0	52.9	40.9	47.4	61.9
Not at all	12.2	25.0	--	--	36.4	5.3	4.8
Admin staff preparedness for challenges:							
Extremely well	19.0	18.8	38.1	11.8	14.3	26.1	--
Moderately	69.0	50.0	57.1	88.2	52.4	73.9	94.4
Not at all	12.1	31.3	4.8	--	33.3	--	5.6

Interestingly, whereas management in *Antigua & Barbuda* was the best prepared (87.5% extremely well prepared), that country also had the highest proportion of administrative personnel that were “not at all” prepared (31.3)%. It was in *Dominica* that the largest cadre of administrative personnel were said to be “extremely well prepared” – which differences could be reflective of cultural-/sub-cultural nuances.

A similar review by type of Department/Agency (Table 18) showed “**environmental organizations**” and “**others**” to feel their entities best prepared. This is a little surprising, given the apparent lack of engagement in environmental communication amongst this “other” group. However, low numbers also challenged interpretation of these findings.

The representatives also gave additional suggestions and comments for improving environmental awareness programmes (Appendix 44). These revolved around all themes already identified herein.

Table 18. Departmental preparedness to manage environmental communication challenges: by Department type

	<u>Public sector</u>	<u>NGO (local)</u>	<u>NGO (regional)</u>	<u>Govt. Dept</u>	<u>Environ Org</u>	<u>Other</u>
Mgmt preparedness for challenges:						
Extremely well	62.5	39.4	50.0	64.1	83.3	88.9
Moderately	33.3	48.5	50.0	33.3	16.7	5.6
Not at all	4.2	12.1	--	2.6	--	5.6
Tech staff preparedness for challenges:						
Extremely well	43.5	40.0	--	42.1	66.7	44.4
Moderately	43.5	50.0	--	42.1	33.3	44.4
Not at all	13.0	10.0	--	15.8	--	11.1
Admin staff preparedness for challenges:						
Extremely well	16.7	19.4	50.0	13.9	33.3	19.0
Moderately	70.8	74.2	50.0	66.7	66.7	69.0
Not at all	12.5	6.5	--	19.4	--	12.1

5. DISCUSSIONS AND CONCLUSIONS:

This survey was conducted to determine extent of population awareness in respect of environmental issues but especially that of Protected Areas, as evidenced via six (6) countries within the OECS sub-region. Findings indicated relatively high sensitivities for one's immediate or proximal surroundings especially that concerning the built environment, with fewer access to details related to the natural environment and even less so for cultural and/or heritage environment. Protected Areas would be classified amongst these latter.

Likelihood of such *eventual* findings was signalled as early as during the pretest activities and supported via conduct of the formal exercise, respondents generally being uneasy with the given tasks of openly and frankly discussing environmental issues. *What was the source of such discomfort?* One barrier resided in the misunderstanding of environmental terms, some of which seemed often to be perceived as "jargon". This is not a new scenario. Very similar findings emerged in an earlier study conducted on "watersheds" in Jamaica³. There, respondents' limiting understanding of the often-promoted word "watershed" was sufficient to drive further analyses of comprehension literacy surrounding technical terms used for behaviour change communication⁴. Interestingly, when asked of the types of difficulties encountered in responding to such questions about "the environment", respondents drew parallels with: (a) being (back) in school, and (b) being asked about terms related to food and nutrition. **There is clearly a great need to tease out and focus on simpler delivery of underlying concepts for improved effectiveness in behaviour**

³ Chambers, Claudia M. and David Smith (2002). Transecting Audiences: Participatory Assessment of Jamaican watersheds; study conducted for Ridge-to-Reef Watershed Project (R2RW)/USAID.

⁴ Chambers, Claudia M. (2004). A Watershed? Mixed-method investigations encounter literacy challenges to behaviour change communication. Presented at the 10th Annual Qualitative Health Research Conference, Alberta, Canada.

change communication, better recognizing audience descriptors and their respective aptitudes.

This deficiency essentially shifted the relative values given to differing phenomena when respondents were asked about what were and/or were not threats to our regional existence. Therefore, whereas people could and did speak with some ease and authority about often-encountered and/or experienced situations such as hurricanes, storms, droughts, there was more reticence and less ability to commit in respect of e.g. “exotic or invasive species”. The population-at-large was not the only audience being restricted – the audiences’ limiting environmental literacies were also impacting those responsible for communicating critical messages to them. There were therefore two (2) important deficits: (a) the unknowing in respect of the language and enshrined meanings; and (b) the knowing of how to effectively communicate within a situation of such (potential) restrictions.

Few people readily admit ignorance: pride remains an intervening variable. A quantitative study such as this also rarely allows access to the issues and situations underpinning manifestation of the ignorance. Regardless, respondents did the best they could. They spoke of what they felt needed to be done to remedy the situation: more effective information, education and communication efforts. A majority seemed genuinely interested in acquiring more information for their own, as well as their communities’ improved understanding of, involvement in, and management of, related activities. But that onus did not reside solely with them, but also their respective governments and other authorities charged with such responsibilities.

Interestingly, although access and references to several environmental issues were couched in global and regional contexts, many of the solutions posited were local. This has substantial impact for design and implementation of future strategic solutions (as well as costs). **Huge cultural nuances will make decision-making the more challenging, but regional shifts in receptivity to IEC will also potentially burden future decision-making.** Amongst these are:

Television:

1. The dominance, overwhelming influence- and impact- of foreign-originating cable television in the region are important: channels offered in some countries exceed 100 in number. **Real access to the television viewing audience would depend on comparative patterns for cable- vs. local.** This is made the more difficult since:
 - a. Several local channels use cable programming in their broadcasts, hence “local viewing” could really refer to “locally broadcast programmes”.
 - b. There is limited regional programming with reach similar to cable channels, and the few about which respondents were asked, were hardly watched.

- c. Insufficient is known of specific viewing preferences and interests to adequately target them using this medium e.g. *are they watching entertainment programmes or news? If they are watching news, is it local or foreign?*
 - d. In the context of this study, cable television has positive aspects since for example, access to channels such as National Geographic would provide wider access to basic related information. However, much programming content therein is not always relevant to regional and/or local situations.
2. Yet, respondents identified television as an important, likely effective, and preferred source for information on the environment.

Radio:

- 3. Radio was found important, not only because it was much listened to, but also it was identified as an important past source of information about the environment.
- 4. The challenge with radio is the absence of a single radio station with region-wide reach. Further challenges include the facts that:
 - a. Each country has its own national radio station(s), clearly increasing potential for audience fragmentation.
 - b. Some countries also have access to radio frequencies/stations originating elsewhere.
 - c. Radio listenership will be influenced at a minimum by personal preference, as well as access.
- 5. Data sufficient to guide radio placements are also limiting.

Newspapers:

- 6. Newspaper use was found to be far less than consumption patterns for the electronic media. The increased use of newspapers by those with more education and/or those who were employed could be due to increased access via their workplaces. Any communication using this medium would therefore essentially be targetting those with higher levels of education.
- 7. In any event, there is (also) no newspaper with region-wide reach. The local newspaper scenarios are:
 - a. Newspapers are published with varying frequencies in different countries, ranging from once weekly (*Dominica, St. Vincent & the Grenadines*) to daily (*Antigua & Barbuda*).
 - b. Some newspapers that are regularly available within a particular country actually originate elsewhere e.g. at least one (1) Trinidadian newspaper is available on a daily basis in *Grenada*.
 - c. Some countries publish multiple newspapers weekly (e.g. approx. three (3) are published in *St. Vincent & the Grenadines* all becoming available on the weekend).
 - d. In St. Lucia there are also multiple newspapers; two of them are weekly newspapers and three others are published three times per week.

Internet:

8. The Internet as a means of communicating on environmental issues poses its own unique challenges. *Firstly*, usage is not overwhelmingly high except by some communicators and few countries with higher educational levels. This in itself suggests misappropriated resource use. Managing Internet communication will therefore have to include the following considerations:
- a. Literacy, interest, and access are likely to remain problematic for some time, existing as intervening variables.
 - b. Logging on to a specific website can well be compared to reading a particular book, or (even) diligently watching a specific channel or programme. It requires generating- and maintaining- interest.
 - c. Several newspapers actually exist on the Internet, but the medium is not especially widely accessed at the current time. Eventually this could be an important regional tool, given the multiplicity of newspapers currently being published and utilized.

Small group sessions:

9. The study identified populations' distinct preference for small group sessions such as workshops, seminars, and the like: these were described as effective means for learning of environmental issues. Undoubtedly, such sessions provide a means for **enquiring** about what one did not understand in a non-threatening environment. They would also provide avenues for addressing the "ignorance" earlier referred to – people could ask questions and have them answered. The need to present such matters/messages through a deliverer with "authority" was also found via this survey: people identified environmental officials and/or officers as the most trusted information source. This suggestion presents two (2) clear decision-making challenges if it was acted upon, *viz.*
- a. Preparing a cadre of persons suitably vested to fulfill such positions as "officers"; and
 - b. Adequately training them as repositories of related information, and trainers able to suitably convey requisite messages.

The importance of and adjudged need for this general approach cannot be overstated. The Departmental/Agency type representatives who took part in this survey identified a very long list of challenges in support of those issues identified by Household level respondents, together suggesting the communication issues to be addressed. These included **adequately prepared campaigns utilizing non-mass media approaches, recognizing and taking much account of cultural appropriateness.** These types of issues would extend to community mobilization (also clearly important for activities requiring their further involvement in problem-solving and management efforts). The apparent futility of communicators' past efforts could almost be regarded as incapacitating. It is unclear whether this inability to effectively manage the situations was what might have further driven them to focus on what appeared (i) undifferentiated mass-media approaches, (ii) without benefit of strategic planning and/or

adequate human resources, and/or (iii) unplanned spend for delivering such messages or campaigns as might be required.

Using the past to rewrite the future:

10. The differential between response patterns and/or knowledge levels between those who were *more vis-à-vis less* educated is important. It calls for increased and sustained focus on creating an Integrated Marketing Communication (IMC) framework addressing the several (and/or several potential) groups for which communication strategies have to be developed. For example, that more educated people responded “more appropriately” to identification of longer-term threats suggests they might be better equipped to view and acknowledge a “longer-term” over the more immediate worlds within which many of the region’s peoples currently exist. *Would it be too much to ask for communication planning to incorporate such a finding?*

- a. Country-level experiences also had much influence on residents’ response to how they view e.g. the environment. What did they know of their governments’ responsiveness? What did they regard as threats to such environments? What did they feel might have changed in respect of manifestations in environmental phenomena? **Another challenge then would be to create a suitable and sufficiently enabling environment within which messages of regional importance are conveyed to local audiences, with clearly relevant local examples to which they can relate and respond.** *The potentially inherent difficulties in this approach were seen in conduct of the survey, where some interviewers were disenchanted at their own country’s situations not being the focus of attention.*
- b. The response to questions of Protected Areas has been very instructive. *On what basis for example, do people not think PAs to be solely for foreign and/or regional tourists, yet locals rarely visit them? Is the mere fact of knowing they are there, sufficient?* This entire scenario suggests either “hallowedness” enshrined to be within such sites, or an almost complete absence of information regarding: what they are, who they should/could be used, and by/for whom. Managing these types of perceptions and attitudes will further challenge future communication – in the further context of applying regional solutions to local situations.
- c. The range, types, and number of **messages** that need to be focussed upon are extensive, with examples as below:
 - (i) The population’s focus on impact of hurricanes and storms on their environment suggests limited understanding that their medium to longer term impacts on the *natural* environment, are actually relatively minimal. The major (visible/felt) destruction instead being to the *human built* or *modified* environments.
 - (ii) Factors perceived **not** to be threats e.g. “exotic/invasive species brought here”, “over-fishing/reduced fish catches” actually have significant

- potential for longer-term impact to the natural environment, as well as for people's livelihoods – yet these phenomena are hardly understood.
- (iii) Responses to perceived environmental changes potentially told of people's experiences, and messages to which they may have been exposed -- which increased awareness of related issues. Teasing out these differences may/may not be important. What might be at least as useful from an IEC perspective is the knowledge that there **is** potential impact from communication efforts via e.g. type of and articulation of message, message frequency, reinforcement of messages. Examples included perceptions of: **increased coastal sedimentation** (which could be due to loss of forests), and of **increased loss of forests**. *To what extent are these real? On what bases would people retain such perceptions? To what extent does the media focus on messages that are "vogue" and/or highlighted by environmental professionals? To what extent are other-type messages sought out to offer the consuming publics?*
 - (iv) Some natural resources seem more acknowledged than cultural and/or heritage resources. The presence of Brimstone Hill in **St. Kitts & Nevis** is an interesting example, but not easy to explain: how are these resources really seen? What makes some good for rural development and good to create jobs, yet not necessarily seen to benefit those living nearby?
 - (v) Study findings have fuelled the ongoing debate regarding the marine environment and its (perceived) relevance. Such resources seem not as clearly recognized for their value vis-à-vis land-based resources.

At a country level, **St. Lucia**, and **Dominica** to a slightly lesser extent seem to have emerged with generally more awareness than other countries. Several factors could potentially be implicated:

- **History:** These countries, and especially **St. Lucia**, have been exposed to environmental management initiatives and related IEC components over an extended period e.g.
 - **St. Lucia's** awareness could have been built via several different actors' several interventions: the government, NGOs, national, regional and international communities.
 - **Dominica** retains strong inputs via Agriculture, Forestry, and Foundations (e.g. Ecological).
 - These countries have both had and been exposed to for several years, substantial presence from vocal environmental professionals and their activities.
 - **Dominica** has thought militancy, forced environmental issues into national debate, strongly visible NGO- and government-activities being positioned into political agenda.
 - **St. Lucia** has had several resident environmental agencies e.g. Caribbean Environmental Health Institute, Caribbean Natural Resource Institute, St. Lucia National Trust, and the Organisation of Eastern Caribbean States' Environment and Sustainable Development Unit.

- *St. Lucia* had a much listened to radio programme presented in story/drama form, that addressed e.g. environmental conflicts and their solutions.
 - *St. Lucia* had the origin (or originator) of a highly successful regional campaign that fused environment issues and commercial marketing approaches (a.k.a. social marketing), a campaign also implemented in other countries in the region. This campaign ran for approximately one (1) year, used **multiple media** approaches (in addition to mass media) and focussed on animals endemic to the respective countries in which it was implemented.
 - *Dominica* has and has had, a history of utilizing inclusive, community-based, participatory approaches to governance and problem solving -- evidenced at a minimum via their Village Councils. *St. Lucia* has also used similar approaches e.g. to their development of community/heritage tourism.
- Resources: Both *St. Lucia* and *Dominica* have well-known **natural** resources amongst their offerings, even extending to assignment of World Heritage Site status.
 - *Dominica* with “Nature Island”, and *St. Lucia* with “*Simply Beautiful*” designations have likely almost inculcated increased appreciation for natural resources amongst their peoples. One example would be the fact that “nature” exists almost as *Dominica’s* main marketable resource. Another example relates to heightened public sentiment regarding hotel construction and cable car development plans for *St. Lucia* during the late 1990’s. Public outcry resulted in cessation.
 - Over time, increasingly limited resources have been afforded the region’s environmental initiatives and activities from international funding agencies. Almost simultaneously has been a decreased vibrancy from NGOs. These events have forced shifts to other funding sources and/or approaches. With relatively more developed sites and/or site management plans, both countries have been able to engage more sustainable approaches to managing their own resources e.g. recognizing links between and relative importance of livelihood potential/income generation and resources. Other countries seem less clear about the potential associations.

6. RECOMMENDATIONS:

Sociocultural context, history, and population cries will have to drive the information, education and communication directions that respond to this survey’s findings. There now exists more than sufficient data to drive those initiatives (See also Appendix 45). The further imperative however, seems contextualizing the importance of a strategic, differentiated approach to such information dissemination. The sole use of a mass-media approach for conveying messages and providing information seems inappropriate within a context of limiting literacy, differing educational standards and levels of attainment, and the added presence of French Creole in the region: IEC needs to “speak the language” of intended audiences. **All audiences are not the same.**

1. There is need to answer a certain question in order to approach the current response: **what has worked over time?** The approach will require *inter alia*,
 - a. Multiple actors in Government and private sectors, NGOs, and community groups
 - b. Frequent contact with targetted audiences, and over extended periods
 - c. Use of different media and modes of contact with such audiences.
 - d. Relating Protected Areas issues to local issues, showing real benefits to communities and individuals. *To succeed, Protected Areas should be able to demonstrate tangible benefits to surrounding communities, as well as more distant ones.*
 - e. Significant financial resources, requiring increased involvement of the private sector. *Even if significant funds cannot be found then the message needs to be delivered at a low level over a long period.*
 - f. Need to involve more of a marketing philosophy to “sell” the concept of a Protected Area. *While not the scope of this investigation, the frameworks below could represent start-points for requisite Integrated Marketing Communication approaches.*
2. While with regional support and focus, IEC implementation should be targeted at and implemented with the aim of serving local levels e.g. using relevant audience descriptors, channels, media, and placements. The process of crafting messages should be highly focussed and must include relevant technical. Attending to literacy issues (educational /environmental) needs to be of foremost importance: **it would represent the start-point for a new era of appropriate regional environmental communication.** Outline according to which such planning could be developed, are shown in Appendices 46a and 46b.
3. Environment Departments/Agencies and the like need to be differently engaged for their tasks:
 - a. This report should form the basis for further action. It should be essential reading for at least one (1) officer in each relevant Department/Agency charged with responsibility for implementation (final survey questionnaires have been included to assist in this activity: Appendices 47a and 47b).
 - b. The cadre of personnel to be cast into future and/or revisited IEC roles should be specially (re) assigned, trained, and prepared for their role as trainers. Such training would (also) need to include, at least in their basic forms e.g.
 - i. Community participation for action;
 - ii. Community-based resource management;
 - iii. Effective communication in the context of literacy constraints;
 - iv. Strategic communication planning
4. Community-based groups (geographic and/or social) should (eventually) form the bases for information dissemination on environmental issues.

5. It seems critical that local media buy-in, possibly through government support. The requisite demands for sustained implementation could make many other options prohibitively expensive. However, private sector support also increasingly needs to be sought. It appears they might have been insufficiently challenged to date, in adopting greater roles for environmental management support.
6. There seems more than enough content and/or substance in the region to develop a series of television features/documentaries made available on DVDs with relevant content that is simple yet containing high message appeal and high visual impact, that speak in a potent way to virtually all intended primary audiences. The challenge for such development includes being able to cut through TV clutter.

Matters to consider during the development of the TV series include:

- a. Testimonials help to bring messages home via identifiable messengers.
 - b. In addition to local and regional televised airing (CaribVision also being an alternative), there exist options for community-, school-, and church-based viewing. These small media viewings may provide the possibility for continuing discussion on the subject via competitive activity – likely amongst school populations.
 - c. The same content could be made available via a relevant website.
7. Given the success of a serialized radio offering in the past, there might be opportunity for it to do so again. For this and more, further details regarding listenership/viewership **preferences** might be required.
 8. Materials' development needs to be accompanied by materials' testing for success – especially given the multiple nuances herein identified: there is sufficient information to show failures from inadequately developed and/or implemented campaigns.

APPENDICES

Appendix 1a. Scope of Services

The Consultant will be required to collaborate fully with ESDU to ensure that the services to be performed under the Terms of Reference are accomplished. The specific services to be provided by the Consultant are as follows:

1. Identification and selection of enumerators;
2. Organisation of training workshop for enumerators;
3. Preparation of work plan for enumerators;
4. Production of required copies of the survey instrument (template provided by the ESDU) to all enumerators;
5. Oversee execution of survey and collection of all completed surveys;
6. Conduct an analysis of findings; and
7. Preparation and submission of report based on findings. (The Consultant will present a preliminary report to ESDU of the survey findings for consideration and discussion, before finalization).

Task Methodology

The following tasks will be undertaken to achieve the objectives of this assignment:

Task 1: Development of work plan

The Consultant will present a proposed plan of work detailing how the consultancy will be executed. This proposal will be reviewed by and discussed with the staff of the ESDU and revised as appropriate. The revised work plan will guide the subsequent activities of the Consultant in relation to the other tasks.

Task 2: Carry out national (country-specific) environmental awareness surveys in six OECS Member States

The contractor will coordinate and administer country-specific environmental awareness surveys to acquire background data and information on public knowledge, attitudes and practices related to environmental management in general and protected areas establishment and management in particular. The instrument to facilitate data collection and interview process will be provided by the ESDU.

To facilitate this assessment the Consultant will be required to:

- (i) Notwithstanding Clause 1.4 of the Contract, secure the services of enumerators in each Participating Member State to carry out interviews and collect data as described under "Scope of Services" below;
- (ii) Train enumerators in the administering of the survey instrument;
- (iii) Coordinate and manage sampling by enumerators according to the sampling plan below:
 - (a) Cluster sample the local population as follows:
 - Wide in-country geographical distribution
 - All age ranges attempting to capture at least 30 persons from each age four age ranges for each gender
 - Gender in proportions mirroring the population ratio
 - Randomly across as broad an educational distribution as possible
 - Randomly across as broad an economic distribution as possible
 - A total of 250 respondents
 - (b) Ensure that enumerators follow the instructions of the survey and deliver according to specific detailed in the instrument. These specifics relate to:
 - Demographics
 - Knowledge about Environmental Issues/Concerns
 - Attitudes about the Environment and Protected Areas
 - Behaviour/Practice in relation to the Environment and PAs
 - Information/Media Sources on Environmental Awareness
 - Environmental Agencies/Departments

Task 3: Analyse the data collected

Statistically analyse the data collected in *Task 2* above to determine the quantity and significance of responses to each question and the significance of any interactions between clusters. The Consultant will also submit a report of this analysis to ESDU.

Task 4: Consultancy report

The Consultant will complete a consultancy report describing the methodologies utilized for the tasks above, problems encountered, activities and observations related to *Task 2*, and results of the analyses carried out in *Task 3*.

Outputs

The following outputs will be produced:

A plan of work containing timing for completion of foreseen tasks, to be submitted to the OECS for discussion and finalization;

- A report summarizing the activities carried out for *Task 2*.
- A report detailing the analyses carried out in *Task 3* above.

- A report detailing the findings of the survey based on data collection.
- A consultancy report as outlined in *Task 4* above.

Appendix 1b. Survey, Instrument & Sampling Design:

The Survey Questionnaire: The base survey questionnaire provided by the OECS Secretariat was developed through three (3) iterations via pretests that included managed, observed interviews (*cognitive interviewing*). A total of 11 such interviews were conducted in urban and rural locations of **St. Lucia** (N=8) and **Antigua** (N=3). **Antigua** was selected to replace **Dominica**, as a pretest site, as a result of Dominica's onerous protocol procedures, which was hampering the commencement of the assignment.

Changes were made to the questionnaire towards achieving improved administration (*final versions earlier submitted*). These were as follows:

- (i) **Content:** certain sections were included, while others were excluded;
- (ii) **Wording:** less complex technical terms and descriptors were used in some instances to facilitate greater comprehension, a decision that considered limiting literacy. This approach was eventually curtailed to accommodate responses of "*do not know*" as valid data;
- (iii) **Layout:** certain adjustments were made to improve field management. A late decision was also made to divide the single original questionnaire into two (2) separate ones: (i) **Household**, and (ii) **Departmental**, key questions from the former being included in the latter. This questionnaire mainly focussed on communication-related activities and adjudged effectiveness.

Questionnaires were printed and produced in **St. Lucia** in batches as required, for further onward distribution to the other countries.

Sampling design and procedures: Nationally representative Household samples were selected via four (4) stages: (i) obtaining descriptions (i.e. Enumeration Districts (EDs)) per country; (ii) identifying a single regional sampling approach; (iii) selecting samples based on above; and (iv) preparing maps and boundaries for field use. Completion of sample design, interviewer training and fieldwork implementation were highly dependent on receipt of required information from the Statistics Offices.

The EDs were stratified (parish), a random start point assigned, and further selections made from population generated intervals, but taking into account requisite number of country interviews (N=225). Final EDs were clustered (approx. three (3) each), allowing for parish spread, and proportionality-to-population-size. Target households were selected from random start within EDs, target respondents being selected on a *last birthday* basis – a procedure that overall resulted in unanticipated restrictions (Box 1). At household level, one member was selected and screened for eligibility. Only one (1) callback was instituted, after which any failures to locate the target respondent resulted in replacement (*within-household, according to next-birthday; or next household, in any event of vacant/ineligibility/refusals*).

The Departmental sample was identified from snowballing/convenience methods, a local entity listing created to reflect environmental involvement.

Identification and recruitment of field personnel: Survey field personnel were recruited via networking and print advertising, to complement existing cadre. Current interviewers (*as below*) comprise a range based on e.g. age, income level, and experience. In respect of the latter, some were highly experienced survey interviewers regularly engaged in survey interviewing, while others although relatively new to such activities, had other suitable skills or experiences. Field supervisors (one per country) were selected as being highly skilled in their own areas of endeavour (e.g. *agriculture, business, communication, environment*), with or without field/project management experience. References were checked before engagement.

	N Int's.
Antigua & Barbuda	9
Dominica	9
Grenada	8
St. Kitts & Nevis	7
St. Lucia	8
St. Vincent & The Grenadines	7
TOTAL:	48

Survey Interviewer Training: Field training was based on scheduled implementation, the first half-day of each countries' activities comprising preparatory training and field activities with supervisors. This was followed by one-and-a-half (1½)-day sessions with interviewers (Table 1). Training comprised:

1. Introduction to study:
 - About OPAAL, Project, Assignment; Objectives-linked questionnaire
2. Basic survey research principles and processes
 - Survey management framework; Questionnaire design; Role of design in errors; Interviewer types, approaches & potential for interviewer errors
3. Survey interviewers' roles and responsibilities:
 - Identifying households & respondents; Determining eligibility; Gaining cooperation & related factors; Asking questions; Recording answers; Editing
4. Areas for special consideration:
 - Creole; Culture; Desire to please; Dress; Expert status; Habituation; Introduction; Literacy; Missing data; Mobile phones; Privacy & Confidentiality; Regional study
5. Detailed review of and practice with survey instrument and process:
 - Observed mock-interviews; Practice sessions among dyads
 - Group discussions based on both above
6. Administration matters:
 - Use of ED maps and boundaries; ED assignments; Team-based fieldwork
 - Supervisor roles & contacts; Timelines
 - Letters of introduction (as ID's for field-use); Personnel contracts; Payments

Survey implementation: The overall workplan for the assignment was earlier agreed, with subsequent revisions based on experiences to date. Implementation plans remained intact, except for requested adjustment to deliverable date for field report.

The general scope of work according to which interviewers and supervisors would work, was contained in individual contracts, which spoke to *inter alia*, number of interviews to be conducted; time period for the assignment of approximately two (2) weeks; making progress reports; submission of completed questionnaires; and expected payment dates. It also contained a confidentiality agreement, and details regarding nature of the association with the company.

Field data collection work plans and schedules for each country were agreed in a highly participatory session between supervisors and their interviewers (trainer mostly uninvolved) immediately on completion of the more formal training, i.e.

Household Survey:

- (i) Main data collection times were agreed to be mainly during the evenings and on weekends. It would sometimes be possible to conduct daytime interviews for areas with high levels of unemployment.
- (ii) Interviewers were assigned to EDs/geographical areas based on areas of residence, travel costs, and best households interview times.
- (iii) Difficult-access areas were managed by using small teams to conduct interviews at the most appropriate times for the area.
- (iv) It was agreed that any further input related to mapping and boundaries would be channeled centrally via the supervisor to CMC (*C'bean*) offices, the latter making relevant requests of the Statistics Offices.

Departmental Survey:

- (i) Department lists were created and targeted for interviews.
- (ii) It was decided to schedule appointments wherever possible.

General:

- (i) Arrangements were made regarding interviewers' activity scheduling and protocol for reporting to the supervisors;
- (ii) Activity scheduling included agreement on completion and delivery dates.

Data collection and supervision: Data collection largely proceeded well, completion influenced by commencement date. Data collection experiences included:

Household:

- (i) Relatively good response being given by targetted respondents, indicating at least moderate interest in subject matter.
- (ii) The process engendering deep thought and contemplation amongst some respondents to the extents of: not wanting to be disturbed while being interviewed (e.g. by other household members), and asking that the interviewer allow sufficient time for them to think through responses without being rushed (supporting concepts of "testing" and increasing administration time). *One interviewer said it was as if respondents felt important being asked.*
- (iii) "Reasonable" responses being obtained from more educated and/or younger respondents, but French Creole speakers presenting challenges in *St. Lucia*, and lower literacy respondents presenting difficult interviews overall.
- (iv) The concept of "protected areas" being a huge problem and hardly understood; definitions extending to e.g. security issues.
- (v) Respondents wanting "action" in respect of public dissemination and availability of key study findings and/or relevant content.
- (vi) Difficulties in finding last-birthday respondents; occasionally increasing callbacks per household (rural respondents were more likely to be at home)
- (vii) Lengthy administration times resulting in several objections.
- (viii) Difficulties managing large intervals between households within-EDs
- (ix) Needing to replace a few EDs due to very low household counts (*it was once queried whether banana sheds had been counted as houses; another noted the ED area to be primarily forested*)
- (x) A few area residents concerned about specific questions: length of residency, religion.

Departmental:

- (xi) Wanting additional Departments to be listed/targetted for interview
- (xii) Difficulties finding/meeting appropriate Departmental respondents
- (xiii) Queries regarding adequacy of public advice re survey (for awareness)

General:

- (xiv) Fieldwork being restricted by inclement weather
- (xv) The decision not to interview on W.I. cricket days being restrictive

Field activity monitoring: Country-monitoring visits took place approximately halfway through data collection for most countries (except an earlier than planned visit to St. Vincent due to problems experienced). Visits comprised *inter alia*

- (i) Personnel debriefings regarding process and experiences;
- (ii) Observed interviews;
- (iii) Review /collection of completed questionnaires; and
- (iv) Problem identification & resolutions.

During these activities a few areas of the questionnaire were flagged for future attention e.g. at data analyses and interpretation, sometimes supporting questions raised during the training sessions.

Data management: Data management activities have commenced, these comprising: *collation*, further *editing*, *coding*, and *data entry*. Input preparation activities to be used for data entry and analyses are now being developed using the Statistical Package for the Social Sciences (SPSS).

Appendix 2a. Reading ability: by age and country

	TOTAL	Anu	Dom	Gre	SKN	SLU	SVG
Age:							
15 to 24 y							
Not at all	7.1	3.6	--	9.2	3.8	11.3	11.1
Quite well	31.7	36.4	29.3	20.0	32.7	33.8	38.9
Very well	61.2	60.0	70.7	70.8	63.5	54.9	50.0
25 to 34 y							
Not at all	8.0	6.4	8.2	3.7	6.0	5.5	17.2
Quite well	26.8	23.4	20.4	25.9	40.0	20.0	31.0
Very well	65.2	70.2	71.4	70.4	54.0	74.5	51.7
35 to 44 y							
Not at all	14.8	8.9	14.0	4.8	11.7	22.5	28.3
Quite well	35.3	35.6	26.0	33.3	38.3	32.5	45.7
Very well	49.8	55.6	60.0	61.9	50.0	45.0	26.1
45 + y							
Not at all	30.8	16.9	42.7	37.5	25.9	29.8	27.3
Quite well	36.3	54.2	31.7	35.9	29.3	31.6	36.4
Very well	32.9	28.8	25.6	26.6	44.8	38.6	36.4

Appendix 2b. Reading ability: by educational attainment and country

	TOTAL	Anu	Dom	Gre	SKN	SLU	SVG
Not at all							
No formal	19.1	31.6	10.9	37.1	7.7	16.2	17.0
Primary	61.2	52.6	89.1	51.4	19.2	59.5	68.1
Secondary	14.1	15.8	--	2.9	61.5	16.2	8.5
Skills/Vocational	3.8	--	--	8.6	7.7	2.7	4.3
College	1.0	--	--	--	--	2.7	2.1
University	0.5	--	--	--	--	2.7	--
Quite well							
No formal	1.2	--	1.6	1.6	--	3.0	1.2
Primary	36.7	30.4	63.9	44.4	6.5	36.4	45.2
Secondary	42.3	38.0	21.3	38.1	64.9	50.0	38.1
Skills/Vocational	8.8	12.7	4.9	7.9	11.7	6.1	8.3
College	7.7	12.7	8.2	6.3	10.4	1.5	6.0
University	2.8	5.1	--	1.6	5.2	3.0	1.2
Postgraduate	0.5	1.3	--	--	1.3	--	--
Very well							
No formal	0.1	0.9	--	--	--	--	--
Primary	13.0	12.0	18.3	16.7	4.3	7.5	20.4
Secondary	42.4	34.3	37.4	43.7	45.7	45.0	48.4
Skills/Vocational	6.8	9.3	5.2	9.5	5.2	6.7	4.3
College	24.1	25.9	27.0	20.6	32.8	25.8	9.7
University	11.7	15.7	11.3	8.7	8.6	12.5	14.0
Postgraduate	1.9	1.9	0.9	0.8	2.6	2.5	3.2

Appendix 3 Church attendance patterns: by denomination and country

	<u>TOTAL</u>	<u>Anu</u>	<u>Dom</u>	<u>Gre</u>	<u>SKN</u>	<u>SLU</u>	<u>SVG</u>
<u>Roman Catholic:</u>							
Not at all	5.7	10.0	0.8	7.5	9.5	9.0	--
Special occasions	33.8	10.0	26.6	48.8	9.5	38.5	16.7
Monthly	16.3	20.0	20.3	5.0	23.8	17.2	33.3
Weekly	41.7	60.0	49.2		52.4	32.8	50.0
Daily	2.5	--	3.1		4.8	2.5	--
<u>Anglican:</u>							
Not at all	10.1	5.9	--	9.7	10.0	10.5	16.7
Special occasions	30.7	25.5	--	38.7	20.0	36.8	44.4
Monthly	15.9	15.7	--	9.7	22.0	21.1	11.1
Weekly	41.8	52.9	50.0		48.0	31.6	25.0
Daily	1.6	--	50.0		--	--	2.8
<u>Pentecostal:</u>							
Not at all	4.9	8.0	--	12.5	2.4	--	2.2
Special occasions	19.8	24.0	16.7	22.5	14.3	17.6	21.7
Monthly	11.0	28.0	--	2.5	11.9	11.8	10.9
Weekly	59.9	40.0	75.0		66.7	70.6	58.7
Daily	4.4	--	8.3		4.8	--	6.5
<u>Seventh Day:</u>							
Not at all	11.5	--	7.7	8.1	--	10.5	27.3
Special occasions	21.5	10.5	23.1	27.0	33.3	15.8	21.2
Monthly	11.5	15.8	23.1	5.4	--	15.8	12.1
Weekly	50.0	73.7	38.5		66.7	57.9	24.2
Daily	5.4	--	7.7		--	--	15.2
<u>Methodist:</u>							
Not at all	10.6	--	12.5	--	10.7	--	21.2
Special occasions	22.1	28.0	37.5	33.3	21.4	--	18.2
Monthly	21.2	24.0	25.0	33.3	28.6	14.3	12.1
Weekly	43.3	48.0	25.0		39.3	85.7	39.4
Daily	2.9	--	--		--	--	9.1
<u>No church/religion</u>							
Not at all	65.3	60.9	72.2	100.0	75.0	56.3	56.5
Special occasions	30.6	34.8	22.2	--	16.7	43.8	39.1
Monthly	2.0	--	5.6	--	8.3	--	--
Weekly	1.0	4.3	--		--	--	--
Daily	1.0	--	--		--	--	4.3
<u>Baptist:</u>							
Not at all	3.9	8.3	5.9	--	--	--	5.6
Special occasions	22.4	33.3	--	42.9	25.0	--	27.8
Monthly	18.4	16.7	--	14.3	35.0	--	22.2
Weekly	51.3	41.7	82.4		35.0	100.0	44.4
Daily	3.9	--	11.8		5.0	--	--
<u>Church of God:</u>							
Not at all	--	--	--	--	--	--	--
Special occasions	21.6	50.0	66.7	12.5	16.7	12.5	8.3
Monthly	17.6	12.5	33.3	12.5	33.3	12.5	8.3
Weekly	54.9	25.0	--		50.0	50.0	83.3
Daily	5.9	12.5	--		--	25.0	--
<u>Rastafarian:</u>							
Not at all	68.6	66.7	75.0	50.0	87.5	75.0	40.0
Special occasions	20.0	16.7	25.0	50.0	12.5	25.0	--
Monthly	5.7	16.7	--	--	--	--	40.0
Weekly	5.7	--	--		--	--	20.0
Daily	--				--		--
<u>Other:</u>							
Not at all	8.0	3.4	5.9	--	14.3	28.6	7.7
Special occasions	14.0	24.1	17.6	15.4	4.8	--	7.7
Monthly	12.0	17.2	5.9	--	19.0	--	15.4
Weekly	59.0	55.2	64.7		61.9	57.1	38.5
Daily	7.0	--	5.9		--	14.3	30.8

Appendix _4. Relationship between newspaper consumption and other key variables: by country

		<u>TOTAL</u>	<u>Anu</u>	<u>Dom</u>	<u>Gre</u>	<u>SKN</u>	<u>SLU</u>	<u>SVG</u>
<u>Read newspapers:</u>								
$\chi^2=348.10$; $df=20,1$; $p\leq 0.001$								
<i>Days generally</i>	0	26.4	13.0	40.3	22.8	28.5	32.7	20.5
	1	34.7	9.7	41.2	40.8	44.8	29.1	41.1
	2-3	21.8	20.8	14.9	24.1	17.2	23.8	29.9
	4-6	6.2	20.3	0.9	1.8	3.6	7.2	4.5
	Daily	10.8	36.2	2.7	10.5	5.9	7.2	4.0
<i>During last wk</i>	<u>Mean # times</u>	<u>1.67</u>	<u>3.39</u>	<u>0.84</u>	<u>1.43</u>	<u>1.36</u>	<u>1.61</u>	<u>1.59</u>
F=45.011; $p\leq 0.001$	SD	1.92	2.25	1.30	1.60	1.83	1.88	1.70
	N	1230	181	198	221	195	215	220
<i>Age</i>	15-24y	1.55	3.52	0.67	1.40	0.73	1.37	1.58
	25-34y	1.77	3.31	1.20	1.67	1.35	2.02	1.35
	35-44y	2.00	3.89	1.05	1.77	1.78	1.97	1.77
	45+y	1.47	3.00	0.58	1.02	1.57	1.27	1.67
<i>Education</i>	No formal	1.28	2.57	0.20	0.21	0.00	0.63	0.33
	Primary	1.20	2.59	0.51	1.20	0.38	0.88	1.51
	Secondary	1.77	3.85	1.02	1.68	1.29	1.44	1.70
	Skills/Vocational	1.70	3.37	0.88	0.83	1.00	1.62	2.00
	College	2.08	3.54	1.29	2.20	1.70	2.09	1.73
	University	2.64	3.72	1.09	1.58	2.23	4.06	1.85
	Postgraduate	1.92	3.00	7.00	1.00	0.67	2.00	1.00
<i>Income</i>	None	1.33	4.07	0.71	1.26	0.59	0.74	1.67
	<\$1,000	1.16	2.35	0.56	1.21	1.07	1.03	1.53
	\$1,000-2,000	1.76	3.07	1.18	1.65	1.25	1.85	1.56
	\$2,001-5,000	2.30	3.74	1.57	1.78	1.80	2.59	1.71
	\$5,000-10,000	3.33	4.17	1.00	1.00	4.00	3.83	1.50
	Over \$10,000	2.60	0.00	1.00	0.00	--	7.00	5.00
	No response	1.96	4.56	0.67	1.27	2.00	1.52	0.50

Appendix 5. Radio listenership, and relationship with other key variables including country

		<u>TOTAL</u>	<u>Anu</u>	<u>Dom</u>	<u>Gre</u>	<u>SKN</u>	<u>SLU</u>	<u>SVG</u>
Listen to radio:								
$\chi^2=38.55$; $df=20,1$; $p \leq 0.01$								
<i>Generally</i>	0	7.7	4.4	10.4	5.7	11.2	8.6	5.8
	1	4.2	1.5	4.5	3.5	4.9	5.0	5.8
	2-3	10.7	7.3	10.0	12.3	10.8	7.7	16.0
	4-6	7.5	7.8	4.5	11.0	5.8	8.6	7.1
	Daily	69.8	79.0	70.6	67.5	67.3	70.0	65.3
<i>During last wk</i>	<u>Mean # times</u>	<u>5.08</u>	<u>5.22</u>	<u>4.98</u>	<u>5.24</u>	<u>5.15</u>	<u>4.81</u>	<u>5.08</u>
F=0.797; n.s.	SD	2.62	2.32	2.87	2.57	2.78	2.69	2.49
	N	1219	180	196	220	193	215	215
<i>Sex</i>	Male	5.04	5.00	4.98	5.07	5.12	4.83	5.23
	Female	5.09	5.35	4.98	5.35	5.14	4.75	4.96
<i>Age</i>	15-24y	4.28	4.63	3.76	4.57	3.30	4.26	4.83
	25-34y	5.07	5.11	4.48	5.53	5.08	5.06	5.11
	35-44y	5.57	5.76	5.70	5.89	5.83	4.93	5.21
	45+y	5.43	5.40	5.50	5.20	6.11	5.23	5.19
<i>Education</i>	No formal	5.45	4.00	4.40	5.85	7.00	7.00	4.89
	Primary	5.28	5.79	5.42	4.83	5.17	4.89	5.49
	Secondary	4.92	5.16	4.65	5.22	4.91	4.46	5.14
	Skills/Vocational	5.29	5.26	4.75	5.89	5.87	4.92	4.42
	College	4.78	4.86	4.71	4.87	4.79	4.84	4.38
	University	5.19	4.83	3.82	6.83	6.50	5.35	3.69
	Postgraduate	5.25	7.00	7.00	7.00	4.67	5.33	4.00
	Other	7.00				7.00		
<i>Income</i>	None	4.72	5.71	4.24	4.95	4.05	4.74	4.79
	<\$1,000	5.02	4.52	5.30	4.73	5.07	4.57	5.48
	\$1,000-2,000	5.15	5.08	4.68	5.70	5.20	5.05	5.15
	\$2,001-5,000	5.25	5.31	5.30	6.03	5.47	4.69	4.67
	\$5,000-10,000	5.43	4.33	7.00	7.00	7.00	5.00	2.00
	Over \$10,000	4.20	0.00	7.00	5.00	--	7.00	2.00
	No response	5.01	6.00	4.17	5.36	4.67	4.95	3.50

Appendix 6. Television viewing, and relationship with other key variables including country

		<u>TOTAL</u>	<u>Anu</u>	<u>Dom</u>	<u>Gre</u>	<u>SKN</u>	<u>SLU</u>	<u>SVG</u>
Watch television:								
$\chi^2=74.86$; $df=20,1$; $p \leq 0.001$								
<i>Generally</i>	0	7.7	6.3	14.9	7.5	6.8	2.7	8.1
	1	2.6	1.5	5.0	1.8	2.7	--	4.5
	2-3	9.0	6.3	7.7	9.3	6.4	7.7	16.6
	4-6	10.1	10.7	8.6	15.0	6.8	9.5	9.9
	Daily	70.5	75.2	63.8	66.4	77.2	80.2	61.0
<i>During last wk</i>	<u>Mean # times</u>	<u>5.32</u>	<u>5.15</u>	<u>4.69</u>	<u>5.50</u>	<u>5.95</u>	<u>5.61</u>	<u>5.03</u>
$F=6.27$; $p \leq 0.001$	SD	2.54	2.40	3.04	2.41	2.29	2.25	2.60
	N	1194	175	195	215	186	212	211
<i>Sex</i>	Male	5.11	4.82	4.33	5.53	5.60	5.18	5.12
	Female	5.47	5.34	4.96	5.46	6.24	5.88	4.96
<i>Age</i>	15-24y	5.33	5.15	5.14	5.42	6.02	5.19	5.13
	25-34y	5.73	5.50	5.20	5.98	6.28	6.08	5.41
	35-44y	5.21	4.85	4.04	5.67	5.72	6.10	4.86
	45+y	5.07	5.13	4.53	5.08	5.85	5.33	4.69
<i>Education</i>	No formal	4.05	3.33	5.17	3.36	3.50	6.00	3.44
	Primary	4.88	5.25	4.12	5.61	6.00	5.21	4.63
	Secondary	5.52	5.39	5.15	5.58	5.83	5.54	5.41
	Skills/Vocational	5.20	5.16	5.22	5.40	5.07	5.15	5.15
	College	5.74	5.07	5.40	5.93	6.27	5.94	5.23
	University	5.88	4.94	4.45	6.00	6.69	6.63	6.46
	Postgraduate	5.18	3.00	7.00	3.00	7.00	6.67	3.33
<i>Income</i>	None	5.30	5.07	5.09	5.48	4.58	6.09	5.14
	<\$1,000	4.98	4.50	4.67	4.79	6.23	5.31	4.92
	\$1,000-2,000	5.51	5.43	4.62	5.96	6.03	5.82	4.98
	\$2,001-5,000	5.72	5.43	4.90	6.62	6.18	5.68	5.29
	\$5,000-10,000	4.63	1.83	7.00	4.00	7.00	5.20	5.00
	Over \$10,000	4.00	0.00	7.00	3.00	--	7.00	3.00
	No response	5.29	5.62	3.75	6.20	5.71	5.35	5.25

Appendix 7. Most likely listening / viewing times on **weekdays** (1st reported): by country

WEEKDAYS:		Most Likely Listening/Viewing Times						
		<i>NA/Not at all</i>	<i>12 mid- -6am</i>	<i>6-12 noon</i>	<i>12noon- 6 pm</i>	<i>6pm- 12 mid</i>	<i>All times</i>	<i>Other</i>
a. Radio								
$\chi^2=111.60$; df=30,1; $p \leq 0.001$								
	<i>Antigua</i>	8.3	5.9	35.6	8.3	9.8	13.5	4.0
	<i>Dominica</i>	11.3	12.2	43.2	9.9	8.1	13.5	1.8
	<i>Grenada</i>	7.9	19.8	48.9	4.4	7.0	10.6	1.3
	<i>St. Kitts & Nevis</i>	12.6	6.7	44.4	4.5	12.6	15.2	4.0
	<i>St. Lucia</i>	10.7	12.1	43.8	6.7	8.0	15.6	3.1
	<i>St. Vincent & Grenadines</i>	4.9	7.6	52.0	8.0	9.3	11.6	6.7
b. TV_ local								
$\chi^2=155.10$; df=30,1; $p \leq 0.001$								
	<i>Antigua</i>	24.4	3.3	9.1	10.5	40.2	9.6	2.9
	<i>Dominica</i>	27.0	2.7	8.1	6.8	44.6	6.3	4.5
	<i>Grenada</i>	12.4	5.8	19.9	14.6	38.5	5.8	3.1
	<i>St. Kitts & Nevis</i>	24.8	1.8	4.5	3.2	52.7	5.4	7.7
	<i>St. Lucia</i>	5.8	6.2	18.7	12.4	47.1	7.1	2.7
	<i>St. Vincent & Grenadines</i>	12.9	4.4	11.6	8.0	46.2	4.0	12.9
c. TV_ cable								
	<i>Antigua</i>	26.3	2.4	5.7	14.4	27.8	22.5	1.0
	<i>Dominica</i>	22.1	4.1	9.9	11.3	37.8	11.3	3.6
	<i>Grenada</i>	35.4	5.4	15.2	7.2	20.6	14.8	1.3
	<i>St. Kitts & Nevis</i>	13.6	2.7	9.5	10.9	30.8	29.0	3.6
	<i>St. Lucia</i>	15.2	6.7	19.3	11.2	31.4	11.2	4.9
	<i>St. Vincent & Grenadines</i>	40.4	4.9	7.6	9.8	17.8	14.2	5.3
d. TV_ regional								
(i) Cable Vision								
	<i>Antigua</i>	89.0	--	1.0	0.5	5.3	2.9	1.4
	<i>Dominica</i>	76.5	--	2.3	1.4	13.1	2.7	4.1
	<i>Grenada</i>	78.1	0.9	1.8	2.2	8.3	7.5	1.3
	<i>St. Kitts & Nevis</i>	84.8	0.4	1.8	2.7	4.9	0.9	4.5
	<i>St. Lucia</i>	64.4	0.9	2.2	2.7	7.1	9.3	13.3
	<i>St. Vincent & Grenadines</i>	87.1	1.3	1.3	1.3	5.3	2.2	1.3
(ii) Hype								
	<i>Antigua</i>	92.8	--	--	1.0	3.8	1.9	0.5
	<i>Dominica</i>	92.8	--	--	3.2	1.4	1.8	0.9
	<i>Grenada</i>	98.7	--	--	--	0.4	--	0.9
	<i>St. Kitts & Nevis</i>	88.4	--	1.3	0.9	1.8	2.7	4.9
	<i>St. Lucia</i>	98.7	--	--	--	0.4	--	0.9
	<i>St. Vincent & Grenadines</i>	97.3	0.9	--	0.4	0.9	0.4	--
(ii) Tempo								
	<i>Antigua</i>	66.8	0.5	1.4	1.9	14.4	10.1	4.8
	<i>Dominica</i>	97.7	--	--	0.5	0.5	0.5	0.9
	<i>Grenada</i>	79.8	--	1.8	6.1	7.5	2.6	2.2
	<i>St. Kitts & Nevis</i>	67.4	0.4	2.2	3.1	4.9	13.8	8.0
	<i>St. Lucia</i>	58.2	0.4	1.3	3.6	10.7	18.7	7.1
	<i>St. Vincent & Grenadines</i>	94.7	0.4	0.9	--	1.3	1.8	0.9

Appendix 8. Most likely listening / viewing times on **weekends** (1st reported): by country

WEEKENDS:		Most Likely Listening/Viewing Times						
		<u>NA/Not at all</u>	<u>12 mid- -6am</u>	<u>6-12 noon</u>	<u>12noon- 6 pm</u>	<u>6pm- 12 mid</u>	<u>All times</u>	<u>Other</u>
a. Radio								
	<i>Antigua</i>	13.7	4.9	22.5	12.3	8.3	33.8	4.4
	<i>Dominica</i>	34.2	6.8	21.2	10.8	3.2	21.6	2.3
	<i>Grenada</i>	16.0	14.7	34.7	5.8	8.4	17.3	3.1
	<i>St. Kitts & Nevis</i>	22.5	6.3	27.9	8.6	10.4	19.4	5.0
	<i>St. Lucia</i>	19.3	8.5	39.0	11.7	5.4	10.3	5.8
	<i>St. Vincent & Grenadines</i>	16.0	4.0	34.2	16.0	6.2	14.2	9.3
b. TV_ local								
	<i>Antigua</i>	34.3	1.4	11.6	7.2	27.5	15.9	1.9
	<i>Dominica</i>	42.3	3.6	8.6	8.1	20.7	10.4	6.3
	<i>Grenada</i>	25.8	4.9	20.0	15.1	20.0	10.7	3.6
	<i>St. Kitts & Nevis</i>	38.0	2.3	3.2	3.2	38.9	8.6	5.9
	<i>St. Lucia</i>	15.6	3.6	22.2	14.2	24.9	16.0	3.6
	<i>St. Vincent & Grenadines</i>	27.1	7.1	14.7	7.1	27.6	6.7	9.8
c. TV_ cable								
	<i>Antigua</i>	30.6	1.9	6.7	9.6	17.7	32.1	1.4
	<i>Dominica</i>	26.6	3.6	8.1	14.0	26.1	17.6	4.1
	<i>Grenada</i>	37.2	3.1	12.6	9.0	13.9	22.9	1.3
	<i>St. Kitts & Nevis</i>	15.5	2.3	8.6	8.2	18.2	42.3	5.0
	<i>St. Lucia</i>	17.5	2.2	22.0	12.1	21.5	18.4	6.3
	<i>St. Vincent & Grenadines</i>	40.9	2.2	7.6	5.8	14.7	18.7	10.2

Appendix 9. Media sources from which environmental information obtained: by country

RANKED MEDIA SOURCES	TOTAL	Anu	Dom	Gre	SKN	SLU	SVG
1. Radio:	<u>79.9</u>	<u>84.5</u>	<u>82.0</u>	<u>88.6</u>	<u>75.4</u>	<u>69.3</u>	<u>80.0</u>
NA/ DK	20.1	15.6	18.0	11.0	24.6	30.9	20.0
Never	0.4		0.5	1.3			0.4
Rarely	13.8	14.6	12.6	20.7	17.0	8.5	9.3
Sometimes	43.4	54.6	52.3	43.2	45.5	27.8	38.2
Regularly	22.3	15.1	16.7	23.8	12.9	32.7	32.0
2. Television: local channel(s)	<u>72.9</u>	<u>73.4</u>	<u>64.3</u>	<u>76.0</u>	<u>63.4</u>	<u>86.7</u>	<u>73.2</u>
NA/ DK	27.0	25.6	35.6	23.8	36.3	13.8	26.9
Never	1.3	2.4	0.9	1.3	0.9	0.5	1.8
Rarely	13.7	15.0	10.8	17.2	21.1	9.6	8.5
Sometimes	37.7	39.1	43.2	37.9	35.4	33.5	37.2
Regularly	20.2	17.9	9.5	19.8	6.3	42.7	25.6
3. Newspapers:	<u>62.8</u>	<u>73.6</u>	<u>47.7</u>	<u>69.0</u>	<u>60.1</u>	<u>60.4</u>	<u>66.2</u>
NA/ DK	37.0	26.7	51.8	30.1	39.3	39.6	33.9
Never	1.3	1.0	1.4	2.6	1.3	0.9	0.4
Rarely	16.3	18.4	11.7	21.8	21.4	11.1	13.4
Sometimes	34.8	41.7	32.0	36.2	33.0	32.4	33.9
Regularly	10.6	12.1	3.2	9.2	4.9	16.0	18.3
4. Television: cable channel(s)	<u>60.5</u>	<u>55.8</u>	<u>65.3</u>	<u>61.1</u>	<u>66.1</u>	<u>67.1</u>	<u>47.1</u>
NA/ DK	39.5	43.8	34.7	38.3	33.8	33.2	53.4
Never	1.4	1.9	0.9	1.8	0.9	1.3	1.3
Rarely	8.1	8.2	9.9	9.7	13.1	4.5	3.1
Sometimes	29.3	19.2	41.4	28.2	36.0	25.1	25.1
Regularly	21.8	26.9	13.1	22.0	16.2	35.9	17.0
5. Books/magazines:	<u>45.6</u>	<u>47.1</u>	<u>31.5</u>	<u>56.8</u>	<u>48.7</u>	<u>49.8</u>	<u>39.6</u>
NA/ DK	53.7	51.7	68.0	42.4	50.9	49.3	60.3
Never	2.3	2.4	1.8	2.6	3.1	3.1	0.4
Rarely	14.1	13.5	12.2	23.6	13.4	12.1	9.4
Sometimes	23.5	24.2	14.0	23.6	27.7	25.1	26.3
Regularly	6.5	8.2	4.1	7.9	4.9	10.3	3.6
6. Other	<u>18.8</u>	<u>25.0</u>	<u>9.0</u>	<u>11.4</u>	<u>17.9</u>	<u>29.3</u>	<u>20.4</u>
NA/ DK	81.5	75.5	91.0	88.6	83.2	70.7	79.6
Never	0.1					0.4	
Rarely	2.6	3.4	0.5	3.1	1.4	5.3	1.8
Sometimes	8.1	9.6	5.9	4.8	8.2	10.2	9.8
Regularly	7.8	11.5	2.7	3.5	7.3	13.3	8.9

Appendix 10. Estimated effectiveness of environmental communication tools: by country

	<u>TOTAL</u>	<u>Anu</u>	<u>Dom</u>	<u>Gre</u>	<u>SKN</u>	<u>SLU</u>	<u>SVG</u>
a. Books/Magazines: $\chi^2=59.23$; df=25,1; $p \leq 0.001$							
None	18.6	15.7	20.6	20.3	18.9	11.6	24.1
Little	26.4	26.5	34.4	22.9	23.9	25.3	25.4
Average	27.7	34.8	17.4	26.0	32.9	28.9	26.8
High	19.4	16.2	17.0	22.0	16.2	25.8	18.8
Very high	7.1	6.9	7.8	7.9	7.7	8.4	4.0
b. Drama / Theatre: $\chi^2=48.87$; df=25,1; $p \leq 0.01$							
None	19.0	15.5	23.6	18.9	21.6	16.1	17.8
Little	25.8	23.3	23.6	34.8	23.4	22.3	26.7
Average	27.6	26.7	25.5	22.9	29.7	30.8	29.8
High	19.3	23.3	16.8	17.6	18.9	22.8	16.9
Very high	7.3	10.7	6.8	5.7	5.4	8.0	7.6
c. Exhibitions: $\chi^2=78.61$; df=25,1; $p \leq 0.001$							
None	14.9	9.3	19.2	18.5	15.8	10.2	16.0
Little	20.7	15.2	21.5	26.9	22.6	20.4	16.9
Average	25.7	26.5	26.0	23.3	27.1	24.0	27.1
High	26.6	31.9	21.0	24.2	28.1	28.4	26.7
Very high	11.3	17.2	8.7	6.6	6.3	16.9	12.4
d. Internet: $\chi^2=123.52$; df=25,1; $p \leq 0.001$							
None	26.1	17.2	23.3	25.8	32.1	23.8	34.1
Little	11.0	10.3	16.4	9.8	8.6	15.2	5.6
Average	19.7	18.2	20.1	19.6	22.2	17.9	20.1
High	22.4	29.6	20.1	29.3	16.7	23.8	15.0
Very high	17.5	24.1	13.2	14.7	19.9	18.8	15.0
e. Newspapers: $\chi^2=80.75$; df=25,1; $p \leq 0.001$							
None	10.8	5.8	15.9	7.9	9.9	14.2	11.1
Little	19.9	13.5	25.0	21.5	24.3	15.6	19.1
Average	33.9	38.9	28.6	34.2	42.3	27.1	32.4
High	26.7	29.8	21.8	30.7	18.9	32.4	26.7
Very high	7.9	12.0	5.9	5.3	4.5	10.7	9.3
f. Radio: $\chi^2=53.61$; df=25,1; $p \leq 0.01$							
None	3.2	2.9	4.1	3.1	3.6	1.8	4.0
Little	12.1	11.6	9.0	11.8	13.1	12.1	14.7
Average	33.5	34.8	26.2	35.1	44.8	31.3	29.0
High	36.7	36.7	43.9	37.7	33.0	37.5	31.3
Very high	13.8	13.5	14.9	11.8	5.0	17.4	20.1
g. Television: $\chi^2=49.81$; df=25,1; $p \leq 0.01$							
None	4.1	5.3	5.9	3.1	4.1	2.2	4.0
Little	7.8	8.3	6.4	10.1	8.3	4.9	8.9
Average	24.5	25.7	21.0	24.6	29.8	20.5	25.8
High	40.0	41.3	44.3	39.5	39.4	41.1	34.7
Very high	23.1	19.4	20.1	22.8	18.3	31.3	26.2
h. Workshops/seminars: $\chi^2=84.34$; df=25,1; $p \leq 0.001$							
None	14.2	13.4	15.4	10.7	8.6	18.8	18.3
Little	13.8	12.9	9.8	18.8	10.0	14.7	16.1
Average	24.9	23.3	18.2	32.6	23.6	25.0	26.3
High	27.9	29.7	30.8	29.9	33.6	21.9	21.9
Very high	18.2	20.8	22.4	7.1	24.1	19.6	15.6

*: Responses do not always sum to 100.0, since "NA/DK/Not sure" excluded from table; significance reports include all responses

Appendix 11. Estimated effectiveness of environmental communication tools: by education

	<u>No formal</u>	<u>Primary</u>	<u>Secondary</u>	<u>Skills/ Vocational</u>	<u>College</u>	<u>University</u>	<u>Post-graduate</u>
a. Television: $\chi^2=45.21$; $df=35,1$; n.s.							
None	8.7	5.4	4.2	2.2	1.5	4.3	--
Little	10.9	8.4	8.6	8.6	4.6	7.6	--
Average	8.7	27.5	26.1	21.5	22.8	20.7	20.0
High	37.0	38.3	37.5	39.8	46.2	43.5	60.0
Very high	34.8	19.1	23.6	26.9	24.9	23.9	20.0
b. Radio: $\chi^2=45.09$; $df=35,1$; n.s.							
None	6.5	3.8	4.0	--	1.0	4.4	--
Little	8.7	12.9	12.3	16.1	10.1	11.0	6.7
Average	13.0	31.7	31.4	38.7	43.9	35.2	40.0
High	43.5	36.0	39.0	26.9	34.3	35.2	40.0
Very high	28.3	14.5	12.7	17.2	10.1	14.3	13.3
c. Workshops/seminars: $\chi^2=122.47$; $df=35,1$; $p \leq 0.001$							
None	34.8	22.4	12.5	5.4	6.2	9.1	--
Little	26.1	15.1	13.9	17.4	9.3	9.1	--
Average	26.1	21.9	26.4	23.9	25.3	30.7	21.4
High	4.3	24.1	29.8	31.5	35.1	23.9	42.9
Very high	8.7	13.8	17.1	20.7	24.2	27.3	35.7
d. Internet: $\chi^2=178.62$; $df=35,1$; $p \leq 0.001$							
None	53.5	40.5	22.9	24.4	11.1	6.5	13.3
Little	16.3	11.3	12.5	8.9	10.1	6.5	--
Average	9.3	15.7	19.3	20.0	26.3	25.0	46.7
High	14.0	14.3	24.1	17.8	29.3	40.2	20.0
Very high	4.7	11.6	18.9	23.3	23.2	20.7	20.0
e. Exhibitions: $\chi^2=93.84$; $df=35,1$; $p \leq 0.001$							
None	32.6	19.7	14.7	8.7	8.1	7.7	6.7
Little	21.7	23.2	21.3	25.0	14.2	17.6	6.7
Average	17.4	24.5	22.9	30.4	33.0	29.7	26.7
High	17.4	19.1	30.5	25.0	31.5	34.1	20.0
Very high	10.9	11.1	10.4	9.8	13.2	11.0	40.0
f. Newspapers: $\chi^2=126.28$; $df=35,1$; $p \leq 0.001$							
None	28.3	20.2	7.1	9.7	3.5	4.3	--
Little	26.1	19.9	20.0	29.0	15.7	17.4	13.3
Average	15.2	28.8	36.8	23.7	38.9	45.7	40.0
High	21.7	21.2	29.3	21.5	33.3	27.2	26.7
Very high	8.7	7.8	6.5	15.1	8.6	5.4	20.0
g. Drama / Theatre: $\chi^2=70.67$; $df=35,1$; $p \leq 0.001$							
None	28.3	25.7	18.7	12.9	10.6	15.2	6.7
Little	21.7	27.4	24.6	30.1	27.8	21.7	13.3
Average	23.9	22.0	29.8	34.4	26.8	33.7	40.0
High	19.6	14.4	20.2	15.1	25.8	21.7	26.7
Very high	6.5	7.6	6.5	6.5	8.6	7.6	13.3
h. Books/Magazines: $\chi^2=171.21$; $df=35,1$; $p \leq 0.001$							
None	41.3	31.0	15.1	14.1	7.7	6.5	--
Little	28.3	29.9	27.8	31.5	20.4	15.2	6.7
Average	17.4	16.0	27.6	25.0	43.9	40.2	73.3
High	6.5	15.2	21.6	20.7	19.9	29.3	13.3
Very high	6.5	5.4	7.7	8.7	7.7	8.7	6.7

Appendix 12. Estimated effectiveness of environmental communication tools: by age (*)

	Respondents' Age (yrs)			
	15-24	25-34	35-44	45+
a. Television:				
$\chi^2=24.55$; df=15,1; n.s.				
None	5.0	3.2	3.9	4.1
Little	10.7	6.5	6.3	7.5
Average	20.1	22.6	29.6	26.4
High	41.1	41.0	38.4	39.1
Very high	23.1	26.5	21.8	21.5
b. Radio:				
$\chi^2=14.71$; df=15,1; n.s.				
None	4.7	2.9	2.1	3.1
Little	14.4	12.2	11.2	10.6
Average	33.2	37.0	34.3	30.6
High	35.6	34.1	37.1	39.1
Very high	11.8	13.5	14.7	15.3
c. Workshops/seminars:				
$\chi^2=32.74$; df=15,1; p≤ 0.01				
None	11.9	10.7	14.7	18.8
Little	17.2	12.0	13.3	12.5
Average	25.5	24.0	24.1	25.6
High	26.7	34.1	27.0	24.5
Very high	18.1	18.5	20.9	16.2
d. Internet:				
$\chi^2=131.19$; df=15,1; p≤ 0.001				
None	13.6	17.7	28.5	42.1
Little	13.9	11.8	7.5	10.5
Average	21.1	21.0	22.8	15.3
High	23.4	26.9	24.9	16.1
Very high	26.1	20.0	14.6	10.0
e. Exhibitions:				
$\chi^2=26.80$; df=15,1; p≤ 0.05				
None	12.0	12.6	14.4	19.8
Little	22.6	19.7	20.8	19.8
Average	24.0	27.7	24.3	26.3
High	28.4	28.7	28.2	22.1
Very high	12.6	11.0	12.0	9.9
f. Newspapers:				
$\chi^2=49.55$; df=15,1; p≤ 0.001				
None	8.8	6.8	10.1	16.5
Little	19.6	16.7	19.6	22.7
Average	34.5	40.8	35.3	26.9
High	27.2	28.9	28.3	23.3
Very high	9.6	6.4	6.6	8.5
g. Drama / Theatre:				
$\chi^2=20.23$; df=15,1; n.s.				
None	15.2	17.7	18.3	23.6
Little	27.8	26.0	22.5	26.2
Average	28.1	28.9	28.5	25.2
High	20.8	19.3	21.1	16.9
Very high	7.9	7.1	8.8	6.0
h. Books/Magazines:				
$\chi^2=40.92$; df=15,1; p≤ 0.001				
None	15.3	11.9	18.7	26.6
Little	26.2	27.0	26.4	26.1
Average	32.4	30.2	27.8	21.4
High	18.2	23.2	20.4	16.7
Very high	7.6	6.8	6.3	7.6

*: Responses do not always sum to 100.0, since "DK" excluded from table; significance includes all responses

Appendix 13. Estimated trustworthiness of environmental information sources: by country (*)

	TOTAL	Anu	Dom	Gre	SKN	SLU	SVG
1. Environ official/officer: $\chi^2=59.86$; df=20,1; $p \leq 0.001$							
Not at all	8.7	8.7	4.5	8.8	11.7	9.3	8.9
Somewhat	36.3	33.8	36.7	35.1	41.3	36.0	35.1
Very	39.7	46.9	48.4	40.4	31.4	43.1	28.9
2. Teachers: $\chi^2=82.76$; df=20,1; $p \leq 0.001$							
Not at all	4.9	4.4	4.7	6.1	5.0	4.9	4.4
Somewhat	37.0	32.0	35.3	43.4	43.4	34.4	32.9
Very	39.3	43.2	34.9	37.3	37.9	50.9	32.0
3. Persons on local TV: $\chi^2=28.86$; df=20,1; $p \leq 0.001$							
Not at all	7.0	6.3	7.7	11.1	5.8	4.9	6.3
Somewhat	49.6	50.5	52.0	45.6	48.4	50.4	50.9
Very	29.1	28.2	27.1	29.2	27.4	32.1	30.4
4. Persons on radio: $\chi^2=45.00$; df=20,1; $p \leq 0.001$							
Not at all	6.7	5.3	5.9	11.5	5.9	6.7	4.9
Somewhat	55.2	59.2	58.6	53.3	53.4	57.8	49.3
Very	28.0	27.2	27.9	28.2	27.1	26.2	31.1
5. Newspaper reports: $\chi^2=63.89$; df=20,1; $p \leq 0.001$							
Not at all	7.3	8.7	8.2	10.6	7.2	5.3	4.0
Somewhat	44.9	47.6	43.4	49.1	48.4	34.2	46.7
Very	25.8	27.4	19.6	21.2	22.2	36.9	27.6
6. Internet: $\chi^2=92.69$; df=20,1; $p \leq 0.001$							
Not at all	6.4	2.5	7.7	5.7	10.4	6.7	5.3
Somewhat	26.4	26.5	28.2	30.0	25.7	27.4	20.9
Very	25.1	36.3	13.2	28.2	21.6	35.0	16.9
7. Religious leaders: $\chi^2=82.04$; df=20,1; $p \leq 0.001$							
Not at all	12.1	11.7	7.3	12.0	7.2	21.0	13.3
Somewhat	36.9	29.8	41.1	38.7	46.2	33.5	31.6
Very	24.9	23.9	23.3	27.6	29.6	20.1	24.9
8. Govt. officials: $\chi^2=83.50$; df=20,1; $p \leq 0.001$							
Not at all	17.7	19.9	13.6	27.2	14.3	12.1	19.1
Somewhat	40.5	40.8	43.6	36.8	43.0	50.9	28.0
Very	24.1	19.9	33.2	18.4	22.9	26.3	23.6
9. Advertisements: $\chi^2=85.64$; df=20,1; $p \leq 0.001$							
Not at all	9.5	7.2	8.1	5.7	14.3	8.5	13.4
Somewhat	51.0	58.4	49.1	50.9	53.6	48.2	46.4
Very	21.7	22.5	17.1	22.8	12.1	33.0	22.8
10. Local community leaders: $\chi^2=72.15$; df=20,1; $p \leq 0.001$							
Not at all	13.5	11.8	9.5	17.2	15.8	12.2	14.2
Somewhat	43.3	36.9	48.4	41.9	49.3	50.0	32.9
Very	19.0	17.7	29.4	17.6	14.5	16.2	18.2
11. Law enforcement officer: $\chi^2=118.59$; df=20,1; $p \leq 0.001$							
Not at all	19.7	20.1	14.1	27.3	15.8	26.3	14.2
Somewhat	35.4	32.4	33.2	32.6	45.0	45.5	23.6
Very	18.4	15.2	31.8	11.5	17.1	12.5	22.2

*: Responses do not sum to 100.0, since "NA" and "DK/Not sure" excluded from table; significance reports include all responses

Appendix 14. Estimated trustworthiness of environmental information sources: by age (y)

	<u>15-24</u>	<u>25-34</u>	<u>35-44</u>	<u>45+</u>
1. Environ official / officer $\chi^2=8.46$; df=12,1; n.s.				
Not at all	8.5	10.2	8.4	7.7
Somewhat	37.5	37.4	34.4	35.6
Very	38.7	38.3	44.6	38.4
2. Teachers: $\chi^2=62.71$; df=12,1; $p \leq 0.001$				
Not at all	4.1	5.9	3.9	5.7
Somewhat	41.3	40.1	35.6	31.9
Very	44.0	41.4	40.1	33.0
3. Persons on local TV: $\chi^2=16.31$; df=12,1; n.s.				
Not at all	7.9	5.5	6.3	8.0
Somewhat	45.0	53.2	55.1	46.8
Very	29.7	27.7	26.3	31.5
4. Persons on radio: $\chi^2=23.84$; df=12,1; $p \leq 0.05$				
Not at all	8.2	6.7	6.7	5.5
Somewhat	51.0	59.7	59.6	51.9
Very	26.4	24.0	26.0	34.0
5. Newspaper reports: $\chi^2=52.07$; df=12,1; $p \leq 0.001$				
Not at all	8.5	6.4	5.6	8.3
Somewhat	44.0	50.3	50.4	37.4
Very	30.8	24.7	25.7	22.3
6. Internet: $\chi^2=171.07$; df=12,1; $p \leq 0.001$				
Not at all	5.3	6.8	7.0	6.8
Somewhat	34.8	28.2	25.9	18.2
Very	37.2	33.3	20.6	11.2
7. Religious leaders: $\chi^2=23.70$; df=12,1; $p \leq 0.05$				
Not at all	15.0	11.6	11.0	10.9
Somewhat	38.1	40.2	37.5	32.6
Very	22.6	21.2	24.7	29.9
8. Govt. officials: $\chi^2=15.43$; df=12,1; n.s.				
Not at all	19.6	17.6	14.8	18.3
Somewhat	42.8	42.3	44.0	34.4
Very	19.9	23.4	26.1	26.9
9. Advertisements: $\chi^2=32.55$; df=12,1; $p \leq 0.01$				
Not at all	14.3	9.6	7.7	6.7
Somewhat	52.0	50.8	50.7	50.5
Very	22.2	23.0	22.7	19.6
10. Local comm. leaders: $\chi^2=16.68$; df=12,1; n.s. $p \leq 0.001$				
Not at all	15.6	13.2	11.7	13.2
Somewhat	41.3	46.9	47.7	39.1
Very	20.9	13.5	18.9	21.5
11. Law enforce officer: $\chi^2=16.28$; df=12,1; n.s.				
Not at all	22.9	20.6	17.7	17.6
Somewhat	39.9	35.5	33.3	32.6
Very	16.7	18.7	19.1	19.1

Appendix 15. Estimated trustworthiness of environmental information sources: by education*

	<u>No formal</u>	<u>Primary</u>	<u>Secondary</u>	<u>Skills/ Vocational</u>	<u>College</u>	<u>University</u>	<u>Post- graduate</u>
1. Environ official / officer							
Not at all	13.0	8.0	9.1	14.0	7.0	6.5	--
Somewhat	34.8	33.4	39.1	36.6	36.2	32.6	42.9
Very	30.4	38.2	37.9	32.3	47.7	50.0	50.0
2. Teachers:							
Not at all	6.5	4.9	5.8	4.3	3.6	4.4	--
Somewhat	37.0	33.8	39.8	30.4	38.3	39.6	33.3
Very	43.5	32.2	39.2	44.6	47.4	44.0	40.0
3. Persons on local TV:							
Not at all	8.9	10.2	6.2	3.2	6.6	3.3	6.7
Somewhat	31.1	44.4	50.0	45.2	59.6	59.8	60.0
Very	44.4	29.8	29.3	34.4	25.8	18.5	26.7
4. Persons on radio:							
Not at all	6.5	6.7	6.4	4.3	8.1	8.7	6.7
Somewhat	43.5	50.7	56.5	54.8	59.6	65.2	53.3
Very	45.7	30.8	26.4	29.0	23.7	21.7	33.3
5. Newspaper reports:							
Not at all	15.2	9.2	6.8	4.3	5.5	6.5	6.7
Somewhat	32.6	34.2	48.8	42.4	52.8	58.7	33.3
Very	10.9	23.7	27.1	19.6	30.2	26.1	53.3
6. Internet:							
Not at all	10.9	6.2	7.4	1.1	6.6	5.4	--
Somewhat	15.2	14.6	28.7	30.8	36.0	43.5	33.3
Very	15.2	12.9	25.5	27.5	37.6	43.5	46.7
7. Religious leaders:							
Not at all	13.0	11.9	14.5	7.7	11.6	6.5	7.1
Somewhat	30.4	32.8	37.7	33.0	39.9	48.9	42.9
Very	37.0	25.5	23.0	25.3	27.8	17.4	21.4
8. Govt. officials:							
Not at all	30.4	19.3	15.7	23.7	15.7	17.6	6.7
Somewhat	28.3	34.8	44.0	41.9	43.4	41.8	40.0
Very	23.9	24.3	24.3	10.8	28.8	22.0	33.3
9. Advertisements:							
Not at all	*						
Somewhat	11.1	7.5	11.3	8.6	10.1	9.9	--
Very	42.2	48.5	50.4	60.2	53.8	49.5	60.0
	22.2	19.5	22.7	16.1	23.6	28.6	20.0
10. Local comm. leaders:							
Not at all	17.4	11.3	15.8	13.2	11.1	13.2	--
Somewhat	26.1	40.1	45.5	44.0	46.0	45.1	46.7
Very	26.1	22.6	16.6	18.7	18.2	16.5	20.0
11. Law enforce officer:							
Not at all	23.9	18.5	21.0	26.1	17.1	17.6	--
Somewhat	17.4	27.2	41.2	29.3	38.2	39.6	60.0
Very	23.9	21.5	16.2	10.9	22.1	16.5	13.3

*: Responses not shown for "NA" or "DK/Not sure"

Appendix 16. Familiarity with environmental issues, and relationships to other environmental positions and demographic variables

	Familiarity with environmental issues in general		
	<i>Very familiar</i>	<i>Somewhat</i>	<i>Not familiar</i>
TOTAL:	18.0	58.1	23.9
Country:			
$\chi^2=35.92$; $df=10,1$; $p\leq 0.001$			
<i>Antigua & Barbuda</i>	13.4	62.7	23.9
<i>Dominica</i>	19.8	63.1	17.1
<i>Grenada</i>	14.1	60.8	25.1
<i>St. Kitts & Nevis</i>	16.1	48.7	35.3
<i>St. Lucia</i>	24.4	57.3	18.2
<i>St. Vincent & Grenadines</i>	19.7	56.5	23.8
Age:			
$\chi^2=29.33$; $df=6,1$; $p\leq 0.001$			
<i>15-24</i>	14.6	62.0	23.4
<i>25-34</i>	17.4	62.7	19.9
<i>35-44</i>	21.3	61.0	17.8
<i>45+</i>	19.1	49.0	32.0
Education:			
$\chi^2=85.31$; $df=12,1$; $p\leq 0.001$			
<i>No formal</i>	10.9	41.3	47.8
<i>Primary</i>	14.9	49.6	35.5
<i>Secondary</i>	16.4	61.4	22.2
<i>Skills/Vocational</i>	16.5	63.7	19.8
<i>College</i>	23.1	63.8	13.1
<i>University</i>	31.5	64.1	4.3
<i>Postgraduate</i>	26.7	60.0	13.3
Current concern/interest in the environment			
$\chi^2=282.23$; $df=8,1$; $p\leq 0.001$			
<i>Very High</i>	36.2	52.2	11.6
<i>High</i>	20.0	65.2	14.8
<i>Average</i>	7.3	66.3	26.4
<i>Little</i>	6.5	37.7	55.8
<i>None</i>	5.1	12.8	82.1
Have knowledge of protected areas in your island/country?			
$\chi^2=134.68$; $df=4,1$; $p\leq 0.001$			
<i>Yes</i>	22.2	62.8	15.0
<i>Not sure/ I might</i>	10.9	57.2	31.9
<i>No</i>	8.9	45.1	46.1

Appendix 17. What respondents know, heard, understand re "the environment" (verbatim: household & Dept.)

It is our surrounding, our habitat ... It is dirty, people not taking care of it and bad disposal of waste ... Something that surrounds us ... where you live, to have a healthy lifestyle keep your environment clean ... Your surrounding and how you keep it, in order to make your community more liveable ... The land and the water, trees ... The surroundings we need for a pleasant, fruitful, stress-free and character building life ... Need to protect the ozone layer and dispose garbage properly ... The environment is a 'warie' place ... Our surroundings and resources we use on a daily basis ... I heard it is being polluted by different chemicals ... the natural world of which we are a part. It constitutes living and non-living entities ... People affect the environment by polluting it ... Degradation of the environment can be brought about by careless habits and poor attitudes ... The environment is being destroyed and the damaged effect that man is having on the environment, we need to protect it for our children benefit ... The world we live in ... is very important to our lives ... A good place ... the place where human and animals live and also birds and fishes too ... It means to protect the surrounding ... Land, air, water, river, birds and animals live together ... Our lifestyles. The lifestyles of humanity. Beautification of various public areas ... animal life, human life and its surroundings ... It means keep the place clean and fresh ... Anything that has to do with our everyday life and helps us to be safe. Also the air and things around us ... Something we have to secure and manage ... something you should protect a lot it can have negative effects on the natural habitants ...

Should be a safe place where people live ... Neighbours living next to you ... Need to be taken care of ... The environment is changing through global warming and otherwise, such as climate changes ... The way people think and act ... The state of the atmospheric conditions around us what experience everyday or over a period of time ... The people and other things around ... Having clean people give clean environment ... There is a lot of incidents taking place ... A place where people can learn a lot ... The people we live next to or houses in my area ... Our daily activities ... Everything around us ... A community where people live ... I feel good about the things that are being put down and the thing to come like the learning ... resources centre and the police station ... Keep the surrounding clean from pest and insects ... If you caught throwing garbage in certain areas you will have to pay a fine of \$5000 ... All that is around us, for the time being it's kind of depleting by man carelessness ... Clean air, less pollution if we could control the environment there will be less cutting down of trees, less erosion, high rainfall ... Keeping the earth safe. Burning of plastic protecting the forest, rivers and beaches ... Respecting each other property, clean up, no litter ... It is irie, there is no industrial activity in the area to stop the fresh air. Only the plastic and tin cans that are not properly dispose ... Place where you should avoid littering. Keep out dirty water, avoid polluting the place to stop mosquito and rats ... Keeping the place around us clean and how the people them must stop littering a lot ... It is our natural surrounding and we should preserve it for our future ... Pollution, global warming, greenhouse effect ... Should be protected from pollution ... Protect marine life and forestry ... Where we live our duty to keep it clean ... The sea ... The place around us ... A small village ... People in the neighbour... A small community Farmers need to be more careful with the substance they use ...

Monitoring community activities ... The physical, social and economic surroundings in which we live ... is unstable ... is being polluted. Global temperatures are increasing and the polar ice caps are melting ... the surrounding, how you communicate or interact with it. Healthy environments or surroundings promote or support healthy people ... what concerns you in your area or country example violence, crime, pollution, smoking of marijuana ... A dirty environment will not attract tourist to our country, the environment is the country ... You have to clean your yard, flowers just keeping thing clean ... The cleanness of the place you live and all around you ... Everything around us. Trees, water, air that we breathe ... The natural atmosphere/habitat in which people dwell, things around us ... the natural and manmade surroundings. Tress, soils, rivers, mountains, air, housing, factors ... Our everyday living ... The animals, trees, human being composed the environment ... The cleaner the environment the healthier our people ... There are people who clean the environment ... should be clean and be protected ... Where we live and breathe, the natural things God made ... The forest should not be destroyed ... It is to keep clean and not throw rubbish anywhere ... I heard that they are going to build a jetty in Toucue. It will destroy the beach. I will not be able to fish ... When you talk about the environment is to keep the place clean. Do not litter. Talking about rubbish disposal ... Things that cannot be replaced by man like river, sea and waterfalls ... Every around manmade, natural is considered the environment. Habitat ...

Appendix 17. What respondents know, heard, understand re "the environment" (verbatim: household & Dept.)

The trees, forest, rivers what God give us ... Anything that is not clean in the environment will affect us ... Global warming is changing the environment and we need to do something about it ... our surrounding we need to protected and preserve. It has to be clean to attract tourists ... Keep the environment clean and playing your part in preserving it ... the most important part of healthy living. A successful life depends on all aspects of the environment ... People should keep it clean, take care of community. Don't litter the rivers don't kill trees, all trees are important whether fruitful or not love environment ... What we see and feel around us ... Surroundings atmosphere it has a broad meaning and covers nature, the air we breathe ... It creates a better sense of living, better quality of life. It involves human, plants and animals. We should do more to protect the environment ... A clean area, you have to get rid of old rubbish, tins, old trees and so check flower pots ... It should be protected from all diseases and be kept clean and free from germs ... The environment is for us to come together and united, express ourselves ... Sometimes we get hurricane and bad weather ... If they protect the beach, the atmosphere we will live in a better environment ... We have to protect our environment, deforestation is a concern, things that can affect our health ... It should be protected to pass on to our children and grandchildren ... Your surrounding and neighbouring countries ... Things that affect the whole area ... Complex surrounding of circumstances conditions and influences ...

Because of excessive pollution the ozone layer has been affected and this is causing the planet to warm up. This in turn is creating a great change in the world's climate ... Cleaning up the garbage ... Should not be taken lightly, what we do impact seriously on the environment ... People having toilets in their yard and pigs, goats and sheep should not live where people live ... People do not throw garbage on the street and men do not urinate on the road ... That the world will become extinct if we don't do something ... Not much being done ... To empower people life, upgrade of people's salary protection from sickness, disease and healthiness ... The way you live and surroundings, proper drainage, cleanliness generally the way it is kept and developed ... The government and environmental officials are trying to get the people to keep St. Lucia clean ... The open space where we live and interact ... Mother nature and preserving nature ... It's about the birds and wildlife ... is important to plants and human beings and it is a recreational area ... Home, our place of development, nature for our security ... When a group of people come together to work ... An area where you could relax and you can trust your neighbours ... Eco-system where animals and people live together as one in their habitat ... A place where you could breath clean air, its clean you at peace, nice clean rivers ... Your health ... The food we eat, the water we drink and air we breathe ... Past, present and future ... Our resources, wildlife and other surroundings ... The earth, how we live on the land, what we breathe ... From where you are to the wider world ... No proper shelter in case of natural disaster ... It means the effect the weather would have on the world and the livelihood of people, plants ... Our natural resources ... Not happy about the environment outside of this community, not good for young people ... Too much noise ... Community where you find different species ... I heard a lot about the depletion of the ozone layer.

The people and organisms that make it ... the filthy things around ... the future, what we do now affect this future ... A place of peace and love and tranquility, anyways that's what its supposed to be ... the whole world ... Development of society ... the place where life exist ... Talking about the place, the water resources and its tidiness ... Its deteriorating rapidly and in a few decades if the deterioration isn't curbed we're all gonna die ... Co-habitation for species ... A cool place ... The environment should be a perfect place for all living things happy till death, but its not so because we treat it badly ... Everywhere in the Soufriere ... all about hurricane ... If it is not protected the plants will not provide oxygen ... The environment is not safe, you cannot walk as you want, fellows walk with knives and put guns by your neck ... is supposed to start from home, you have to learn to clean your own place before you clean anywhere else ... Fixing the swamp near by ... There are less sporting activities because there is a new field, less communication ... External conditions and factors living and non-living ... A place where and when someone come they will like it ... All of life support system ... the air we breathe ... Don't throw plastic in Darkview Falls ... If you don't take care of the environment the impact will be very great in the end and cause changes in the world ... It is our home, whatever we do will affect it ... A gift from God to us to cherish and enjoy and pass on ... My physical, social and man-made surrounding ... Our surrounding, earth, sky and water; we need to use well ... All the natural sites we see everyday, both in town and country ... The people and how to make changes ... A place that should be taken care of with care to attract tourist ... An environment that people should look at closely around you involving natural things

Appendix 18. "Things: that stirred individuals' interest in the environment

Major Regional / Local environmental events and/or activities involving named units/sites:

- Hurricane Ivan in Grenada
- Hurricane Allen
- Hurricane Henry
- Hurricane Debbie
- Hurricane David in 1979
- Hurricane Emily
- The effects of hurricane Hugo
- Hurricane Lewis and the damage it caused
- Lots of rain in dry season
- Landside on dauyshine // Barre 'd' ike
- Depletion of marine life such as fish, turtles
- Changes in our weather patterns // Global Climate changes
- I experienced a flood // Flooding in the community where I lived
- Kingstown after carnival
- The Prime Minister eating from anybody
- La Soufriere eruption in 1979
- The volcano in Montserrat
- Hurricane George and the damage it caused
- Volcanic reactions
- When the Boiling Lake had dried up many rivers are drying up
- The oil refinery in Jimmit
- Plans to open a quarry in Coulibistrie Height
- When Trafalgar fall got damaged after hurricane Marilyn
- The earthquake of 2004
- Flashflood in Beterre
- Storm surge in 2000
- Montserrat Disaster
- Devastation at Anse La Raye
- Telescope Beach
- The Black Mallet land slippage
- The Ravine Poisson landslide
- Marine Park on the Tobago Cays TV
- The unscription of the Piton Management area
- Annadale waterfalls
- Mt Camel waterfalls
- Bathway
- River Antonie
- Grand Etang Lake
- Levera
- Preserving of the Central Mountain Range
- The bridge at the Rabacca River
- The opening of Babomeau Rainforest
- The amount of dust coming from the Colihaut quarry
- The new land spill at Belle Isle Hill
- Seeing the poor state of the Plum stream
- The water on the Carenage polluted as before
- The sea in Pointe Michael is getting closer to the shore
- The old cylinder dumped in the sea at Layou
- The old boats on the Prince Rupert Bay is an eye sore
- The main drain in Portsmouth over flows in the Indian River
- Nearby park has lots of plastic bags from Trinidad
- The quality of water being disposed by WASCO Treatment Plant
- The pending drought we are facing in Antigua
- The equipment NADMA received recently
- The fire in the sulphur spring in Soufriere
- Boiling Lake drying up
- Concerned about people using the Bayside to defecate
- The cutting of trees alongside the beach by DOMLEC
- St Lucia is dirty
- The view overlooking the villages of Antrize village
- The development of La Paradis Hotel at Pralin
- Hope Beach clean up last Easter
- River clean up in Soubise
- Earthquake in Trinidad
- National Climate Change Committee

Appendix 18. "Things: that stirred individuals' interest in the environment

Major Overseas / Global environmental events:

- The Exxon Valdez oil spill
- The Asian tsunami
- The death and disease in Africa
- Melting of the ice caps and the spill off effects
- Global warming // Threats of global warming
- The green globe certificate program
- Bird Flu
- The hunger and death in Darfur
- The recent floods in the UK
- Hurricane Katrina in Southern United States
- A British scientist saying the effects of ozone depletion are untrue
- The USA joining with the rest of the world to cut CO² emissions
- A documentary on the Amazon rainforest
- The depletion of the ozone layer and effects of global warming
- World Environment Day
- Nuclear weapon
- Too much radioactivity
- Floods in USA
- Inclusion of Pitons as world heritage site
- Extinction of certain animals in Africa because of the loss of rainforest
- Pollution that is caused by the USA
- The increasing number of natural disasters occurring worldwide
- Traveling around the world you appreciate environment
- Chemical and Biological warfare
- Chernobyl disaster
- The recent Sahara Desert dust which is seen in the atmosphere
- The Caribbean is subject to Tsunami
- Extinction of polar bear/ other animals

Evident local/regional environmental degradation:

- The fishermen are catching less fish
- The way people throw their garbage in gutter / river / street
- When rain come all these garbage get on the road / Garbage all over the place
- People are not concerned about the dead animals / Dead animals in river
- Illegal dumping of waste cause rodents
- Illegal sand mining, fishing and hunting
- Wild bush fires // Burning of forest
- Seeing the area untidy
- Cutting down of trees // Cutting down of trees in the hills
- Burning of tyres // Burning of garbage
- Garbage truck passing everyday
- Factory waste
- Abandon vehicle on roadsides
- Garbage pollution having negative effects
- Air pollution damage plants
- The smell
- The littering in school by both parents and children / Littering
- The tide moving in land
- Too much rubbish
- Smoking
- Garbage truck already pass and garbage is still thrown on road
- Mashing up of the coastal areas by sea surge
- How hot it has been for the month of April
- A polluted harbour caught my attention
- Piles of garbage around my house/ Indiscriminate dumping
- The river that I wash by is polluted
- Changes in the mangrove swamps
- Suds from detergent in the river
- Deforestation in and around water catchments
- Air pollution from vehicle
- Ignorant destruction of flora and fauna
- Removal of vegetable cover
- The drain in my area grass is growing in it, water cannot flow

Appendix 18. "Things: that stirred individuals' interest in the environment

- Coastal pollution where garbage is dumped
- The loud sound coming from dynamite in the quarry
- The cracking of houses
- When the frogs began dying from a disease
- River fish has dropped
- Dumpsite at ackre it ridiculous
- Noise
- Too much pollution
- People raising animals in a bad way
- Sea level rise
- Too much water being wasted/ Water problem
- The dumping of the soil in the mouth of the river by the engineer who are fixing the airport
- Young people doing drugs
- The destroying of our rivers and forests
- The old land fill view from the sea and land
- Pollution of the rivers, seas and land
- The recycling of bottles and tins
- Bad odour in the area where I live
- Garbage collection can be improved/ regular collection of garbage
- Guttering when it rains
- The increased garbage and litter
- Indiscriminate use of fertilizers
- Lack of disposal of hospital waste
- Take too long to collect garbage
- Loss of biodiversity due to mining
- The way people used certain chemicals near water
- The disposal of waste
- Young people would destroy bottles on the road
- Spend time in jail for littering
- Garbage bins in schools
- They clean the sidewalks and not the drains
- Highly polluted ghauts behind the primary school
- The garbage truck comes regularly
- The railway want cleaning
- Cane fire
- The erosion of beaches and landsides
- The destruction of beauty spots in the community
- Floods and landslides during rainfall
- All the bushy empty land
- Farmers who throw containers anywhere/ Poor farming practice
- Indiscriminate dumping of waste in rivers
- Dumping of agricultural waste in rivers
- Indiscriminate dumping of fish gut in the sea
- Mechanic who dump oil in the drain
- People spitting any where
- The frequency and vehemence of storms
- The effects of pollution on the environment and future generation
- Unkept vacant lots that houses rats and other rodents
- Burning of cane fields where it is polluting the atmosphere and it affects the species in the cane field
- The burning of canefields for no apparent reason
- The effect of drought on banana fields
- Industrial companies run off into water ways used by people
- People urinating anywhere
- Dumping in protected areas
- Ghauts that washed away soil and property by heavy rains
- The condition of roads
- Lack of pipes in some area
- River over-flowing
- Dumping of stone to make sea barriers
- Overcrowding of schools
- Plastic bag stuck in turtle throat
- Small fishes being caught
- The killing of lobster eggs
- Need more rains
- Land slippage my friend home got crack due to it
- Pollution of sea with plastic bags

Appendix 18. "Things: that stirred individuals' interest in the environment

- Seeing someone in my community infected by leptospyrosis
- Construction waste being dumped in river
- The effect of mudslide on rural folks
- Over grazing of animal
- Too many plastic bottles not disposed of properly
- The reduction of water supply in some areas
- Lot of grass around on the road it need to be clean up
- Less of mangrove
- Oil spill
- Storm surge
- The solid waste corp. taking back the garbage bins
- Recent fish poisoning epidemic
- Vandalization of buildings
- People keeping their gateway untidy so government could do it
- A ripe banana skin slide a child and her hand broke
- People walking on grass with "No trespassing" sign
- Cleaning of the beaches by various groups
- The heat of the sun nowadays // Temperature hotter
- The effect of lightening on tree
- The way people keep their surrounding
- Need to turn up their yards too much grass and trees
- Disposal of garbage properly / Public garbage bins
- Environment deteriorating
- The use of weedicide // Poison
- Mosquitoes // Outbreak of diseases
- Stray animals around // Animals dung
- The way the people clean the roads and drains
- Strangers fishing in our waters
- Fish price need to go up
- Over populated
- The dry forest area/ rivers drying up
- Planting of flowers in empty tyres
- Its according to what I hear/ People going through the dump
- I live near a protected site that needed attention
- I was raised doing farming and using natural resources
- Turtle watching / Protect turtles
- Recreation ground and the breeze you can get
- Giant African shail brought here
- People bathing under public pipe
- Building of a jetty
- High incoming of tourist in community
- The big river sometimes has erupt like volcano
- Shortage of water supply and native species
- The baby was dumped at the landfill
- Animal migration
- Water conservation
- Proposed bill to sell protected areas/ national parks
- No recycling in Grenada
- When the hurricane pass plenty trees fall down
- The wind was very high and took off roofs
- Destruction of our natural resources
- Construction of projects
- The dumping to create the mall in town
- Cruelty to animals
- Tropical storm that devastated rural areas
- Sickness caused by environmental diseases
- Smoke congestion burning of materials
- Pest
- Marijuana smoking
- Dredging of St. John River
- Development close to sea areas where having a negative impact, the fishes that was found down Dickerson Bay floating dead
- Lack of large fish (abundance of underwater wildlife)
- Sea express incident
- Use of a certain sprays which affect the ozone layer
- Sewage system in Micout Village

Appendix 18. "Things: that stirred individuals' interest in the environment

<ul style="list-style-type: none"> ▪ Condition of school ▪ Agricultural practices and its impact ▪ Energy conservation ▪ Health workers that usual pass in my area ▪ The effect of the sea on the land in my community ▪ Distribution of energy saver light bulb ▪ This development compromise to the environment ▪ Castries market ▪ Marigot reunion ▪ Village festivals ▪ The introduction of the solid waste unit in SVG ▪ An environmental tour by EAG ▪ St. Kitts carnival ▪ The building of the cross-country road
Felt impact from involvement in environment-related activity: <ul style="list-style-type: none"> ▪ While cleaning Argyle Beach for a school project ▪ During studies at University ▪ Cleaning and painting for Independence Day celebration ▪ Teacher telling us not to litter ▪ Doing my course on tourism ▪ A lesson at school/ Environmental Science ▪ The fact that I do environmental work in farming ▪ Taking part in my school's environmental club ▪ Helping to clean up a river in my area ▪ Witnessing the school in my community clean up my area ▪ Looking at the sea during a hurricane ▪ Experiencing on earth tremor for the first time ▪ Working as Ministry of Health ▪ Caring for crops when I worked SSMC ▪ Did a course with environmental unit ▪ Traveling from Venezuela the ride was bad ▪ Information I got when I trained for work ▪ My research on the smoke in perseverance ▪ My brothers interest in the environment in relation to tourism ▪ A bird-watching trip ▪ A visit to the zoo ▪ Dress up day to clean the community where my daughter school is located ▪ Helping the elderly ▪ Social Studies project while in college ▪ A drowning incident of a neighbour's child ▪ Concern for my community ▪ Upkeep toilet on Bayside ▪ I grow up cleaning ▪ Lack of interest by fishermen in training session ▪ Working along with community group as seeing it as an area of concern that came up in discussions ▪ The people in my community work together ▪ B.Sc. Environmental Studies ▪ Food handling workshop ▪ International Social Development Program
Communication efforts e.g. Advertisements / Articles / Books / Dialogue / Documentaries / Movies <ul style="list-style-type: none"> ▪ Article on green house gases // Billboards ... ▪ Documentary on pollution ▪ Advertisements on the radio telling us to keep the environment clean ▪ Hearing of the damage to the ozone layer on TV ▪ Clean up campaign ▪ No litter signs in a school ▪ A duke of Edinburgh award program that awarded people positive contribution

Appendix 18. "Things: that stirred individuals' interest in the environment

- Solid waste feature (TV) on disposal of garbage
- A program on the television showed teaching children from an early ages how to take care of environment. Especially the rivers, it really stirred my interest saying why to keep environment clean
- Can't communicate with the media/ government
- Things on the news
- The green valley troupes depicting environmental awareness
- Flyers on electrical poles
- The way people voice their opinion
- The Heritage Society Publication
- Billboards
- Weekly radio programmes on environmental issues
- The artwork done in my community
- The reports given by environmentalist recently
- Viewing a television show, my interest was stored by the diseases that an unclean environment can cause
- Advertisements on television to show how people litter when they are traveling
- Advertisement which says, what is done to nature is done to us
- Advertisement showing garbage in the coral reef in the sea
- Talk about having Christ in my life
- Talk on what AIDS can do to the world
- Seeing an AD on TV about the birds and realizing that there are birds in danger of becoming extinct
- An advertisement on whaling
- Watching TV series planet earth on Discovery
- Documentary on global warming
- I watched the movie "An Inconvenient Truth"
- I read in a newspaper "Water is life"
- Presentation by Dr. Jesemy on the radio
- Advertisement say keep St Lucia clean
- A calypso advertisement: "care for the environment"
- The logo-St Lucia simply beautiful
- Reading the bible analysis its important
- Sand watch program
- Small island voices
- Information on tourist guide channel about St. Lucia
- The litter awareness campaign
- The legislation of laws to protect wildlife
- Advertisement with 'fish' and 'bats'
- Watched a documentary on poverty in Haiti
- Advertisement of pest destroying the environment
- National geographic expose on the environment
- Advertisement on TV where certain of my garbage can be used for manure
- The yellow breast bird on TV
- A local TV commercial - Keep Antigua clean
- Documentary on the impact of hurricane activities
- Advertisement "Plastic make me sick"
- Attended a workshop on sustainable development (NEMS)
- A consultation on youth and coastal zone management
- CBM ads on TV with recycling
- A dramatic presentation on an environmental issue
- Government Ministries discussion
- The fact Dominica is the Nature Isle
- The filming of the movie in St. Vincent
- The school science fair had a lot of presentations about the environment
- The music and profanity
- Ad on keeping environment clean
- Being made aware of the importance of the environment
- Job description
- Informative results
- Background information
- The way the government misleading the people
- Internet
- Education

Appendix 18. "Things: that stirred individuals' interest in the environment

Events with negative behavioural / generic life connotations:

- Too much shooting / Violence
- The behaviour patterns of young people
- An exciting football match
- Too much teenage pregnancy
- Negative gangs
- Young boys fighting these days
- Too much gamblers in this small village
- Too much bullets at night
- Lack of respect and responsibility for children especially language
- The intervention with the American soldiers
- The Grenada 17 who was murdered
- The way police destroy your marijuana
- Police arrest in the community
- The way police operate to hold drug dealers
- Too much foreign products in supermarket
- Under pricing of farmers produce
- The revolution
- Increase importance of vehicle
- Price increase and salary remain same
- Community togetherness
- House are too close – not enough privacy
- Too much depending on government
- Lack of schools
- Politics
- Cost of living
- It is very peaceful right now
- Giving farmers land for farming
- Development in the community
- Unemployment
- People stealing your produce
- The culture and the beach
- The building of secondary school and roads

General:

- There are going to be a lot of hurricane this year
- Keep community clean
- Hurricane season // Storms // Wind
- The effect it have on ones life
- Danger of the environment
- What we can do to protect it // Protecting the environment
- The wildlife // Natural inhabitants
- Clean and healthy
- Plants/ Trees/ Flowers
- Nature on a whole
- Perseverance/ Lack of management to combat the proper disposal of garbage
- Depletion of the horizontal layers
- Some tunnel the council has to build along the roadside
- The importance of coral reef
- Concerned about the maintenance and management of fisheries and of the beach
- I am very concerned about my health and my life
- Natural disasters
- How people live affect me
- Natural surrounding
- The way people clean island main road
- The effect climate has on our lives
- Activities in the community
- Better management
- Groups at school
- Projects
- I am not really interested in the environment
- Not interested in the environment

Appendix 19. Perceived threat levels of various environmental phenomena

<u>RANKED PHENOMENA</u>	High threat	Low threat	No threat	DK/Not sure
1. Hurricanes or large storms	86.4	10.1	1.7	1.8
2. Garbage or litter that are not properly disposed of	82.4	14.7	1.7	1.2
3. Water pollution	73.3	17.8	6.1	2.9
4. Tree-cutting that is not monitored, <i>or</i> loss of forests	72.1	17.5	5.9	4.5
5. Diseases/epidemics	70.4	17.4	5.3	6.9
6. Air pollution	68.9	20.1	6.0	5.0
7. Earthquakes	66.3	21.6	7.1	5.0
8. Floods	62.8	25.4	8.4	3.4
9. Droughts or reduction in rainfall	62.7	24.9	5.8	6.6
10. Sedimentation, or dirtying of coastal areas	60.8	20.2	5.5	13.5
11. Landslides	59.4	27.5	8.2	4.8
12. Poor farming practices	57.8	27.3	8.5	6.3
13. Sedimentation, or dirtying of rivers	57.1	19.5	8.4	15.0
14. Sea level rise	53.9	27.5	8.4	10.2
15. Increased greenhouse gases/climate changes	50.8	14.6	7.8	26.8
16. Loss or damage to coral reefs	49.3	25.8	6.8	18.1
17. Loss/extinction of local native species	44.7	25.3	10.6	19.4
18. Local fish kills	40.4	29.8	12.4	17.4
19. Over fishing/reduced fish catch	37.3	31.5	12.6	18.6
20. Invasive or exotic species that are brought here	27.2	26.7	14.0	32.1

Appendix 20. Departments' perceived "high" threats of various environmental phenomena: by level of familiarity with environmental issues (% response)

	Those saying " high " threat: <u>by</u> level of familiarity with environmental issues in general			
	Signif.	Very familiar	Somewhat familiar	Not familiar
Hurricanes or large storms	n.s.	88.6	91.2	87.5
Garbage or litter that are not properly disposed of	n.s.	86.1	75.4	87.5
Sedimentation, or dirtying of coastal areas	**	81.0	64.9	62.5
Landslides	n.s.	70.9	69.6	75.0
Loss or damage to coral reefs	**	74.7	70.2	25.0
Sedimentation, or dirtying of rivers	**	75.9	62.5	50.0
Tree-cutting that is not monitored, <i>or</i> loss of forests	n.s.	63.3	77.2	50.0
Increased greenhouse gases/climate changes	***	75.9	61.4	12.5
Sea level rise	n.s.	64.1	68.4	87.5
Poor farming practices	n.s.	63.6	68.4	50.0
Diseases/epidemics	n.s.	60.8	66.7	87.5
Floods	n.s.	59.5	63.2	62.5
Loss/extinction of local native species	n.s.	63.3	59.6	37.5
Water pollution	n.s.	63.3	57.9	25.0
Droughts or reduction in rainfall	n.s.	57.0	58.9	37.5
Air pollution	n.s.	44.9	56.1	37.5
Over fishing/reduced fish catch	n.s.	51.3	40.4	25.0
Earthquakes	**	51.9	57.1	37.5
Local fish kills	***	44.2	37.5	12.5
Invasive or exotic species that are brought here	*	40.5	28.6	12.5

n.s.: not significant; *: $p \leq 0.05$; **: $p \leq 0.01$; ***: $p \leq 0.001$

Appendix 21. Perceived "high" threats of various environmental phenomena: by country (% response)

<u>TOTAL SAMPLE</u>	Those saying " high " threat: by country					
	Anu	Dom	Gre	SKN	SLU	SVG
1. Hurricanes or large storms	79.8	92.8	93.4	85.1	<u>93.8</u>	72.9
2. Garbage or litter that are not properly disposed of	79.8	<u>90.5</u>	79.3	79.3	89.8	75.6
3. Water pollution	78.8	79.6	71.8	62.2	<u>93.3</u>	54.2
4. Tree-cutting that is not monitored, <i>or</i> loss of forests	58.7	83.8	77.5	49.5	<u>88.9</u>	73.2
5. Diseases/epidemics	73.9	<u>83.3</u>	67.8	56.3	77.2	64.0
6. Air pollution	77.3	73.2	69.8	62.2	<u>87.1</u>	44.4
7. Earthquakes	58.4	<u>86.0</u>	68.9	65.5	68.9	49.8
8. Floods	58.2	62.9	67.5	55.9	<u>86.7</u>	45.3
9. Droughts or reduction in rainfall	<u>76.4</u>	65.8	55.6	56.6	69.8	52.9
10. Sedimentation, or dirtying of coastal areas	52.2	65.6	60.6	47.0	<u>76.4</u>	61.8
11. Landslides	42.8	70.5	61.0	44.4	<u>78.7</u>	58.2
12. Poor farming practices	55.6	<u>69.4</u>	67.0	42.8	64.0	48.0
13. Sedimentation, or dirtying of rivers	35.0	71.6	59.0	39.1	<u>75.0</u>	60.9
14. Sea level rise	53.1	55.0	59.5	36.0	<u>64.0</u>	55.6
15. Increased greenhouse gases/climate changes	57.7	51.8	59.6	36.0	<u>61.2</u>	38.7
16. Loss or damage to coral reefs	59.0	49.3	51.1	38.9	<u>59.1</u>	38.8
17. Loss/extinction of local native species	<u>53.6</u>	52.3	49.8	27.4	48.9	36.4
18. Local fish kills	<u>49.5</u>	44.1	40.2	26.9	45.3	36.9
19. Over fishing/reduced fish catch	<u>53.1</u>	38.0	29.1	32.7	38.1	33.9
20. Invasive or exotic species that are brought here	31.1	<u>38.9</u>	20.0	22.6	32.3	18.7

Appendix 22. Perceived “high” threats of various environmental phenomena: by age (% response)

TOTAL SAMPLE	Signif.	Those saying “ high ” threat by age (y)			
		15-24	25-34	35-44	45+
1. Hurricanes or large storms	n.s.	84.1	89.2	<u>89.5</u>	83.7
2. Garbage or litter that are not properly disposed of	n.s.	79.1	82.7	<u>87.1</u>	81.7
3. Water pollution	*	<u>74.3</u>	74.1	72.7	72.2
4. Tree-cutting that is not monitored, <i>or</i> loss of forests	n.s.	69.6	73.7	69.3	<u>75.3</u>
5. Diseases/epidemics	n.s.	69.0	<u>72.4</u>	70.7	69.8
6. Air pollution	*	71.3	69.6	<u>71.5</u>	64.3
7. Earthquakes	**	59.1	67.5	<u>71.8</u>	67.6
8. Floods	n.s.	62.1	62.5	<u>64.0</u>	63.0
9. Droughts or reduction in rainfall	n.s.	57.2	<u>66.2</u>	65.6	62.2
10. Sedimentation, or dirtying of coastal areas	**	<u>62.6</u>	61.7	60.5	58.4
11. Landslides	n.s.	56.0	<u>62.9</u>	62.0	58.0
12. Poor farming practices	n.s.	56.3	56.7	<u>59.2</u>	58.8
13. Sedimentation, or dirtying of rivers	*	<u>59.8</u>	56.7	57.3	55.2
14. Sea level rise	n.s.	55.9	<u>58.0</u>	53.3	49.1
15. Increased greenhouse gases/climate changes	**	52.5	<u>54.1</u>	50.5	46.8
16. Loss or damage to coral reefs	***	45.7	50.0	<u>54.7</u>	47.7
17. Loss/extinction of local native species	*	<u>47.2</u>	44.9	45.8	41.5
18. Local fish kills	n.s.	40.7	41.3	<u>42.3</u>	38.0
19. Over fishing/reduced fish catch	**	33.3	<u>43.1</u>	37.5	35.6
20. Invasive or exotic species that are brought here	**	27.4	25.6	<u>31.8</u>	24.8

n.s.: not significant; *: $p \leq 0.05$; **: $p \leq 0.01$; ***: $p \leq 0.001$

Appendix 23. Perceived "high" threats of various environmental phenomena: by education (% response)

TOTAL SAMPLE	Those saying “ <i>high</i> ” threat: by education							
	Sig.	No formal	Prim	Sec	Skills /Voc	Coll.	Univ	Post
1. Hurricanes or large storms		89.1	83.4	86.7	83.9	89.9	<u>92.4</u>	66.7
2. Garbage or litter that are not properly disposed of		<u>89.1</u>	82.7	82.7	76.3	80.3	84.8	86.7
3. Water pollution		73.9	70.3	72.8	68.8	<u>80.3</u>	76.1	80.0
4. Tree-cutting that is not monitored, <i>or</i> loss of forests		82.6	70.4	69.0	68.8	78.2	80.4	<u>86.7</u>
5. Diseases/epidemics		69.6	73.1	69.4	64.5	69.2	<u>78.0</u>	66.7
6. Air pollution		65.2	61.7	71.0	69.9	<u>78.2</u>	67.4	66.7
7. Earthquakes		69.6	68.0	64.4	60.2	67.8	<u>76.1</u>	33.3
8. Floods		<u>80.0</u>	61.9	63.1	52.2	64.8	66.3	42.9
9. Droughts or reduction in rainfall		<u>71.7</u>	60.2	60.2	57.0	68.0	71.1	80.0
10. Sedimentation, or dirtying of coastal areas		60.0	55.9	61.4	58.1	66.8	65.2	<u>93.3</u>
11. Landslides		58.7	63.1	57.3	57.0	56.6	<u>68.5</u>	46.7
12. Poor farming practices		65.2	54.9	54.7	50.5	65.7	71.7	<u>80.0</u>
13. Sedimentation, or dirtying of rivers		56.5	53.7	58.3	48.4	61.6	61.5	<u>86.7</u>
14. Sea level rise		<u>67.4</u>	50.3	55.0	53.8	53.5	58.7	60.0
15. Increased greenhouse gases/climate changes		30.4	41.4	50.3	45.2	66.2	69.6	<u>80.0</u>
16. Loss or damage to coral reefs		55.6	38.3	49.5	49.5	62.2	57.6	<u>80.0</u>
17. Loss/extinction of local native species		52.3	38.9	41.4	40.7	53.0	64.1	<u>73.3</u>
18. Local fish kills		52.2	38.1	38.6	34.4	46.2	46.7	<u>53.3</u>
19. Over fishing/reduced fish catch		32.6	28.0	37.3	36.6	47.7	52.2	<u>60.0</u>
20. Invasive or exotic species that are brought here		17.4	20.6	25.7	27.2	36.5	41.1	<u>66.7</u>

Appendix 24. Perceived "high" threats of various environmental phenomena:
by level of familiarity with environmental issues (% response)

TOTAL SAMPLE	Those saying " high " threat: <u>by</u> level of familiarity with environmental issues in general			
	Signif.	Very familiar	Somewhat familiar	Not familiar
1. Hurricanes or large storms	**	86.2	88.7	81.0
2. Garbage or litter that are not properly disposed of	***	90.8	82.7	75.7
3. Water pollution	***	79.1	76.3	61.8
4. Tree-cutting that is not monitored, or loss of forests	***	74.5	75.9	61.2
5. Diseases/epidemics	***	76.4	73.3	59.3
6. Air pollution	***	70.2	72.9	58.2
7. Earthquakes	**	70.7	67.2	60.6
8. Floods	***	70.2	63.7	55.4
9. Droughts or reduction in rainfall	***	69.8	64.8	52.1
10. Sedimentation, or dirtying of coastal areas	***	67.4	62.6	51.4
11. Landslides	***	65.1	60.7	52.8
12. Poor farming practices	***	63.9	60.5	47.0
13. Sedimentation, or dirtying of rivers	***	63.2	59.1	47.6
14. Sea level rise	***	67.6	56.0	39.1
15. Increased greenhouse gases/climate changes	***	63.2	53.9	33.7
16. Loss or damage to coral reefs	***	62.0	52.0	33.4
17. Loss/extinction of local native species	***	51.9	46.8	34.2
18. Local fish kills	***	47.3	40.8	34.2
19. Over fishing/reduced fish catch	***	45.2	39.4	26.4
20. Invasive or exotic species that are brought here	***	33.8	29.3	17.5

n.s.: not significant; *: $p \leq 0.05$; **: $p \leq 0.01$; ***: $p \leq 0.001$

Appendix 25. Perceived "high" threats of various environmental phenomena:
by level of concern about the environment (% response)

<u>TOTAL SAMPLE</u>	Those saying " high " threat: <i>by</i> level of concern about the environment					
	Sig.	None	Little	Average	High	Very High
1. Hurricanes or large storms	**	74.4	79.7	87.5	<u>87.8</u>	87.7
2. Garbage or litter that are not properly disposed of	***	46.2	72.5	83.1	84.6	<u>87.7</u>
3. Water pollution	***	46.2	62.3	74.8	73.4	<u>79.2</u>
4. Tree-cutting that is not monitored, <i>or</i> loss of forests	***	41.0	59.4	72.7	74.4	<u>78.0</u>
5. Diseases/epidemics	***	43.6	55.8	69.4	74.1	<u>77.0</u>
6. Air pollution	***	46.2	59.1	<u>71.6</u>	69.6	71.4
7. Earthquakes	***	46.2	57.2	66.5	66.8	<u>72.0</u>
8. Floods	***	41.0	59.9	63.5	61.4	<u>68.0</u>
9. Droughts or reduction in rainfall	***	38.5	47.8	64.3	64.6	<u>67.5</u>
10. Sedimentation, or dirtying of coastal areas	***	36.8	46.3	56.0	63.0	<u>74.0</u>
11. Landslides	***	30.8	50.4	57.8	61.2	<u>67.3</u>
12. Poor farming practices	***	35.9	50.0	56.5	58.7	<u>64.8</u>
13. Sedimentation, or dirtying of rivers	***	33.3	44.2	53.3	60.3	<u>67.1</u>
14. Sea level rise	***	30.8	39.4	52.2	56.6	<u>61.9</u>
15. Increased greenhouse gases/climate changes	***	21.1	34.1	48.7	52.9	<u>62.0</u>
16. Loss or damage to coral reefs	***	28.9	35.6	48.5	48.0	<u>59.9</u>
17. Loss/extinction of local native species	***	23.7	35.3	39.2	47.2	<u>55.2</u>
18. Local fish kills	*	27.0	35.0	38.6	39.3	<u>48.3</u>
19. Over fishing/reduced fish catch	***	28.2	32.1	34.4	33.8	<u>49.1</u>
20. Invasive or exotic species that are brought here	**	15.4	20.3	25.5	28.3	<u>32.4</u>

Appendix 26. Perceived environmental changes during past five (5) years: by country

	Anu	Dom	Gre	SKN	SLU	SVG
a. Air temperature						
$\chi^2=161.82$; df=20,1; $p \leq 0.001$						
DK/Not sure	21.7	39.2	11.4	41.2	24.0	38.4
No change/neither	22.7	7.2	11.4	6.3	8.4	8.9
Increased	38.6	41.9	<u>64.5</u>	30.8	45.8	33.5
Decreased	3.4	5.9	4.8	5.0	4.4	<u>9.8</u>
Both increased & decreased	13.5	5.9	7.9	16.7	17.3	9.4
b. Coral bleaching						
$\chi^2=65.36$; df=20,1; $p \leq 0.001$						
DK/Not sure	68.8	81.1	65.5	74.4	70.7	74.4
No change/neither	13.2	4.1	10.3	8.5	5.3	4.9
Increased	<u>16.6</u>	10.8	15.2	12.1	14.2	8.1
Decreased	0.5	2.7	8.1	2.2	7.1	<u>9.9</u>
Both increased & decreased	1.0	1.4	0.9	2.7	2.7	2.7
c. Droughts						
$\chi^2=68.76$; df=20,1; $p \leq 0.001$						
DK/Not sure	9.2	23.0	19.0	29.3	16.9	20.2
No change/neither	20.4	22.1	26.5	25.2	24.9	19.7
Increased	<u>40.3</u>	37.4	34.5	22.5	29.8	26.5
Decreased	23.8	12.6	12.4	15.3	20.0	<u>27.4</u>
Both increased & decreased	6.3	5.0	7.5	7.7	8.4	6.3
d. Fish catches						
$\chi^2=77.36$; df=20,1; $p \leq 0.001$						
DK/Not sure	26.0	16.7	25.6	29.7	22.2	17.9
No change/neither	8.2	9.0	15.4	11.7	10.2	6.7
Increased	24.0	27.0	26.9	20.7	<u>33.3</u>	27.2
Decreased	34.1	<u>41.4</u>	23.8	25.2	18.7	40.2
Both increased & decreased	7.7	5.9	8.4	12.6	15.6	8.0
e. Garbage (solid waste)						
$\chi^2=118.71$; df=20,1; $p \leq 0.001$						
DK/Not sure	4.4	3.2	5.8	10.9	2.7	2.7
No change/neither	2.5	10.0	10.2	2.7	6.7	3.6
Increased	<u>81.8</u>	67.9	58.0	69.2	59.6	71.4
Decreased	5.9	17.2	<u>21.2</u>	10.0	16.6	19.6
Both increased & decreased	5.4	1.8	4.9	7.2	14.3	2.7
f. Landslides						
$\chi^2=154.24$; df=20,1; $p \leq 0.001$						
DK/Not sure	35.7	10.8	14.2	29.5	13.8	12.5
No change/neither	33.3	31.1	24.9	25.9	12.1	19.6
Increased	9.7	23.0	<u>27.6</u>	15.9	20.5	24.1
Decreased	17.4	30.6	30.2	25.5	<u>47.3</u>	35.7
Both increased & decreased	3.9	4.5	3.1	3.2	6.3	8.0
g. Loss of forests						
$\chi^2=215.75$; df=20,1; $p \leq 0.001$						
DK/Not sure	28.5	14.4	9.6	40.6	17.8	17.9
No change/neither	19.3	11.3	11.0	21.9	8.4	9.8
Increased	43.0	51.4	<u>66.7</u>	27.2	36.0	48.2
Decreased	4.8	19.8	10.1	7.6	<u>32.4</u>	18.3
Both increased & decreased	4.3	3.2	2.6	2.7	5.3	5.8

Appendix 26. Perceived environmental changes during past five (5) years: by country

	Anu	Dom	Gre	SKN	SLU	SVG
h. Rainfall						
$\chi^2=126.91$; df=20,1; $p \leq 0.001$						
<i>DK/Not sure</i>	6.3	8.2	7.1	19.9	9.3	6.7
<i>No change/neither</i>	16.0	15.0	11.1	18.1	8.4	8.0
<i>Increased</i>	14.1	18.6	23.5	16.2	28.9	35.3
<i>Decreased</i>	46.6	43.6	50.4	23.1	31.6	35.7
<i>Both increased & decreased</i>	17.0	14.5	8.0	22.7	21.8	14.3
i. Rising Tides						
$\chi^2=99.52$; df=20,1; $p \leq 0.001$						
<i>DK/Not sure</i>	41.7	46.8	24.9	52.5	41.0	43.8
<i>No change/neither</i>	23.3	19.5	13.3	15.7	15.3	10.7
<i>Increased</i>	21.4	15.0	43.1	15.2	24.3	23.7
<i>Decreased</i>	6.8	10.5	10.7	5.4	11.3	8.9
<i>Both increased & decreased</i>	6.8	8.2	8.0	11.2	8.1	12.9
j. Seasonality of crops						
$\chi^2=78.35$; df=20,1; $p \leq 0.001$						
<i>DK/Not sure</i>	33.7	15.5	25.6	29.1	23.6	33.6
<i>No change/neither</i>	13.9	19.5	15.4	15.7	12.0	16.6
<i>Increased</i>	24.0	15.0	18.5	16.1	24.0	21.5
<i>Decreased</i>	16.8	35.5	34.4	24.2	23.1	14.8
<i>Both increased & decreased</i>	11.5	14.5	6.2	14.8	17.3	13.5
k. Storms/hurricanes						
$\chi^2=250.68$; df=20,1; $p \leq 0.001$						
<i>DK/Not sure</i>	6.4	5.9	4.0	11.6	8.2	10.7
<i>No change/neither</i>	12.3	7.3	3.6	15.6	15.0	13.4
<i>Increased</i>	43.3	34.5	86.1	24.1	32.7	37.9
<i>Decreased</i>	32.5	45.9	4.5	41.1	32.3	30.8
<i>Both increased & decreased</i>	5.4	6.4	1.8	7.6	11.8	7.1
l. Sedimentation of coastal areas (soiling/dirtying):						
$\chi^2=84.21$; df=20,1; $p \leq 0.001$						
<i>DK/Not sure</i>	47.3	24.3	25.8	41.3	15.2	32.1
<i>No change/neither</i>	7.8	10.4	10.2	12.6	12.9	11.6
<i>Increased</i>	30.2	44.6	42.7	28.7	43.3	38.4
<i>Decreased</i>	10.7	15.3	16.9	16.1	22.8	15.2
<i>Both increased & decreased</i>	3.9	5.4	4.4	1.3	5.8	2.7
m. Sedimentation of rivers (soiling/dirtying):						
$\chi^2=266.67$; df=20,1; $p \leq 0.001$						
<i>DK/Not sure</i>	73.7	20.4	24.8	50.2	16.5	25.9
<i>No change/neither</i>	6.1	7.7	9.3	14.3	7.1	11.2
<i>Increased</i>	16.7	47.5	44.7	22.9	44.6	43.8
<i>Decreased</i>	2.5	20.4	16.4	11.2	24.1	16.1
<i>Both increased & decreased</i>	1.0	4.1	4.9	1.3	7.6	3.1

Appendix 27a. Protected Areas_ <i>Antigua & Barbuda</i>	
Currently Protected Areas	Where should be Protected Areas
Air/sea ports	Agriculture Lands Airport Road Anglin Church Animal habitats Antigua Recreation Ground
Barbuda Barthers Estate Bats Cave Beaches//Sea Berkley Memorial Betty's Hope Estate Bird Island Boggy Peak Boogie Peak Botanical Gardens Cades Bay Pineapple Farm Church Coastal areas Community centre Coral reefs Crabb's Peninsular Cultural Heritage Desalination Plant Devils Table Diamond Reef Dickenson Bay Dive Dolphin Fantasy Dove Sanctuary English Harbour Fig Tree Drive Rainforest Forest Reserve Fort Barrington Fort James Friars Beach	Barbuda Beaches Betty's Hope Bird Island Body Pond Botanic Garden Bus Station Business places Cedar Valley Golf Course Churches Coastal areas// coastline//sea shore Coral / coral reefs Dams Deep Water Harbour Desalination Plant Devils Bridge Devils Table Dolphin Aquarium Emerald Cove Fig Tree Drive Fisheries Fort Barrington Fort Charlotte Fort Hill Fort James Fort Street Friars
Gardens Goat Hill Government places/house Guest Houses Gujana Island	Government property Grays Farm Green Castle Guana Island
Habitat of national bird Harbour Harmony Hall Heritage site Heroes Park	Harbour Harmony Hall Historical sites Hospitals House
Indian River Jabcock Johnson's Point Jolly Harbour	Indian River Jabcock Swamp Jawba Wak
King George Grounds Lake	King George Pasture

Appendix 27a. Protected Areas_ <i>Antigua & Barbuda</i>	
Currently Protected Areas	Where should be Protected Areas
Maiden Island	Mac Pond
Mangrove swamps	Maiden Island
Marine Sanctuary	Mangrove areas
McKinnons Swamp	Marine Environment
Monk Hill	McKinnon Pond
Mountain	Monks Hill
Museum	Mountain
	Museum
	My community
	My land
National Stadium / stadium	Nelson's Dockyard
Naval base	New Guinea Coastal areas
Nelson's Dockyard	New Guinea Est.
	Newbill Beach
Orange Valley	Old plantation houses
	Old Sugar Mills
	Orange Valley
Parks	Parks
Pigeon Island	Phaham Mangrove
Police Station	Pond/springs
Pot Works Dam	Pot Works Dam
Prime Minister's Residence	
Prison	
Private Land	
Public Market	
Rainforest	Rainforest
Roseau Dam	River
	Rodney's Rock
Schools	Sapphire
Shirley's Height	Schools
Signal Hill	Sea port
Sir Vivian Richards Stadium	Shirley heights
South Coast Horizon	Sond Haven Beach
South Mangroves	South rivers
St. John's	Sports Club
Stingray City	St. John's Cathedral
Swamp	Stadium
	Stingray City
	Swamp
Terrence House	The archives
The sea shore // Sea wall	The Cliff
The Valleys	The Quarria
Tourists Resorts	The whole island // all the areas
	Town / Square
	Urlings Mangrove
Victoria Park	Valley
Wallins Dam	Wallings Estate
Willow B Bay	Willowby Bay
Yorks	

Appendix 27b. Protected Areas_ <i>Dominica</i>	
Currently Protected Areas	Where should be Protected Areas
Antrium	Airport Road
Auto caves	Artizes Beach
Autrial Forest Reserve	
Barano Aute	Bayside in Good Hope
Beaches//Sea	Bayside in Jan Sauveu
Boiling Lake	Beaches
Borie lake	Belfast River
Botanical Gardens	Belhall Beach
	Belles area
	Bense Chaudwan
	Big river
	Boiling lake
	Boire n Cout
	Botanic Garden
Cabana River	Cabrits
Cabrits	Carib Community
Carib Stone	Carib Reserve
Carib territory	Churches
Caribs Leap	Clinic
Central forest Reserve	Coastal areas / Coastline / Sea shore
Champagne	Coral / Coral reefs
Coastal areas	
Coral reefs	
Courthouse	
Cultural heritage	
Dive Sites	Dragon mouth
Dr. Cyrus Museum	
Emerald	Emerald pool
Fish Sanctuary	Fish Market // Public Market
Fisheries	Forest
Forest	Fresh water lake
Forest Reserve	
Fresh water lake	
Gardens	Gardens
Gas station	Geneiver Heritage Park
Glo Gomie	Grand Bay
Government places/house	
Harbour	Hampstead River
Historical sites	Hamstead Batibou
Hodges River	Historical Sites
	Horse back ridge
	Hospitals
	Hot spring
	Hot water spring in Campbell village
	House
Indian River	Indian River
	Jacco Flats
	John Baptist Ridge
Kalmago Barand	
L' excalur Tete Chien	La Place Dam in Colihaut
La Soufriere	La Soufriere
Lake	Lakes
Laudat Lake	Layou River
	Layou Valley area
	Le Calatet Chien
Marigot Fishing site	Marigot
Marine Life	Marine environment
Marine Park	Marine reserve
Marine Sanctuary	McKnight
Middle ham Falls	Middleham Falls
Monkey Farm	Moine Trois Pitons

Appendix 27b. Protected Areas_ <i>Dominica</i>	
Morne Anglais Morne Diablotin Mountain	Morne Bruce Morne Diablotin Mountain My Community
National Park Reserves Natural Springs Northern Forest Reserve	
Parks Parrot Reserve Pitons Pond Casse Forest Reserve	Parks Point Round Pond in Conaree Pond/springs Post Office Protection of a certain area of the river
Rainforest River	River Rodney's Rock Roseau River
Scotthead fisheries Site Roseau Valley SSMR Store Sulphur spring Supermarket Syndicate	Schools Seaport Shops Spanny Falls Sulphur Spring Swamp
Tarish Pit The sea shore / Sea wall Tourcaire Marine Trafalgar Falls Turtle Nesting Valley of Desolation	The Ghauts The new Rosea Market Trafalgar falls
Water Catchment Waterfalls Woodford Hill Beach	Valley Village Waterfalls Waterways White River Wildlife Wolten Waven Woodford Hill

Appendix 27c. Protected Areas_ <i>Grenada</i>	
Currently Protected Areas	Where should be Protected Areas
Air/ Sea port	Agriculture Land
Annadale water	Amerindian remains
Area for Grenada dove	Annadale Waterfalls
Auto caves	Archaeological sites
Avadale Forest	Areas that are prone to flooding
Bathway Beach	Balthazar estate
Beaches//Sea	Barnier Reefs
Beausejour	Bathway
Belvedere Estate	Beaches
Bird Sanctuary	Beausejour
Black Bay	Black Point
Black Point	Boiling Lake
Botanical Gardens	Botanic Gardens
Bridge	Business places
	Butler house
Calurgy Beach	Camerhogne Park
Calviny Island	Canaries
Caribs Leap	Carib community

Appendix 27c. Protected Areas_ <i>Grenada</i>	
Currently Protected Areas	Where should be Protected Areas
Carnaboyne Park	Carib Leap
Carriacou Oyster area	Caribs Tone
Central forest Reserve	Churches
Church	Coastal areas// coastline//sea shore
Coastal areas	Coconut area
Concord Waterfalls	Concord waterfalls
Coral reefs	Coral/Coral reef
Dove	Dams
Dove Sanctuary	Dove area
Estate	Estate Yard / House
Fisheries	Falls
Font Jeudy Beach	Flora & Fauna
Forest	Forest
Forest Reserve	Fort Fredrick
Fort Frederick	Fort Judy area
Fort George	Fort Matthew
Government places/house	Gouyave
Grand Anse	Grand Anse Beach
Grand Etang	Grand Etang Forest
Grand Etang Lake	Grand Etang lake
Habitat of national bird	Historical sites
Heritage Square/Site	Hospitals
Historical sites	Hot Spring
Hope beach	House
	Hunting areas
Islet	
	Janteen Park
Kick em Jenny Volcano	
La Sagesse Beach	La Sagesse
Lagoon Rd	Lagoon
Lake	Lake Antonie
Lake Antonie	Lakes
Laura land Herb & Spice	Lepers Hill
Leaper Hill	Levera
Levenadry Forest	
Levera Beach	
Levera Park	
Mango Walk	Mangrove areas
Mangrove swamps	Marquers estate
Marine Life	Mountain
Marine Park	Mt. Carmel Waterfalls
Marine Sanctuary	Mt. Gazo
Molinere Marine	Mt. Hartman
Molliniere	Museum
Mount Young	My community
Mountain	
Mt. Camel waterfalls	
Mt. Gazo	
Mt. Hartman	
Mt. St. Catherine	
National dove	Natural Works
National Park Reserves	
National stadium	
Natural works	
Nature Trail	
	Old plantation houses
Parks	Paradise river

Appendix 27c. Protected Areas_ <i>Grenada</i>	
Currently Protected Areas	Where should be Protected Areas
Pasture	Parks
Perseverance	Pearls airport
Plantation House	Perseverance
Police Station	Personal property
Prickly Bay Marine	Petit Ants
Prison	Plains St. Patrick
	Pond/springs
	Progress Park
	Pump Bay Landfill
Rainforest	Rainforest
River	Reservoir
	River
	River Antonie Lake
Sandy Island	Sandy Island
Schools	Schools
Seven Falls area	Seamoon
St. David's Marina	Slave Pen
St. George's Cemetery	Square
St. Georges City	Stadium
	Standing Stone
	Streams
	Sulphur Spring
Telescope Beach	Telescope Beach
The hotel belt	The cliff
The La Venage	Tourist attraction
Tibo Beach	
True Blue Marina	
Tynell Bay	
	Upper St. John
	Victoria
	Villages
Water catchments	Water storage areas
Waterfalls	Waterfalls
Wille Red Head foundation	Wildlife
Windward Clou	
	Yange Fur
	Your surrounding

Appendix 27d. Protected Areas_ <i>St. Kitts & Nevis</i>	
Currently Protected Areas	Where should be Protected Areas
Air/ Sea port	Agriculture lands
Army Camp	Airport//airport road
	Animal habitats
	Architectural Structure
Beaches//Sea	Banks
Berkley Memorial	Basseterre
Bird Sanctuary	Bath stream
Black Rock	Bay Fords Est.
Bloody Point	Beaches
Bobee Island	Belmont Estate
Borders	Berkley Memorial
Brimstone Hill	Bird Island

Appendix 27d. Protected Areas_ <i>St. Kitts & Nevis</i>	
Currently Protected Areas	Where should be Protected Areas
	Black Rock Bloody Point River Brimstone Hill Business places
Cable TV plant	Canarse Mangrove
Canada Beach	Carib community
Cane land	Cave in keys
Carib stone	Cemetery
Carib Territory	Central Reserve
Caribelle Batik	Children home
Cayon	Churches
Cemetery	Clinic
Central Forest Reserve	Coastal areas// coastline//sea shore
Central Mountain Range	Commercial areas
Church	Conarcee landfill
Coastal Areas	Coral / Coral reefs
Cockel Beach	Cuscus
Community Centre	
Conarce Beach	
Conaree Dump	
Coral reefs	
Courthouse	
Dieppe Bay Reef	Dandus Pond
Do Don Pond	
	Electricity plant
	Estate yard/house
Fern Hill	Factories
Fish Sanctuary	Fire department
Fisheries	Fish market// Public market
Floral Places	Fisheries
Forest	Flora & Fauna
Friars bay	Forest
	Fort street
	Fort Thomas Hotel
	Frigate Bay area
Gas Station	Gas station
Ghauts	Ghauts
Golf course	Government property
Government places/house	Green Hill Est.
Guana Island	
Guest Houses	
Harbour	Health centre
Heritage Square/Site	Historical Sites
Historical sites	Hospitals
Hospital	Hot Spring
Hotel	Hotel
	House
Independence Square	Independence Square
Indian River	Irish Town Bay road
Keys	
La Valley Beach	Lakes
Landfill	Layout Franklin Village
Lodge Great House	Local Wildlife
Long Point Bay	
Main road	Major's Bay
Mango Walk	Mangrove areas
Marina	Marine Environment
Marine Environment	Marine reserve
Marine Park	Market street

Appendix 27d. Protected Areas_ <i>St. Kitts & Nevis</i>	
Currently Protected Areas	Where should be Protected Areas
Marine Sanctuary Monkey Farm Mount Liamgua Mt. Tiangua and Nevis Peak Museum	McKnight Mount Liamigu Mountain Museum My Community My Land
Natural Springs Nelson Spring Nelson's Dockyard Nevis Peak Newtown Bay Rd	New Castle New Guinea coastal area New Guinea Est. New Town Nursing Home
Old Road Bay Ottley's Gates Hill	Old plantation houses Old Road Bay Old Sugar Mills
Paradise Reef Parks Peninsular Phillips Water source Police Station Porte Zante Post Office Power Station Prime Minister house Prime Minister's Residence Prison Private Land	Parks Part of OTT Pelican Mall Peninsula Petrogyph sites Play ground Police station Pond in Conaree Pond/springs Port Zante Power station Private sector Pump Bay Landfill
Rainforest Rawlins Plantation River Romney Manor	Radio station Rainforest Reservoirs River Romney Manor
Salt Pond Mangrove Forest Schools Sir Thomas Warner's Tomb Stone Small Lobster South Peninsular Spring Bay St. John's Stone Fort	Salt Pond Sandy Bay Salt Pond Santa Taff Scenic Railway Schools Seaport Slave monument Sofa Stone area Square Stores Sugar factory Sugarcane estate Swamp
The Basseterre Valley The sea shore // Sea wall The Valleys Turtle Nesting Turtle Sanctuary	The drainage system The reefs The whole island// All the areas Town / Square
Vermont Table Rock Volcano	Up the hole Vegetable markets Village Village of Dieppe Bay
War Memorial Warner Park Stadium Water catchments White Hall White House Bay	War Memorial Warner Park Water catchments areas Water Storage Areas Wetlands

Appendix 27d. Protected Areas_ <i>St. Kitts & Nevis</i>	
Currently Protected Areas	Where should be Protected Areas
Willow B Bay Winfield Forest area	Willets Pasture Wingfield Mountain Winfield
Your home	

Appendix 27e. Protected Areas_ <i>St. Lucia</i>	
Currently Protected Areas	Where should be Protected Areas
Air/Sea ports	Adodo waterfalls
Anse Chastnet	Airport Road
Anse Cochan	Announce area
	Anse Gen. Arawak site
	Anse La Raye waterfalls
Balenbouche	Babonneau rainforest
Barre de l'sle Rainforest	Bakeries
Beaches//Sea	Balenbouche
Black Bay	Beaches
Botanical Gardens	Belvedere West
Bouton	Botanic Garden
	Business places
Castries Water-works Reserve	Canaries
Cay Estate	Canaries waterfalls
Central Forest Reserve	Casenbas beach
Church	Cedar Heights
Coral reefs	Choc mangrove
Crownland	Cholseul
Cultural heritage	Churches
	Coastal areas// coastline//sea shore
	Contonement
	Coral / Coral reefs
	Court house
	Crown land
	Cul-de-sac beach
Derek Walcott Square	Day care
Descartiers Forest	Denhery highway rainforest
Diamond Falls	Derek Walcott Square
Dove Sanctuary	Derrick Walcott square
Dremion Falls	Diamonds
East Coast Trail	
Edmund Forest	
Fish Sanctuary	Faux Au Chaux
Fisheries	Flora & Fauna
Floral Places	Fon D' Or
Fon D' Or	Forest
Forest	Forestierre
Forest Reserve	Frigate Bay Area
Forestierre Rainforest	
Friars Bay	
Frigate Island	
Government places/house	Gardens
Grand Anse	George Park
Gros-Islet Park	Goat Island

Appendix 27e. Protected Areas_ <i>St. Lucia</i>	
Currently Protected Areas	Where should be Protected Areas
	Government property
	Grand Anse Beach
	Grand Bay
	Grand Etang Forest
Heritage Site	Historical sites
Historical sites	Hospitals
Hotel	Hot Spring
	Hotel
	House
Islet	
La Soufriere	La Soufriere
La Tille	La Tille Waterfalls
Lake	La Toc road
Louvette/ Louvert	Laborie Bay
	Layou Valley area
	Louvette
	Louvette Beach
Mamkee Gardens	Mamico garden
Mangrove Swamps	Mangrove areas
Mankote Mangroves	Mangrove Salt Pond
Maria Island	Marchard community
Marina	Maria Islet
Marine Park	Marine environment
Marine Sanctuary	Marqurs estate
Marquis Plantation	Mauho
Molliniere	Micoud waterfront
Morne Le Blanc	Millet
Mountains	Morne Fortune Barraks
	Morne Le Blanc
	Moule La Chique
	Mountain
	My community
National Park Reserves	National parks
Nature Trail	Nursing Home
	Old sugar mills
Parks	Paradise beach
Pigeon Island	Parks
Pitons	Pigeon Island
Pralines	Pitons
Prime Ministers house	Play ground
Prison	Pond/Springs
	Praslin Bay
	Praslin beach
	Prison
	Private Property
	Public bathroom
Rainforest	Rainforest
Ralney Bay	Rat Island
Rat Island	Recreation Park
River	Reservoirs
Ruby John Rock	River
	Rodney Bay marine
Samman's Bay	Salie collage
Schools	Sapphire
Sir Arthur Lewis College	Savannas Bay
SMMA	Schools
SSMR	Sea port

Appendix 27e. Protected Areas_ <i>St. Lucia</i>	
Currently Protected Areas	Where should be Protected Areas
Sulphur Spring	Shanty Town Sir Arthur Lewis college Sow Bay in Mc' Diarmed Sports club Steep Hill side Streams Sulphur Spring Swamp
The Townhall Tobago Cays Town Turtle Sanctuary	Tennis court The Base The gulf in Dennery The Viex Fort Recreation Park The Viex Fort swamp The waterfall in Bellevue The waterfalls in Grace The whole island//all the areas Tikaye Troumasse river
Union mini zoo Union Nature Trail	
Vermont Nature Trails Vieux Fort	Vermont Nature Trail
Water catchments Waterfalls Winfield Forest area	Water catchments areas Water storage areas Waterfalls Wetlands Wildlife
Zoo	

Appendix 27f. Protected Areas_ <i>St. Vincent & the Grenadines</i>	
Currently Protected Areas	Where should be Protected Areas
Argyle Beach Arrow Vale Park	Airport//airport road Architectural structures Argyle River
Beaches//Sea Black Bay Black Point Botanical Gardens Brighton Beach	Balliceaux Bambamreaux Beach Beaches Bell Wood Forest Black Point Botanic Gardens Buccament Bay
Church Cockel Beach Coral reefs Cumberland Reserve	Carib community Clear Valley Beach Cluster Cottage Coloraine River Cruise Ship Bow
Dr. Cyrus Museum	
Factory Fall of Balcune Financial Complex Fort Charlotte	Factories Falls of Balaine Fish market// Public market Forest

Appendix 27f. Protected Areas_ <i>St. Vincent & the Grenadines</i>	
Currently Protected Areas	Where should be Protected Areas
	Fort Charlotte
Habitat of national bird	Hospitals
Hospitals	
Hotel	
Indian Bay	
Kings Hill Forest	
Kingstown	
La Soufriere	La Soufriere
Layou Mark Stone	Langley Park
Layou Petroglyphs	Layout Petroglyphs
Leaper Hill	Lowman's Mountains
Maria Island	Majorca watershed
Marine Park	Montreal Gardens
Marine Sanctuary	Morne Garu
Montreal Gardens	Mountain in Vermont
Mount Wayne Beach	
Nature Trail	
	Old building
Park View Falls	Parks
Petit Biah Beach	Peter's Hope Beach
Police Station	Petrogyph sites
Prime Minister's Residence	
Public Library	
	Questelles Beach
Rainforest	Rabacca Dry River
Richmond	Richmond Dry River
	River
Salt Pond Mangrove Forest	Salt Pond
Schools	Sandy Bay Salt Pond
	Schools
Tobago Cays	The Spa
Trinity Fall	The whole island// All the areas
Turtle Sanctuary	Tobago Cays
	Turtle Sanctuary
Vermont Nature Trails	Vegetable markets
Vermont Table Rock	Vermont Nature Trail
Victoria Park	
Villa Beach	
Water catchments	Warriacou Beach
	Water catchments areas
	Waterfalls
Young Island	

Appendix 28. Understanding of "Protected Areas" (verbatim from household & Dept. samples)

Specially set aside protected by law ... govt. use or focus on ... kept under security e.g. forest reserves and museums...attract lot of tourist to come to our shores...Not sure...protected from people destroying them... specially protected from certain activities that have negative effect on area & environment...under strict suspension and once tamper can be very harmful to society or community... is secure & person cannot destroy or remove anything without permission of authority... govt. protecting tourist sites ... restricted from hunting, fishing or taking or removing any form of life whatsoever...protected by law. Protected because threatened by farming, destroying forested areas for housing & lumber & also destruction of wildlife & natural habitats ... where govt. implement laws/regulations governing mgmt and or protection... designated portion of land or water protected by law as it regards its use and preservation... govt. designate as special areas to protect wildlife, parks, forest... set aside to preserve their natural resources... Managed areas where species allowed to strive under natural conditions with little interference from man... serve as nurseries for young species... fencing of areas e.g. Solid Waste Management unit and Kings Hill Forest Reserve... Places that should be conserved by people... Conserved by govt.... where people should not go if not authorized...It is a good thing... where animals and birds can live and people cannot hunt & kill them...reserved for specific purposes or animals, plants ... Keeping surrounding clean and secure... To protect what is in the area... such as heritage sites & forest reserves protected under environment polices... Safe for walking...Safe ...conservation & protection of historical and important sites to foster enrichment & protection of our cultural heritage...

like coastal areas, place where we would likely to have floods. Places where the soil easily eroded... when there is a storm you can shelter ...where you can not do what you want ... protected of course by spirits ...where there is the country natural resources to preserve... reserve for protecting species of animals, plants, fish ... protected by govt. from cutting of trees, dumping of garbage...protected to protect the environment- rainforest protecting the beaches from erosion & the like...Protecting land, forest, rivers & seashores... Private areas/ treasured... certain places trees should not be cut because help to hold soil & bring in water... govt. official place measure against trespassing for locals not tourist... where people should be allowed to fish & govt. have total control...situated in good place where no disturbance to inhabitants ... forbidden area... protected by land use policy... place where you cant just walk in and do what you like, you have to show respect... protected for historical factors by law...usage monitored & species protected... preserved to look more beautiful...Restricted area you are not allowed to go as you wish... you should not go to fight and curse... designated area prohibited for settlements or such activities... protected that you could go & leave your house open... prohibited area not allowed no dumping of rubbish in these areas... When they send around people to take garbage out of gutter to prevent them from blocking... There is no protected area. Everywhere there are violence no respect for children or adult, lots of dirty words...place that is interesting and you could go there relax and enjoy yourself... Recreational area...where you take friends on special occasion... Always keeping them clean... needs to be preserved so govt. & other organisation take necessary actions ... Whatever sanctions, no tampering on breaking of laws restricted area... under extinction of environmental changes... protected by govt. that not expose to farming or industrial residue. You cannot leave garbage & take away species whether plants or animals from area ...

with more security by police or other law official than any other place in country... Like beaches where they protect garbage from entering sea, water fronts to stop sea from damaging people houses... don't see they are protecting anything that depends on how much tourist coming to country each year & amount of money they spending... area govt. need to use, even if people living or farming there, they have no choice if you don't want to give it up they will take it from you...should not be tampered with ... where you take your girlfriend and chill out...Tourist attraction own by govt. ...open to public but protected by laws & rules... where they don't let certain people enter...forest & other such place & animals allowed to roam free & multiply...Areas designated safe, where sustainable environmental practices undertaken or where certain activities prohibited... natural forest protected by law... while open to man is controlled and limited as far as use of resources concerned... police patrol protecting school children and troubled areas... There are laws which runs the place...Important/valuable area well taken care of... My house I have to protect it & keep safe...setup & taken special care of to attract people. You cannot pollute or deforest there as you want... places like hospitals, prisons, place for mental people where they have to keep people safe & protected... kept as natural habitats where deforestation and construction of buildings not allowed ... set demarked zone established by law & govt. policies to be protected from degradation, destruction, citizens and meant for preservation & conservation particularly relating to water & natural forest ... reserved for national parks

Appendix 28. Understanding of "Protected Areas" (verbatim from household & Dept. samples)

... sites where govt. preserve so people will not destroy them because they are beautiful and cultural site... you are not prohibited to remove things. For your eyes only... You can't hunt; remove anything that is natural in these areas... everybody's responsibility to protect... Keeping it natural or leaving everything as it...select area set aside, which has some value or true contribution to a country e.g. historic event... govt. property... secured by govt./country for protection of endangered species, wildlife & trees... a special reserved area where parrots, wildlife protected from public... special area govt. set aside for history purposes and viewing by general public...conserved to keep for long time unspoiled... set aside for proper management of environment... Area with supervision that have methods in place...where people keep marine lives so not destroyed... protected for reproduction of animals & good maintenance of resources in that particular area... Taking care of nature, taking care of things important to human resource... a lot of damages happening & needs attention... somewhere where species decreasing & needs to be protected to create better population. To allow growth & forest density... Where they block road to prevent sea taking over... more to do with marine reserve, forests, for schools... safe for people for their health... reserved for particular purpose & of importance to country... people take care of around where they live... you cannot cut down trees & remove sand without permission... Having vehicle to take rubbish & dump it somewhere ... Area like fishing away coral reef protected for tourist or prevent extinction ... basically managed & controlled by wardens... set aside for preservation & enjoyed by future generation...

Those areas that can easily become destructive to the environment... Area that is not safe... protected from crimes, health, pollution... where there is decrease in trees - where coral reefs are being damaged where there is a decrease in fish, birds or damage of beaches... people cannot throw garbage neither can they take anything away from there... protect for the betterment of our future & kids, especially water catchments areas... Something someone have concerns about... When people come and talk about things that are good they call it protected areas... Over use of valuable area... we cannot build on, because of different reasons animals, plants, restricted area... restricted to locals... reserved for tourist attractions, recreation & natural habitat for special kinds of species of animals... vulnerable to adverse environmental conditions... Only if they build underground shelters for during hurricane... Production for hurricane, monitoring volcano... would be under threat from people & landslides... general public has little or no access to... closely monitored to ensure stability... your land, houses and valuable ... where government controls development in housing ... Places to save Grenada dove, saving the beaches... Places where you control the environment, like to stop mosquitoes... Natural areas restricted by govt. policies set up to protect these natural resources... set aside for wild animals... All the natural stuff around our country & village that calls for attention & care, that can bring benefit to nation ... that will be really loss by natural disasters or where mean will destroy & make it easier for in case of nature disasters... a school & church where people protected from getting hurt physically by another person... under environmental restriction...that are built properly... Protecting using notice boards & fenced areas... Farmers protecting produce ... places with potential tourist sites where they protect nature & other wildlife in danger of over hunting & fishing.

Plants also protected... to prevent extinction of species... where there are rare plants... some buildings... reserved area where no development taking place...designated for no commercial activity to take place... should be protected & clean at all times and a place fit & suitable for tourist attraction... special or well-balanced ecosystem... Any biotic components of ecosystem with potential use or value... where you try to safeguard animals & crops... govt. buildings protected by govt.... of ecological or environmental importance...no harvesting of wildlife and policies in place & enforce... cannot be changed by human influence...environ mgmt measures employed to achieve sustainable use of resources or area... portion of aquatic or territorial ecosystem reserved & buffered for a project and alleviate interruption of human activities to safe guard species or the area in Senekal... planting of trees in forest for forest reserve... No area in St. Lucia can be termed protected areas... like forest reserves which certain wildlife & plants exist or watershed that if any deforestation occurs then drastic changes would take place so they are protected by govt.... generally restricted to persons knowledgeable about how to properly manage it... By employing security or guard our natural & cultural resources so viewers would not destroy them... protected for productive, natural & economic purposes... Where you see more attention needed to get more priority... are primitive & need to be sustained because of vast diversity in that place... kept in pristine condition by legislations... based on law and statutes have ltd. activities by human to preserve ecosystem... of grave concern & must be managed & supervised properly ... where you have stakeholders, it allows some level of usage but it protected some species that have been on the decline... easily affected by natural forces... need protection for economic, recreation, livelihood & for heritage and scientific purposes ...

Appendix 29. Attitudes related to the environment

<u>Attitude statements</u>	SA	A	Neither	D	SD
a. Changes in the environment are having a negative impact on my community	22.0	<u>35.7</u>	18.4	17.5	6.4
b. I must play a role in improving and maintaining the environment	42.1	<u>49.6</u>	4.5	2.9	0.9
c. The government is responsible for maintaining the environment	21.6	<u>32.7</u>	17.8	22.2	5.7
d. Most environmental problems are caused by people in this country	30.7	<u>39.0</u>	15.3	12.7	2.3
e. Most environmental problems are caused by people in other countries	10.2	23.3	23.1	<u>35.0</u>	8.4
f. Most environmental problems are caused by natural disasters like hurricanes and earthquakes	12.5	<u>36.0</u>	19.7	27.1	4.7
g. It is important to protect some of the resources present in our environment, such as mangroves, coral reefs and forest areas	<u>52.6</u>	39.8	4.4	2.4	0.8
h. God will always provide natural resources for our needs	25.0	<u>30.4</u>	15.5	18.4	10.7
i. Natural resources can never run out	11.0	21.2	13.9	<u>31.8</u>	22.1
j. It is important to protect some cultural resources, such as Amerindian Sites	32.8	<u>48.5</u>	13.9	3.0	1.7

SA= Strongly Agree; A=Agree; Neither= Neither Agree nor Disagree; D=Disagree; SD= Strongly Disagree

Appendix 36. Attitudes related to the environment: by country

	Anu	Dom	Gre	SKN	SLU	SVG
Changes in the environment are having a negative impact on my community $\chi^2=51.70$; df=20,1; $p \leq 0.001$						
<i>Strongly Agree</i>	<u>28.4</u>	18.5	27.6	16.2	22.3	19.1
<i>Agree</i>	33.2	45.9	39.5	32.0	31.3	32.4
<i>Neither Agree nor Disagree</i>	24.3	14.4	11.0	24.3	22.3	21.8
<i>Disagree</i>	21.2	17.6	16.2	21.2	17.9	16.0
<i>Strongly Disagree</i>	6.3	3.6	5.7	6.3	6.3	10.7
I must play a role in improving and maintaining the environment $\chi^2=51.02$; df=20,1; $p \leq 0.001$						
<i>Strongly Agree</i>	44.9	47.7	41.4	29.7	<u>48.2</u>	40.9
<i>Agree</i>	43.5	48.6	54.6	58.6	44.6	47.1
<i>Neither Agree nor Disagree</i>	7.2	0.9	2.2	7.2	3.6	6.2
<i>Disagree</i>	2.4	2.3	1.3	4.5	2.2	4.4
<i>Strongly Disagree</i>	1.9	0.5	0.4	--	1.3	1.3
The government is responsible for maintaining the environment $\chi^2=79.02$; df=20,1; $p \leq 0.001$						
<i>Strongly Agree</i>	<u>31.1</u>	15.8	18.0	24.8	18.4	22.2
<i>Agree</i>	34.0	31.2	32.9	32.9	27.4	37.8
<i>Neither Agree nor Disagree</i>	15.5	20.4	19.7	15.8	15.7	19.6
<i>Disagree</i>	13.6	31.7	25.4	20.3	25.1	16.4
<i>Strongly Disagree</i>	5.8	0.9	3.9	6.3	13.5	4.0
Most environmental problems are caused by people in this country $\chi^2=88.75$; df=20,1; $p \leq 0.001$						
<i>Strongly Agree</i>	35.0	25.7	22.4	22.1	39.3	<u>40.0</u>
<i>Agree</i>	35.0	41.4	38.2	38.3	39.7	41.3
<i>Neither Agree nor Disagree</i>	20.9	17.6	16.2	18.0	7.1	12.4
<i>Disagree</i>	7.8	14.9	20.2	15.8	11.6	5.3
<i>Strongly Disagree</i>	1.5	0.5	3.1	5.9	2.2	0.9
Most environmental problems are caused by people in other countries $\chi^2=95.54$; df=20,1; $p \leq 0.001$						
<i>Strongly Agree</i>	<u>18.6</u>	5.5	9.3	8.6	8.5	11.1
<i>Agree</i>	27.9	20.9	24.8	21.3	25.0	20.4
<i>Neither Agree nor Disagree</i>	28.9	29.1	15.0	28.5	13.4	24.4
<i>Disagree</i>	19.6	42.3	41.6	30.8	38.8	35.6
<i>Strongly Disagree</i>	4.9	2.3	9.3	10.9	14.3	8.4
Most environmental problems are caused by natural disasters like hurricanes and earthquakes $\chi^2=54.43$; df=20,1; $p \leq 0.001$						
<i>Strongly Agree</i>	<u>19.4</u>	5.9	13.7	14.3	11.6	10.7
<i>Agree</i>	29.1	46.6	40.3	38.1	30.4	31.1
<i>Neither Agree nor Disagree</i>	19.4	22.6	19.0	17.9	16.5	22.7
<i>Disagree</i>	25.7	23.1	23.0	24.7	33.9	32.0
<i>Strongly Disagree</i>	6.3	1.8	4.0	4.9	7.6	3.6
It is important to protect some resources present in our environment, such as mangroves, coral reefs and forest areas $\chi^2=87.24$; df=20,1; $p \leq 0.001$						
<i>Strongly Agree</i>	60.6	44.1	49.3	46.6	<u>66.2</u>	48.9
<i>Agree</i>	26.9	52.3	47.6	42.2	28.9	40.4
<i>Neither Agree nor Disagree</i>	5.3	2.7	1.3	9.0	2.7	5.8
<i>Disagree</i>	4.8	0.9	0.9	1.8	1.8	4.4
<i>Strongly Disagree</i>	2.4	--	0.9	0.4	0.4	0.4

Appendix 36. Attitudes related to the environment: by country

	Anu	Dom	Gre	SKN	SLU	SVG
God will always provide natural resources for our needs $\chi^2=172.13$; $df=20,1$; $p \leq 0.001$						
<i>Strongly Agree</i>	26.0	22.5	15.4	<u>35.3</u>	16.2	35.1
<i>Agree</i>	25.5	35.6	36.4	34.9	22.5	27.1
<i>Neither Agree nor Disagree</i>	27.4	12.2	9.6	15.6	13.5	15.6
<i>Disagree</i>	11.5	25.7	26.3	10.1	22.1	14.2
<i>Strongly Disagree</i>	9.6	4.1	12.3	4.1	25.7	8.0
Natural resources can never run out $\chi^2=121.11$; $df=20,1$; $p \leq 0.001$						
<i>Strongly Agree</i>	10.2	9.5	8.3	<u>16.2</u>	9.0	12.9
<i>Agree</i>	24.4	16.7	22.4	22.5	10.8	30.7
<i>Neither Agree nor Disagree</i>	24.9	9.0	4.8	20.3	12.1	13.3
<i>Disagree</i>	21.0	43.4	38.6	25.7	36.3	24.9
<i>Strongly Disagree</i>	19.5	21.3	25.9	15.3	31.8	18.2
It is important to protect some cultural resources, such as Amerindian Sites $\chi^2=171.02$; $df=20,1$; $p \leq 0.001$						
<i>Strongly Agree</i>	34.6	25.8	<u>43.2</u>	22.4	39.3	31.6
<i>Agree</i>	39.4	63.3	48.9	43.9	50.4	44.4
<i>Neither Agree nor Disagree</i>	13.5	9.0	4.0	29.1	8.0	20.2
<i>Disagree</i>	4.3	0.9	3.5	4.0	2.2	3.1
<i>Strongly Disagree</i>	8.2	0.9	0.4	0.4	--	0.9

Appendix 31. Attitudes related to Protected Areas

Attitudes about Protected Areas		SA	A	Neither	D	SD
a.	Protected Areas can make a vital contribution to the conservation of the Caribbean's natural environment	40.3	47.0	10.6	1.5	0.5
b.	Protected Areas can provide opportunities for rural development	24.6	55.7	14.7	3.9	1.1
c.	Protected Areas can help to manage the use of our land and sea areas	31.5	54.3	10.9	2.4	0.8
d.	Protected Areas are a good way to generate income and create jobs	35.4	48.7	12.4	2.5	1.0
e.	Protected Areas can create opportunities for environmental education	37.5	54.5	6.8	0.8	0.3
f.	Protected Areas can provide recreational opportunities for locals	28.9	55.9	10.0	4.0	1.2
g.	Protected Areas are mostly for tourists <i>from outside</i> the region (<i>not locals</i>)	4.2	10.7	11.3	40.7	33.1
h.	Protected Areas are mostly for tourists from the region	3.0	12.3	13.2	48.3	23.2
i.	Protected Areas should be used only for education and research	4.6	17.3	13.9	45.4	18.8
j.	People who live next to a Protected Area benefit economically from the Protected Area	13.0	39.3	29.8	14.6	3.3
k.	Marine Protected Areas should allow some fishing by local fishermen	9.4	37.5	22.3	23.0	7.7

SA= Strongly Agree; A=Agree; Neither= Neither Agree nor Disagree; D=Disagree; SD= Strongly Disagree

Appendix 32. Attitudes related to Protected Areas: by country

	Anu	Dom	Gre	SKN	SLU	SVG
a. Protected Areas can make a vital contribution to the conservation of the Caribbean's natural environment						
$\chi^2=53.65$; df=20,1; $p \leq 0.001$						
<i>Strongly Agree</i>	47.1	42.0	43.6	29.1	49.8	36.0
<i>Agree</i>	46.6	48.6	48.9	51.6	41.8	44.9
<i>Neither Agree nor Disagree</i>	10.3	9.4	6.2	16.6	7.1	14.2
<i>Disagree</i>	0.5	--	1.3	2.2	1.3	3.6
<i>Strongly Disagree</i>	1.0	--	--	0.4	--	1.3
b. Protected Areas can provide opportunities for rural development						
$\chi^2=64.38$; df=20,1; $p \leq 0.001$						
<i>Strongly Agree</i>	22.9	26.9	31.9	17.0	21.8	27.1
<i>Agree</i>	46.3	54.2	56.2	68.8	56.9	51.1
<i>Neither Agree nor Disagree</i>	22.4	15.1	9.3	10.7	16.4	15.1
<i>Disagree</i>	4.4	3.8	1.8	3.6	4.4	5.3
<i>Strongly Disagree</i>	3.9	--	0.9	--	0.4	1.3
c. Protected Areas can help to manage the use of our land and sea areas						
$\chi^2=41.47$; df=20,1; $p \leq 0.01$						
<i>Strongly Agree</i>	35.9	29.4	31.9	27.1	37.2	27.6
<i>Agree</i>	47.6	57.8	58.4	57.0	53.4	51.6
<i>Neither Agree nor Disagree</i>	10.7	10.9	8.0	14.5	6.7	14.7
<i>Disagree</i>	3.4	1.4	1.3	1.4	2.7	4.4
<i>Strongly Disagree</i>	2.4	0.5	0.4	--	--	1.8
d. Protected Areas are a good way to generate income and create jobs						
$\chi^2=46.88$; df=20,1; $p \leq 0.01$						
<i>Strongly Agree</i>	30.2	36.5	33.0	29.9	44.0	38.2
<i>Agree</i>	46.3	46.9	51.1	60.6	42.7	44.4
<i>Neither Agree nor Disagree</i>	19.5	13.7	10.1	8.6	9.8	13.3
<i>Disagree</i>	2.0	2.8	4.0	0.9	3.1	2.2
<i>Strongly Disagree</i>	2.0	--	1.8	--	0.4	1.8
e. Protected Areas can create opportunities for environmental education						
$\chi^2=42.08$; df=20,1; $p \leq 0.01$						
<i>Strongly Agree</i>	48.3	33.5	34.2	31.3	43.3	35.6
<i>Agree</i>	46.8	54.2	59.6	62.1	50.4	53.3
<i>Neither Agree nor Disagree</i>	3.9	10.8	4.4	5.8	5.4	10.2
<i>Disagree</i>	--	1.4	1.3	0.9	0.9	0.4
<i>Strongly Disagree</i>	1.0	--	0.4	--	--	0.4
f. Protected Areas can provide recreational opportunities for locals						
$\chi^2=53.29$; df=20,1; $p \leq 0.001$						
<i>Strongly Agree</i>	38.4	22.9	28.6	16.4	31.6	36.0
<i>Agree</i>	50.2	59.5	58.9	66.2	53.3	47.1
<i>Neither Agree nor Disagree</i>	7.4	12.9	5.4	12.8	11.1	10.2
<i>Disagree</i>	3.0	3.8	6.3	2.7	3.6	4.4
<i>Strongly Disagree</i>	1.0	1.0	0.9	1.8	0.4	2.2
g. Protected Areas are mostly for tourists from outside the region (<i>not</i> locals)						
$\chi^2=107.74$; df=20,1; $p \leq 0.001$						
<i>Strongly Agree</i>	5.9	1.4	6.2	2.2	2.7	6.7
<i>Agree</i>	7.8	13.6	14.2	10.3	3.6	14.7
<i>Neither Agree nor Disagree</i>	14.7	18.3	11.1	8.1	5.8	10.2
<i>Disagree</i>	37.7	49.8	45.3	33.6	43.9	33.8
<i>Strongly Disagree</i>	33.8	16.9	23.1	45.7	43.9	34.7

Appendix 32. Attitudes related to Protected Areas: by country

	Anu	Dom	Gre	SKN	SLU	SVG
h. Protected Areas are mostly for tourists from the region						
$\chi^2=77.08$; df=20,1; $p \leq 0.001$						
<i>Strongly Agree</i>	3.9	0.5	5.8	2.3	1.3	4.0
<i>Agree</i>	5.9	14.2	16.4	11.3	7.1	18.3
<i>Neither Agree nor Disagree</i>	17.2	19.0	12.8	8.1	10.3	12.5
<i>Disagree</i>	45.8	53.6	47.3	48.4	55.4	39.3
<i>Strongly Disagree</i>	27.1	12.8	17.7	29.9	25.9	25.9
i. Protected Areas should be used only for education and research						
$\chi^2=58.29$; df=20,1; $p \leq 0.001$						
<i>Strongly Agree</i>	5.4	2.8	6.2	5.0	3.6	4.5
<i>Agree</i>	14.7	19.8	19.6	21.0	14.0	14.7
<i>Neither Agree nor Disagree</i>	20.1	13.2	14.2	15.1	9.5	11.6
<i>Disagree</i>	38.2	53.3	48.9	43.4	46.4	42.0
<i>Strongly Disagree</i>	21.6	10.8	11.1	15.5	26.6	27.2
j. People who live next to a Protected Area benefit economically from the Protected Area						
$\chi^2=89.37$; df=20,1; $p \leq 0.001$						
<i>Strongly Agree</i>	13.2	16.0	9.3	7.1	14.8	17.8
<i>Agree</i>	34.1	54.0	47.1	34.8	40.8	25.3
<i>Neither Agree nor Disagree</i>	31.7	21.6	26.9	39.7	21.5	37.3
<i>Disagree</i>	16.1	7.0	15.0	13.4	20.6	15.1
<i>Strongly Disagree</i>	4.9	1.4	1.8	4.9	2.2	4.4
k. Marine Protected Areas should allow some fishing by local fishermen						
$\chi^2=113.33$; df=20,1; $p \leq 0.001$						
<i>Strongly Agree</i>	9.4	7.1	7.6	4.9	8.9	18.7
<i>Agree</i>	41.9	46.4	31.6	41.5	32.9	32.0
<i>Neither Agree nor Disagree</i>	23.6	21.8	13.3	34.4	20.9	20.0
<i>Disagree</i>	16.3	21.3	32.9	16.1	30.2	20.4
<i>Strongly Disagree</i>	8.9	3.3	14.7	3.1	7.1	8.9

Appendix 33. How Protected Areas would be of value to people living in, or near them

- Provide jobs if developed// They get seasonal employment
- It would not benefit them
- Less crime// Less death in community
- They have cleaner & healthier surrounding
- To help to raise their standard of living
- If it clean up, and be more protected
- Feel safe if the water is more protected
- They will not be affected by disease
- Protected area create income and employment
- Help them to sell their country
- People feel more safe going there
- Socially- for recreational freedom
- Educationally- for knowledge and personal upliftment
- Emotionally- for a further appreciation of our country
- Protect the area from flood
- They would have the benefit of knowing how protected areas benefit them
- They are clean safe environment with no pollution
- Tourist attraction/ development
- Eco-tourism// Eco-tourism and its benefits
- National pride
- These areas would be saved from vandalism/thieves
- They would appreciate the contribution of the natural life
- The natural resources would last longer for future generations
- Economic activities// Be of economic value
- It would bring more rain// Attract rainfall
- The protected forest helps to make the air much cleaner for the people
- Saving the animals
- Bring more interest for the people// more awareness
- Not sure// People don't want to clean surrounding
- Revenue- people pay to come in
- Achieve more in term of getting more aware, everybody could play a part in their environment
- More money/income
- When they see them clean, they will want to clean
- They will have pride in the area
- They would not overflow into homes
- The people can go anywhere without fear// Feel more protected
- More pleasant sight
- It will protect them from wild animals
- Recreational activities
- Enjoyment of natural beauty
- Assist in rural development
- Security- protection of sites
- They make them feel special
- They get to see plenty tourist
- They get a great deal of attention
- Interact with foreign people
- Freedom of choice
- See national birds more often
- Less environmental problem such as rats
- Learn other people's culture
- Higher price for fish
- Beach should not be crowded with strangers
- We should not pay for sand
- Children get better knowledge of place
- Should not pay to go in
- They can use up resources// Sell craft items
- Stop cutting trees there
- Encourage visitors to come in and help to improve economy
- A safer place to live and feel comfortable
- If replanting of trees in the long term, it can be use for lumber thus bringing income
- Create an attractive place// Beautification
- Protect our environment/ natural resources
- Fishes would breed and have more for people. We will get more rainfall
- Fear of police/ they will not fight
- Quicker jobs for those living near factory
- Go to church more often// Live a christen life
- Higher increase in profit

Appendix 33. How Protected Areas would be of value to people living in, or near them

- More comfortable and beautiful place to live
- A sense of security
- Popularity
- The beauty of the place they see everyday
- There will be proper disposal of dead animals
- They are less likely to be affected by natural disasters
- The farmers will get better crops
- Better medical // Health wise
- They reach school early so they learn better
- Get to be farmers
- They don't have to visit because they live near
- Sponsorship for children
- Love and respect government officials
- Less rats and mosquitoes
- Mostly tourist go, not everybody go there
- They are normally clean// Toilets will be kept clean
- People who do farming above will cause air pollution
- Increased property value
- They feel big when tourist ask them questions
- Some of them beg and get through
- Some get married to tourist
- Less drugs
- They can visit as often as they wish
- Wider knowledge of their area
- They get help from government to keep the place clean
- Reduction in poverty/ resources stay in community
- People learn to take care of their area// People will want to be careful
- No bush fire
- No harmful chemicals
- Wildlife in its natural habitat
- They would treat the area better
- Teach people to help keep the place clean
- Bring tourist to the area this generate income
- People will always have somewhere to go
- People will behave better
- More respectable
- Knowing that the area is protected will keep people from polluting it
- Viewing of natural sites
- Knowledge to the past and future generations
- Sustaining the environment
- Save and protect life
- Commercial value
- Pride in one's country
- A good quality life, clean air, clean environment
- Cottage industries can be formed
- Area more accessible
- Less sand will be remove
- Reduction of damage done by high tide
- More water// Getting clean water to drink
- To protect your wildlife
- Better waste management// Less garbage
- Their homes will be more secured// Less damages to homes
- No bushy and dirty drains to worry about
- Protect cultural sites
- Wildlife level will increase
- Food on their table
- Restaurant owners would provide food service
- Spoke persons and link between community
- Tour guides for tourist
- So that they remain untouched by all
- It would be a privilege
- Less landslide
- Better land management
- More plants left to leave land fertile
- Talk about it and then start clean up
- Be more observant
- Avoid dumping and littering

Appendix 33. How Protected Areas would be of value to people living in, or near them

- Once you live near the beach you are responsible to protect it
- Place is protected for future generations
- Place is protected from droughts, slides
- People will not do what they want
- Fresh water
- Meet people of different nationality
- Better living economically
- There will be less pollution, more people visitor to the area
- People living near these areas should relocate, except in the Carib reserve
- When visitors come to visit they pay and buy stuff. The people make money
- It would be an example for other people
- Knowledge of the area
- Livelihood depend on it
- There will be somebody taking care of it
- Selling of goods to tourist
- Business use
- Togetherness
- Stop soil erosion
- Better farming land
- Better fertility, better food, better health
- Livestock will not mash up people bus
- Curfew when people are in certain area at night
- Teach better environmental awareness
- Cleaner beaches
- Healthy lifestyles
- Shops and bars will sell
- Persons can use their creativity to develop areas
- Creation and development project in community
- New business
- The place will be private
- There are snakes that can kill people in Millet so government must protect so people will not go there
- Breathe fresh air
- Clean water
- Manage properly
- Better environment in terms of Flora and Fauna
- Preserve water table
- Organize the cutting down of trees
- More people will visit these areas
- ***Can be of value to our children to educate them about the future
- Did not benefit the people because the farmers had to relocate their animals, crops and family
- It will uplift the environment by cleaning airport
- People who use the river for bathing wont be contaminated
- Perseverance of nature
- The lagoon at Victoria Park have **worm**
- Both animal and people can benefit
- No one should own the beach
- Foreigners buying all the good land
- Protected areas can help farmers refrain from deforestation
- Teach them to recycle
- Force farmers to diversify and relocate
- To keep persons occupied
- Prime land should remain for agriculture to feed people
- There will be less trespassing
- Reduce transportation cost
- It might be costly for some and reasonable for others
- Existing farmers will have to relocate and this will be costly
- Hurricane shelter
- Look at the beach and walkways
- Children will have to go to school
- Financially
- People will obtain fresh produce
- Coral reefs will be managed
- It would bring monetary contribution
- Environment would be more stable
- Area set aside for the diversity of species
- People would not be free to drop their garbage
- Irie living with nature

Appendix 34. Environmental behaviours: by country

	TOTAL	Anu	Dom	Gre	SKN	SLU	SVG
In the past <u>two (2) years</u>, how many times have you visited Protected Areas (such as heritage sites, national parks, marine- or forest- reserves)?							
$\chi^2=29.32$; $df=15,1$; $p \leq 0.05$							
0 / None	40.1	40.1	42.1	39.4	38.2	33.5	47.4
1-3 times	35.5	27.8	32.7	38.0	43.2	41.3	29.3
4-10 times	13.5	18.2	14.5	14.1	11.6	11.9	11.2
More than 10 times	10.9	13.9	10.7	8.5	7.0	13.3	12.1
Do you recycle, reuse, or reduce any of your solid or liquid waste? (e.g. food, plastic bags, cardboard boxes, bottles, etc.)							
$\chi^2=171.40$; $df=5,1$; $p \leq 0.001$							
Yes	67.9	70.6	41.2	56.4	88.7	88.1	63.4
No	32.1	29.4	58.8	43.6	11.3	11.9	36.6
How do you think your day-to-day actions impact the environment – either <u>directly</u> or <u>indirectly</u>? ... <u>Positively</u>? Or <u>negatively</u>?							
$\chi^2=94.43$; $df=25,1$; $p \leq 0.001$							
Very positively	31.3	17.9	36.4	25.0	37.1	36.7	33.8
Somewhat positively	38.0	39.8	36.8	48.7	35.7	39.8	27.1
Neither positively nor negatively	8.7	11.4	9.1	4.9	6.1	6.3	14.7
Somewhat negatively	4.7	11.4	1.8	2.2	6.1	4.1	3.1
Very negatively	1.8	3.5	1.8	0.9	1.4	2.3	1.3
Not sure / don't know	15.5	15.9	14.1	18.3	13.6	10.9	20.0

Appendix 35. What respondents could do to prevent environmental quality from getting worse

Surroundings' management:

- Make sure my surroundings clean // Keep environment clean
- Take care of my surroundings // Take better care
- Cleaning my surrounding to get a healthy environment
- Educate others, compost organic waste. Pest control in and around my home
- Do not litter // Tell people to put garbage in bins
- Do the right thing and fix my house for the hurricane
- Avoid burning garbage which will help prevent air pollution
- Clean my home // Clean draws
- Stop burning plastic
- By keeping it clean proper drainage. Do not cut down trees around
- Burn the garbage and put them out to the garbage truck
- Keep environment clean to keep rats away
- Get friendly with my neighbour and we can clean and make the place healthy
- Burn less solid waste
- Clean area once per week
- Use garbage trucks to dispose of garbage
- Distribute more garbage bags in my community and continue to talk to neighbours about our health
- Clean my side and don't wait on road gang to do it
- Help clean my community
- Continue to put my rubbish in a bin, clean my yard
- Continue to clean river
- Maybe plant few trees to prevent deforestation and no littering
- Trying to wonder what to do with plastic bottles // Reuse plastic bottles
- Bury cans and tins
- More garbage bins
- Nothing to breathe mosquitoes
- Dig hole to bury rubbish
- Keep on cleaning and gardening
- I and I could keep on cleaning, planting and educating my youths
- Old building and old vehicles must be cleared away
- Stop dumping garbage in river/ on the road
- I clean my neighbourhood when I have the time
- Don't waste water, clean draws and flower pot to be free of mosquitoes
- Separate your garbage
- Plant flowers and stop the use of bad gas
- Keep the place more tidy, plant trees, create vast vegetation
- Setting up measures in your community to make sure that garbage disposal is done
- Use a car with a smaller engine would produce less CO2
- Make sure my vehicle is service often so it will not smoke too much
- Implement energy saving techniques at home
- Use more environmental friendly appliance
- Try to help protect surrounding // Stop people from harming it

Recycle, Reuse, Reduce:

- Recycle more
- I always keep my surroundings clean by recycling, reuse and dispose of my garbage properly
- Keep my environment clean and continue recycling and composting
- Reduce the use of chemicals and pesticides that are harmful to the environment// Stop using plenty chemicals
- Recycle, do not litter and protect areas / Dispose of garbage properly
- Recycle household waste
- Stop using chemical in garden
- Try to reuse things
- Stop using Baygon
- Use food peeling for manure
- Recycle and use biodegradable stuff
- Less pollution
- I could cut down on the garbage I generate try and buy local
- Reuse plastic bottles and bags

Personal attitudinal & other behavioural changes:

- Make peace with my neighbours

Appendix 35. What respondents could do to prevent environmental quality from getting worse

<ul style="list-style-type: none"> ▪ Be more conscious and advocate strongly ▪ Stick to plans ▪ Do what I have to do ▪ Make further lifestyle changes ▪ The way young people look for work ▪ Buy more local produce from farmers ▪ Don't hang out with certain friends and avoid violence ▪ Help the system and encourage other ▪ Encourage people to act positive ▪ I have to be in a situation to do anything ▪ Take care of myself. See a doctor. Have good health ▪ Improve on my practice. Become more aware of the things I do ▪ Stop the violence done to nature ▪ Put ours heads together ▪ Do what is necessary ▪ Practice what I was taught ▪ By being an example, community role model ▪ Take a more proactive approach ▪ Activities to entertain the young persons in the community ▪ Make sure my grandchildren have a good place to grow up ▪ Practice healthy environmental measures ▪ Do conservation of what we use ▪ Avoid practices that contribute to the worsening of the environment ▪ Following proper environmentally friendly practices ▪ Practice safe environmental measures ▪ Adhering to the laws of the council ▪ Help preserve the nature island ▪ Continue my part and share my knowledge ▪ Help them farmers realize they benefit of natural farming practice ▪ Do the right things by not destroying mangroves ▪ Preserve our forest to sustain our water supply ▪ Use better fuel on my boat ▪ Manage environment in sustainable manner ▪ Contributing to cleaning and beautification of the environment
<p>Regulatory framework & systems' management:</p> <ul style="list-style-type: none"> ▪ Report people who intentionally litter in large quantities show a good example ▪ Get more people aware of what is happening especially those in authority ▪ Continue to co-operate and comply with rules and regulation ▪ By policing more effectively ▪ I speak to government officers and group leaders ▪ Follow instructions of the environment officers ▪ Consult the village council and MP to try to do something about it ▪ Go along with the experts ▪ Maintain the standard ▪ Stop importing plastics // Stop the plastic bottles ▪ More supervision ▪ By notifying the health officers ▪ Enforcement of the laws ▪ Speak to police concerning the crime taking place ▪ I need proper roads and drainage ▪ Reforestation ▪ Give me the tools to do what I can to help my environment, then I can always look to it as a concern
<p>Information, Education & Communication <i>incl.</i> action, advocacy & support groups' formation & activities</p> <ul style="list-style-type: none"> ▪ Be more educated about the environment by reading more// Educate self ▪ Talk to the people about the wrong way of getting rid of waste ▪ If I see anyone dirtying up the place speak to them ▪ More programs on the radio ▪ Write a letter to the environment personnel ▪ Having programs concerning the environment radio/TV ▪ Write articles, impress, speaking to elders, youths doing the right thing

Appendix 35. What respondents could do to prevent environmental quality from getting worse

<ul style="list-style-type: none"> ▪ I am in the position to educate people about the environment I will do it ▪ Increase my knowledge on the environment ▪ Socialize with neighbour and listen to ideas and problems ▪ Discuss environmental issues when people gather at my home ▪ Teach students conservation methods and discussions with churches about the environment ▪ Talk to people who are polluting and encourage children not to ▪ Be more aware and seek information about the environment ▪ Educate others and reduce my waste. Have a positive attitude ▪ Give tips to help solve the garbage collection system in my community ▪ Educate the people on the dangers of pollution ▪ Educate persons and get a car that works mostly on electricity ▪ Teach others to preserve our natural resources ▪ Educate people who don't know ▪ Have school education on environment ▪ Educating people and seeking further assistance from Dept. of Environment and Solid Waste ▪ Speak to people on the best way to diminish the problem ▪ Educate young people in proper hygiene and good practices ▪ Educate my kids ▪ Go out and tell people to stop littering and killing wildlife ▪ Speak to my neighbours to secure their garbage properly ▪ Speak out for change ▪ By telling people about the good thing of our nature ▪ Speak out to the proper authorities, encourage others to practice a cleaner environment ▪ Sensitize my family and friends about the harm they can cause to the environment ▪ Can talk to community member and government officials about the problems ▪ Use posters and banners ▪ Have discussions about the pros and cons with friend ▪ Form an environmental group and talk to people on the effectiveness and what can happen ▪ Get a group together and do environmental work ▪ Organize a group and clean every end of month ▪ Get involved in environmental projects ▪ Clean up campaign ▪ Play a positive part and join the campaign ▪ By getting involved in environmental studies and groups ▪ Join organization that protest, form groups ▪ Help the public to understand the effect of negative action ▪ Tell people about the pollution in the air ▪ If I see someone littering the environment. Tell them to stop ▪ Create jobs for young people ▪ Especially on community day service, help to clean environment ▪ Join environmental clubs to improve the environment
<ul style="list-style-type: none"> ▪ Not so sure ▪ I cannot prevent the environmental quality from getting worse ▪ Global warming

Appendix 36. The community's role in preventing environmental quality from getting worse

<p>Surroundings' management:</p> <ul style="list-style-type: none"> Put garbage bins in the community and if people litter you fine them Utilize garbage receptacles. Follow the guidelines of the Solid Waste Management Unit Always keep the environment clean, dispose of garbage properly Clean up their garbage // Practice more sanitary habits Maintaining a clean community and educating our children to do the same Take care of their surroundings and adhere to the environment conservation policies Stop littering / collect garbage around the town Hire persons to clean up Keep gutters clean and stop cutting trees unnecessarily Take garbage out when the truck is there Practice good sanitation, clean up gutter, rivers and roadside, coastline Keep their surrounding clean Dispose of garbage properly By practicing good solid waste principles, do not farm close to water sources and ensure less deforestation Stop dumping rubbish everywhere and putting united front in trying to get the rubbish truck to come and collect garbage Stop littering and smoking, stop throwing rubbish in the sea Start paying more attention to cleaning drains and yards Make the environment beautiful By not polluting and using toxin items Cleaning up the market area, parking in Borough Square Cleanup the surrounding and plant flowers to beautify Make sure pollution is less and the natural habitat is preserved Less pollution of rivers, roadsides, manage waste, restrict cutting of trees Use empty containers for planting flowers Ensure water cans are covered and environment is not littered Clean up the beaches Clean up all drains and waterways where we need clean water flow Take care of the things that are in their yard Clean up everyday Placing garbage bins in strategic locations Making it a healthy surrounding Use low phosphate, phosphate free or biodegradable products Plant trees// stop cutting flowers Take time to protect it more and dispose of waste, tires Waste management Making sure the environment is clean and not using chemicals, gas to pollute water Decrease noise pollution
<p>Conservation, Preservation incl. Recycle, Reuse, Reduce:</p> <ul style="list-style-type: none"> Recycle, reuse Recycle, plant trees, keeping gutters clean Reduce crime and employment Recycling plastic bags and bottles instead of throwing them away Preservation Assist in preservation of heritage sites Practice conservation Conserve energy reuses, recycle, disposal of garbage properly To preserve our resources Protect the land from being eroded Do more to protect the animals Help rehabilitate or restore a degraded area of forest near home Preserving the environment through tree planting, using environmental friendly materials
<p>Collective / Owned Community Responsibility & Action</p> <ul style="list-style-type: none"> Get together and do some cleaning up of the area // Get together and clean up Get a community spirit and clean up the area. Dispose of garbage properly so to get a cleaner environment Come together and have a clean up campaign once a month, week or fortnight Encourage people to come out and support Get involved Work hand in hand

Appendix 36. The community's role in preventing environmental quality from getting worse

<ul style="list-style-type: none"> ▪ Each individual take responsibility for their actions sending a positive message ▪ The communities can cut down trees and clean up garbage ▪ Set up a committee to assist each other to clean up and do some planting ▪ The community has to come together as brethren and sistren to clean and keep it clean ▪ Work together, hold exhibitions keeping the community clean helping each other ▪ Get involved in environmental activities, listen to the radio/read newspaper ▪ The community role is to help people make better choices ▪ Come together, have discussions ▪ Persons should be more self aware they play a vital role in policing ▪ Come together and reduce sand mining ▪ Forget politics and work hand in hand to improve environment ▪ Everybody minding their own business ▪ The community working, the clean up beaches and roads ▪ I clean my part others clean theirs ▪ Everybody doing their part ▪ Unite and clean around us and help the needy ▪ Get together and discuss the damage being done to the environment ▪ Continue to encourage each other in keeping the community clean ▪ Village meetings ▪ There are no groups around here ▪ Clean up campaign ▪ Grenada belong to all of us so we must work together ▪ Give service fully to the community ▪ Everyone should have a burden in the community about the environment ▪ Everyone should do their best to stop the environment getting worse ▪ Work together. Cleaning up of empty house lots to cut down rodents ▪ Use up our resources properly and support each other in doing the positive instead of negatives
Transferred Community Responsibility & Action <ul style="list-style-type: none"> ▪ Only on community day of service I see people trying to clean up ▪ Take care of where they live ▪ They can do more ▪ Their role is to safe guard the interest of the situation. Keeping good moral standard ▪ They need to learn the negative effects of the environment and find alternative ways to correct that ▪ Encourage them to do things properly ▪ They should have a leading role in maintaining the quality as they are the one they are most affected ▪ They try to protect it ▪ They normally plant trees and bury instead burning waste ▪ To do everything they can to make this world better for our future generations ▪ Making sure that they get people interested in the environment ▪ Play their part and stick to plans ▪ Well they need to open their eyes and save our world ▪ They need to be less nasty // Stop indiscriminate dumping ▪ Do what they have to do to keep it tidy ▪ They suppose to help/ they responsible
Regulatory framework & systems' management: <ul style="list-style-type: none"> ▪ Lack of police, the police not dealing with all aspects ▪ There should be more meetings with locals and law enforcement officials ▪ Don't care, don't like present government ▪ Don't have a local government in place, no sanitary inspector ▪ Put system in place to combat negative action ▪ Seek to control atmospheric green house gas level ▪ Make laws in each community ▪ Employ more litter wardens ▪ Ensuring that designated protected areas remain protected ▪ Adhering to guidelines ▪ Put camera in the town ▪ Local community leaders, government, environment officers should provide jobs/keep meeting to educate the people ▪ Everyone abiding to environmental regulations and tips ▪ Got a good council chairman and he's doing his best, in litter control and cleaning of drains and so on ▪ Have environmental constable ▪ Do not wait on the government form road gangs ▪ To be a police to another

Appendix 36. The community's role in preventing environmental quality from getting worse

<ul style="list-style-type: none"> ▪ More accountability ▪ Limiting the amount of non-environmental friendly cars, appliances ▪ Compliance and the promotion of good environmental management practices ▪ Provide bins ▪ Ask solid waste to collect garbage regularly ▪ Reporting any over-dumping of garbage that may help harm the community ▪ To prevent divers from catching lobsters and turtles that have eggs
Information, Education and Communication incl. action, advocacy & support groups: <ul style="list-style-type: none"> ▪ Form community environment clubs ▪ People being sensitized about ways to protect the environment ▪ Forums and seminars ▪ Through posters, lectures, symposiums ▪ Putting signs up. Don't litter. A clean environment will have healthy people ▪ Hold more community workshops ▪ Educate the public about the environment and its protected area ▪ Education/ give information ▪ To pressure the government to put measures in place to control environmental pollutions ▪ Community should have skits, shows, meeting ▪ Putting up slogans, by the rivers, seas and so on // Public notices ▪ Educate citizens through the media ▪ The community needs to educate itself. Proper disposal of liquid and solid waste. Pest control ▪ Form groups to discuss pollution problems ▪ Community groups could be set up to educate the community as a whole ▪ There is much environment awareness ▪ The information of a NGO ▪ Talk to people and educate the ignorant ones ▪ Make skits about conserving the community ▪ Talk to people whenever something happens ▪ More awareness, a tourist area people litter too much ▪ Talking to persons in authority, to determine ways to prevent from getting worse ▪ Be more active in sports club and various groups
General / Other: <ul style="list-style-type: none"> ▪ I am not sure ▪ Live loving and stop fighting and killing each other ▪ Stop buying foreign produce ▪ A group of young people who are educated and serious with the job ▪ Discipline children/adult who eat and throw garbage ▪ Discipline children at an early age ▪ Problem, solution and preventive methods ▪ Provide the things that are needed to keep the environment clean ▪ Protect the environment from individual within and without the community ▪ Talking to persons in authority, to determine ways to prevent from getting worse ▪ Ensure it always be safe ▪ Become more proactive than reactive ▪ Provide service for the poorer persons such as latrines and public baths ▪ Nothing is being done ▪ Stop encouraging violence ▪ Try to get the garbage dump move from where it is located ▪ Look for problem and address them

Appendix 37. What should be done to make people more aware of the environment and impact

Information, Education & Communication incl. dialogue:

- Publish more newspaper articles and local documentaries
- More programme on the radio, more community clean up campaign
- More information receive by decision in the community from environmental officers// Internal meetings with environment officers
- Show more programs on the television, hold more environmental awareness workshops
- Educate the community more about the environment and disadvantages// Educate persons in community
- Education is key to any concern citizens, make them more aware by having seminars, workshops or even community meeting to make them more aware of the environment
- Putting up sign encouraging not to litter and using flyers
- Advertise, introduce it in more schools and make a bigger deal about community clean up competition
- Seminars, advertisements, flyers, fine and penalties should be levied
- Educate people on the importance of the environment and the benefits that can be derived from it
- Have more media information on how to preserve it for the safety of all
- Have skits or plays to get the public aware of the danger of not looking after it
- Use of more billboards and radio programmes
- More television, radio and newspaper advertisement
- More awareness programmes e.g. pamphlets. Put an environmental studies on school curriculum
- Have educational talks and put out flyers
- Placing more signs/programmes to inform persons, plant trees and greater law enforcement
- Have more talk shows on radio, teach more about the environment in schools and more posters on boards
- Educate them and more visits by health inspectors
- Educate the people more about the environment have tours to these protected sites and explain why they are protected
- More education using the radio, TV and also newspaper
- More discussion on radio, TV, in school. set up billboards in the school have skits, plays
- More education – posters, banner, workshop/sessions
- Have more survey, poster and information passed on in communities
- Interruption of movies/TV programs to view educational programs on the environment
- Have advertisements asking people to dispose garbage in bins
- Having rallies, advertisements on the media
- More places to teach people
- By ensuring posters are made about environmental awareness
- Public service campaign to spread information, more fun, innovative and creative
- Show documentaries, talk to them
- Education (primary, secondary, tertiary)
- Use slogans and catchy jinks to catch persons attention
- Workshops, advertisements and educational tips
- More radio programs and more community based programs
- Use the media to air documentaries on environmental pollution and its effects
- Dramatic effects, advertise using comic strips, sing about issues
- The keys lies in education and reinforcement through the media
- Consultations, village meetings, clean up campaigns, workshop
- Village meetings and talks from environment officers
- Have campaign, print T-shirts and have a walk for a clean environment
- Public meetings, house-to-house campaign
- Billboards depicting the damage that is done by pollution and solution to it
- Education – show actual pictures of the charges in the environment, persons will see effects
- Have more debate about the environment
- Target school students with information, community discussions, 5 minutes talks at church services
- More radio and TV shows// More broadcasting
- Surveys like these more available to the general public
- They can have town hall meeting in village to make people more aware
- Educated especially young ones
- Teach the children the right way to do things
- More call in programmes and community meetings
- Distribute posters and flyers in communities
- Have daily broadcast. Use flyers, bulletin in community, churches
- Ring the bell to have community meetings/sessions/seminars
- Visit homes more and talk to us
- Talk about it at home and school // Talk more about it
- Department should have public meetings and to meet local government halfway
- Continue beach cleanup using flyers, meetings and keep cleanup campaign
- More community outreach programs
- More intervention from health officers in each community. Education “Pappa George” type TV spots. These

Appendix 37. What should be done to make people more aware of the environment and impact

<p>were very effective</p> <ul style="list-style-type: none"> ▪ Interactive educating ▪ Government officials can educate the people of nation by awareness campaigns ▪ Get someone from Ministry of Health to do some lectures ▪ Workshops in communities ▪ Announce it on radio to inform them of the problems ▪ Ensure that campaigns on littering in the community continues, educate adults and students on littering ▪ Education, identify the root cause of the problem and find solution ▪ They could use paneflaits let the people have no dumping refuse sign ▪ Send out notices, have protest ▪ Talk to farmers to practice good farming techniques and encourage people to dispose garbage properly ▪ More people should be trained ▪ More global climate change advertisements and subjects on sustainable development ▪ More sensitivity needed through local media and different formats ▪ Teach people to use less chemicals ▪ Brighten up the sites – Put up signs ▪ Talk to the people, government should try to encourage people to clean the environment ▪ Show them how poison can kill ▪ Have more survey taking place and get everybody to do something
<p>Community activities and/or national action groups:</p> <ul style="list-style-type: none"> ▪ Seriousness of unity ▪ Stop buying tin food and eat fresh local fruits ▪ Keep your surrounding clean ▪ Everyone should help another and stop fighting one another down ▪ More environmental programs around the island ▪ Form a group or club// Get clubs to clean up the environment ▪ More programmes should be done in school. Have more competition ▪ Togetherness ▪ Have village to village campaigns and the government can keep meeting on the environment ▪ Have an environmental day in St. Lucia ▪ Promote the environment more as a community assess and develop plans around it ▪ By having more business and community based activities ▪ Citizens of this country should stand proud and focus on the benefit of protecting the environment ▪ Neighbours need to keep their children home ▪ People need to come together to talk about things that will improve the environment ▪ Curse them and tell them they are nasty, shame them ▪ More cleaning and more people involve ▪ The people know what to do already they just have to play their role and clean up the place ▪ Speak, have a role or influence on society ▪ Help them to do the good things ▪ Work with nature to sustain the earth's life support system ▪ Use pesticides in your home only when necessary ▪ First we need to protect our own home
<p>Regulatory framework & systems' management:</p> <ul style="list-style-type: none"> ▪ Warn people about littering the place, if they do not abide by the rules fine them ▪ Stiffer fines for littering. Advertisement giving information on proper garbage disposal methods ▪ Create and implement laws that punish offenders. As well as education via the media ▪ Enforce and write laws// Enforce laws to protect environment ▪ Get the sanitary officers to go around and do their work properly ▪ Give bad boys longer jail terms ▪ The government playing a more important role ▪ Stick to rules and regulation - the police need to be more responsive ▪ Pass laws on littering and pollution ▪ More garbage trucks and more bins ▪ The rubbish truck should come to take the rubbish on time ▪ Police need to guard the streets daily ▪ People should be fined for pollution, put up signs, laws in place ▪ Give them a summons ▪ Government should visit more and see what is going on ▪ Increase the number of garbage collection days ▪ Government must stop giving work to people who support them alone and have more road gangs ▪ Develop standard to keep environment safe and sound ▪ Adhering to guidelines

Appendix 37. What should be done to make people more aware of the environment and impact

<ul style="list-style-type: none">▪ Lock up people who withhold information from police▪ Stiffer penalty for crimes▪ The council should take the first step in clearing the drains then the community persons will flow▪ Develop a green/nature policy and educate the public through media, community, sessions, discussions▪ Put more garbage bins in the areas▪ Introduce recycling, give people a choice to recycle and more education▪ Ban chicken so people will buy more fish▪ More regular visits by SW, inspectors and monitors/wardens▪ Change the government▪ Give the litter wardens and health workers a bigger salary
General / Other: <ul style="list-style-type: none">▪ I am not sure▪ Clean the place up▪ Made them stop or it will continue and get worse▪ Let them know its our own health▪ Have special programmes for activities dealing with the environment▪ Getting assistance from other countries to help environment▪ Create something for them to do▪ Give jobs to people who are home frustrated▪ More development▪ More demonstrations▪ Put thing in place to say here is protected and keep your environment clean▪ Here me to clean more areas, give me more work▪ I need discussions with someone from the Ministry so we could know what role to play

Appendix 38. Departments' / Agencies' Environment-type work

	N	%
▪ Solid Waste Management	11	7.7
▪ Environmental awareness, protection and teaching	11	7.7
▪ None	9	6.3
▪ Beautify the community and cleaning of community	7	4.8
▪ Environmental impact assessment	6	4.1
▪ Education and public awareness on environment	5	3.4
▪ Marine resource management	4	2.8
▪ Work with tourism, a restaurant and beach clean up	3	2.1
▪ Environment public health	3	2.1
▪ Youth in agriculture	3	2.1
▪ Farmers Organization	2	1.4
▪ Management of forest and watersheds	2	1.4
▪ Cleaning of drains, sidewalks, ravines, parks and beaches	2	1.4
▪ Disaster management	2	1.4
▪ Administrative	2	1.4
▪ Recycling, monitoring the broilers as it relates to gas emission, solid waste	2	1.4
▪ Health, safety and security	2	1.4
▪ Green globe 21	2	1.4
▪ Waste collection from offices and construction sites	2	1.4
▪ Treatment system for water	2	1.4
▪ Water conservation	2	1.4
▪ Cleaning the immediate surrounding	2	1.4
▪ Projects, campaign advocacy	2	1.4
▪ Saving and protecting turtles	2	1.4
▪ Coordinate environmental management activities in the federation	2	1.4
▪ Conserve energy, water and waste	2	1.4
▪ Construction	2	1.4
▪ Beach erosion control, drug prevention	2	1.4
▪ Clean-up campaigns, planting of ornamental plants and training of communities	1	0.7
▪ Contribute to environmental management work of other agencies		
▪ Government bureau of standard		
▪ Provide support to environmentally friendly agriculture practice		
▪ Marine pollution, prevention policy making and implementation		
▪ Public information and education		
▪ Public relation officer		
▪ Forest management nature conservation		
▪ Preservation of certain areas, maintenance of areas		
▪ Business of consumers and fishers		
▪ Sanitation		
▪ Management of tourist attractions		
▪ Discuss where cable lines run		
▪ Tree planting with school and coastal resource management		
▪ Enduring proper care is taken in the preparation and handling of food		
▪ Lead maritime institution in Grenada therefore is a watchdog for coastal management		
▪ Waste treatment plant at Mali		
▪ Ensuring the areas where the water is obtained is kept clean at all times		
▪ Training young people in sustainable development and environmental issues		
▪ Multi-national environmental program and focal point for international conventions		
▪ Agriculture supply		
▪ Tours		
▪ Beach profile & reef monitoring. Management of fisheries & turtle monitoring activities		
▪ Policy monitoring and evaluation		
▪ Collection, transport and disposal of waste		
▪ The promotion of sustainable development		
▪ Management of historic sites		
▪ Vector control, solid waste monitoring water quality and coastal pollution		
▪ Assist the Ministry of Health in Health management		
▪ Heritage site awareness		
▪ Provision of water and solid waste management services		
▪ Promotion of organic agricultural farming		
▪ Protection of the environment for sustainable use		
▪ Social studies		
▪ External customer service and landscaping		
▪ Garbage collection and general cleaning up of town		
▪ Caribbean youth and environment network St. Lucia		
▪ Management of Piton Area – world heritage site		

Appendix 38. Departments' / Agencies' Environment-type work

	N	%
<ul style="list-style-type: none">▪ Biodiversity projects, bio-safety projects and public sensitization▪ Education management▪ Pollination▪ Eco-tourism historical tourism▪ To serve the interest of the public▪ Management research		

Appendix 39. Dept respondents' familiarity with environmental issues, and relationships to other environmental positions and demographic variables

	Familiarity with environmental issues in general		
	<i>Very familiar</i>	<i>Somewhat</i>	<i>Not familiar</i>
TOTAL:	54.5	40.0	5.5
Country:			
$\chi^2=17.96$; $df=10,1$; n.s.			
<i>Antigua & Barbuda</i>	50.0	38.9	11.1
<i>Dominica</i>	72.0	24.0	4.0
<i>Grenada</i>	32.0	52.0	16.0
<i>St. Kitts & Nevis</i>	44.0	52.0	4.0
<i>St. Lucia</i>	66.7	33.3	--
<i>St. Vincent & Grenadines</i>	60.0	40.0	--
Sex:			
<i>Male</i>	58.5	41.5	--
<i>Female</i>	49.2	37.7	13.1
Age:			
$\chi^2=14.54$; $df=6,1$; $p\leq 0.05$			
<i>15-24</i>	--	100.0	--
<i>25-34</i>	44.1	44.1	11.8
<i>35-44</i>	60.0	36.0	4.0
<i>45+</i>	63.0	33.3	3.7
Education:			
$\chi^2=19.37$; $df=10,1$; $p\leq 0.05$			
<i>Primary</i>	42.9	42.9	14.3
<i>Secondary</i>	27.3	63.6	9.1
<i>Skills/Vocational</i>	50.0	40.0	10.0
<i>College</i>	40.0	50.0	10.0
<i>University</i>	72.0	26.0	2.0
<i>Postgraduate</i>	64.0	36.0	--
Have knowledge of protected areas in your island/country?			
$\chi^2=18.54$; $df=4,1$; $p\leq 0.05$			
<i>Yes</i>	58.1	38.8	3.1
<i>Not sure/ I might</i>	50.0	50.0	--
<i>No</i>	21.4	50.0	28.6

Appendix 40. Departments' familiarity with government's response to environmental issues, and relationships to other environmental positions and demographic variables

	Familiarity with environmental issues in general		
	<i>Very familiar</i>	<i>Somewhat</i>	<i>Not familiar</i>
TOTAL:	40.0	44.1	15.9
Country:			
$\chi^2=13.47$; $df=10,1$; n.s.			
<i>Antigua & Barbuda</i>	33.3	55.6	11.1
<i>Dominica</i>	48.0	36.0	16.0
<i>Grenada</i>	16.0	56.0	28.0
<i>St. Kitts & Nevis</i>	32.0	52.0	16.0
<i>St. Lucia</i>	55.6	33.3	11.1
<i>St. Vincent & Grenadines</i>	52.0	36.0	12.0
Sex:			
<i>Male</i>	39.0	50.0	11.0
<i>Female</i>	41.0	37.7	21.3
Age:			
$\chi^2=7.24$; $df=6,1$; n.s.			
<i>15-24</i>	16.7	66.7	16.7
<i>25-34</i>	26.5	52.9	20.6
<i>35-44</i>	52.0	34.0	14.0
<i>45+</i>	40.7	44.4	14.8
Education:			
$\chi^2=17.73$; $df=10,1$; n.s.			
<i>Primary</i>	14.3	57.1	28.6
<i>Secondary</i>	13.6	59.1	27.3
<i>Skills/Vocational</i>	60.0	20.0	20.0
<i>College</i>	36.7	40.0	23.3
<i>University</i>	52.0	42.0	6.0
<i>Postgraduate</i>	44.0	44.0	12.0
Have knowledge of protected areas in your island/country?			
$\chi^2=13.25$; $df=4,1$; $p\leq 0.05$			
<i>Yes</i>	45.0	40.3	14.7
<i>Not sure/ I might</i>	--	100.0	--
<i>No</i>	--	71.4	28.6

Appendix 41. Department respondents' knowledge of Protected Areas

	TOTAL	Anu	Dom	Gre	SKN	SLU	SVG
Do you know of any Protected Area in your island/country?							
$\chi^2=47.22$; df=10,1; p≤ 0.001							
Yes	89.0	88.9	100.0	92.0	56.0	100.0	96.0
Not sure / I might	1.4	5.6	--	--	--	--	4.0
No	9.7	5.6	--	--	44.0	--	--
When was the last time you heard anything about Protected Areas ?							
$\chi^2=51.35$; df=25,1; p≤ 0.01							
Everyday	28.5	27.8	48.0	16.0	25.0	29.6	24.0
Under one (1) month	37.5	50.0	36.0	64.0	8.3	33.3	36.0
1-6 months ago	12.5	5.6	--	16.0	16.7	18.5	16.0
6 months to a year ago	4.9	11.1	--	4.0	4.2	11.1	--
Not sure	11.8	--	8.0	--	37.5	7.4	16.0
Other	4.9	5.6	8.0	--	8.3	--	8.0
How likely are you to develop a greater level of interest in receiving information on the Environment and Protected Areas in the future?							
$\chi^2=33.40$; df=20,1; p≤ 0.05							
Very likely	80.6	83.3	96.0	68.0	66.7	85.2	84.0
Somewhat likely	16.0	16.7	4.0	32.0	12.5	14.8	16.0
Not sure	0.7	--	--	--	4.2	--	--
Somewhat unlikely	1.4	--	--	--	8.3	--	--
Very unlikely	1.4	--	--	--	8.3	--	--

Appendix 42. Departments' perceived threat levels of various environmental phenomena

TOTAL SAMPLE	High threat	Low threat	No threat	DK/Not sure
1. Hurricanes or large storms	89.6	7.6	2.8	--
2. Garbage or litter that are not properly disposed of	81.9	16.0	1.4	0.7
3. Sedimentation, or dirtying of coastal areas	73.6	22.2	1.4	2.8
4. Landslides	70.6	26.6	2.1	0.7
5. Loss or damage to coral reefs	70.1	22.2	--	7.6
6. Sedimentation, or dirtying of rivers	69.2	25.2	2.8	2.8
7. Tree-cutting that is not monitored, <i>or</i> loss of forests	68.1	25.0	4.2	2.8
8. Increased greenhouse gases/climate changes	66.7	25.0	0.7	7.6
9. Sea level rise	67.1	29.4	1.4	2.1
10. Poor farming practices	64.8	28.9	1.4	4.9
11. Diseases/epidemics	64.6	29.9	3.5	2.1
12. Floods	61.1	34.7	4.2	--
13. Loss/extinction of local native species	60.4	31.3	4.2	4.2
14. Water pollution	59.0	35.4	2.1	3.5
15. Droughts or reduction in rainfall	56.6	35.7	2.8	4.9
16. Air pollution	49.0	44.8	2.1	4.2
17. Over fishing/reduced fish catch	45.5	40.6	4.9	9.1
18. Earthquakes	53.1	42.0	4.2	0.7
19. Local fish kills	39.7	45.4	3.5	11.3
20. Invasive or exotic species that are brought here	34.3	44.8	7.0	14.0

Appendix 43. Communication tools' relative success

	TOTAL	Anu	Dom	Gre	SKN	SLU	SVG
Meetings/Workshops /Conferences							
$\chi^2=67.39$; $df=20,1$; $p\leq 0.001$							
Highly	30.3	22.2	56.0	4.2	20.0	30.8	45.8
Moderately	26.8	27.8	28.0	16.7	20.0	46.2	20.8
Very limited	11.3	11.1	8.0	--	20.0	19.2	8.3
Not at all	5.6	11.1	4.0	--	8.0	3.8	8.3
DK/NA	26.1	27.8	4.0	79.2	32.0	--	16.7
Radio							
$\chi^2=37.51$; $df=20,1$; $p\leq 0.05$							
Highly	29.0	33.3	28.0	16.0	20.0	40.7	36.0
Moderately	33.8	33.3	52.0	40.0	28.0	22.2	28.0
Very limited	11.7	16.7	--	--	32.0	14.8	8.0
Not at all	5.5	--	8.0	--	4.0	7.4	12.0
DK/NA	20.0	16.7	12.0	44.0	16.0	14.8	16.0
Television							
$\chi^2=58.98$; $df=20,1$; $p\leq 0.001$							
Highly	27.8	38.9	20.0	12.0	20.0	51.9	25.0
Moderately	26.4	33.3	44.0	40.0	16.0	11.1	16.7
Very limited	13.9	11.1	12.0	--	44.0	--	16.7
Not at all	6.9	--	12.0	--	4.0	7.4	16.7
DK/NA	25.0	16.7	12.0	48.0	16.0	29.6	25.0
Exhibitions							
$\chi^2=76.14$; $df=20,1$; $p\leq 0.001$							
Highly	21.7	11.8	20.0	--	24.0	48.1	20.8
Moderately	16.8	29.4	28.0	4.0	20.0	22.2	--
Very limited	16.8	23.5	16.0	--	32.0	11.1	20.8
Not at all	11.2	5.9	8.0	4.0	8.0	14.8	25.0
DK/NA	33.6	29.4	28.0	92.0	16.0	3.7	33.3
Brochures/Pamphlets/Flyers							
$\chi^2=69.81$; $df=20,1$; $p\leq 0.001$							
Highly	20.8	38.9	20.0	12.0	16.0	33.3	8.3
Moderately	29.2	16.7	52.0	12.0	32.0	29.6	29.2
Very limited	12.5	27.8	16.0	--	12.0	18.5	4.2
Not at all	7.6	--	--	--	4.0	14.8	25.0
DK/NA	29.9	16.7	12.0	76.0	36.0	3.7	33.3
Newspapers							
$\chi^2=44.68$; $df=20,1$; $p\leq 0.001$							
Highly	18.8	33.3	20.0	4.0	12.0	26.9	20.0
Moderately	29.2	27.8	20.0	44.0	20.0	42.3	20.0
Very limited	15.3	16.7	12.0	--	40.0	7.7	16.0
Not at all	9.7	--	20.0	--	8.0	7.7	20.0
DK/NA	27.1	22.2	28.0	52.0	20.0	15.4	24.0
Internet							
$\chi^2=58.02$; $df=20,1$; $p\leq 0.001$							
Highly	14.0	27.8	20.0	4.0	8.0	12.0	16.0
Moderately	15.4	22.2	16.0	12.0	24.0	20.0	--
Very limited	16.1	5.6	24.0	--	40.0	12.0	12.0
Not at all	13.3	5.6	12.0	--	4.0	32.0	24.0
DK/NA	41.3	38.9	28.0	84.0	24.0	24.0	48.0
Newsletters							
$\chi^2=42.59$; $df=20,1$; $p\leq 0.001$							
Highly	11.3	27.8	12.0	--	8.0	20.0	4.2
Moderately	11.3	16.7	8.0	4.0	12.0	20.0	8.3
Very limited	10.6	22.2	12.0	--	8.0	8.0	16.7
Not at all	15.5	5.6	20.0	4.0	8.0	24.0	29.2
DK/NA	51.4	27.8	48.0	92.0	64.0	28.0	41.7
Books/magazines							
$\chi^2=61.69$; $df=20,1$; $p\leq 0.001$							
Highly	4.8	16.7	4.0	4.0	4.0	3.7	--
Moderately	19.3	11.1	24.0	--	32.0	29.6	16.0
Very limited	17.9	38.9	24.0	--	28.0	14.8	8.0
Not at all	16.6	11.1	8.0	4.0	12.0	33.3	28.0
DK/NA	41.4	22.2	40.0	92.0	24.0	18.5	48.0

Appendix 44. Departments' additional comments/suggestions to assist environmental awareness programmes

Audiences:
The entire public needs to be educated and the local community. Since tourism is the main economic activity so the place has to look good ... Schools should be targeted on environmental issues. More workshops/working sessions should be held with stakeholders ... There need to be continued sensitization to the public on management of our rivers and beaches. We need to take individual responsibility in ensuring areas are kept clean ... Hold public meeting, show videos to expose people to the dangers of those issues, make use of lectures ... More hoteliers should get involved in composting ... Target young people and expose them to carriers leading them to environment work
Channels:
Share results of surveys with smaller agencies so that they can be aware of the changes for implementation ... Pay more attention to locally formed youth environmental groups to keep the groups motivated and interested. Provide such groups with assistance and funding ... Community groups like N/NETDC needs more support from policy makers and other agencies involved in environmental issues ... There need to be a body that is all embracing ... There should be a documentary that highlight environmental programs ... Be sure to partner with NGO's, private sector, government because the environment is everybody business ... Government need to have more communication with council on environment matters. More programs should be held also make it part of the school subject curriculum
Media:
More use of media using a method that captures the interest. Some programs can utilize local dialect also ... The television and radio should be used more extensively ... There should be environmental newsletter and more emphasis given to primary and secondary schools ... Put up billboards ... Write books to be placed in schools
Messages:
Development of slogans to encourage people to dispose of garbage properly. School should be tangible to encourage change in behaviours ... I feel not enough attention is not given to solar energy in terms of environmental conservation where renewable of energy are not adequately being used to help keep the environment healthy ... There should be more programs dealing with the preservation of beaches and mangroves. More programs in schools dealing with the negative effect of littering ... Stop the deforestation
Activities:
Use drama and songs as a strategy to capture the young people attention we are always willing to support ... Use of mascots that would use to remind them that there is better garbage disposal... Continuous educational programs should be implemented ... More research ... Promotion ... More public awareness and more capacity because training is necessary ... While there are collections of waste on a weekly basis, there are still those who are littering -households or domestic waste. There is a need for more monitoring in their areas... Try selling the idea of one ... Hope this survey manifest throughout the island
Strategies:
Government should provide resources for environmental management for groups and equipment to work with... More money should be poured into all environmental management programs. Enforcement of legislation ... Coordination between organization conducting environmental awareness programs. Is more effort should be placed on sharing resources ... Support from government as a wider body should be more forth coming ... Budget support by government to agencies and organization. There needs to be sustainability ... The environmental laws and standards has to be enforced because if you make all the protected areas by the world and no one adheres it wont be effective. There need to be environment audits so that the monetary value is known for e.g. there is monetary value for a view such as a hotel room with sea-view, it is more expensive than any other room. If you remove the sand then it wont be a tourist attraction anymore... People using garbage bins provided ... Time that policy is being put into action ... With Caribbean Unity we can make this place and our people more environmentally friendly ... Partnership project could be implemented... I would like to see that environmental people stop talking and do the walking and be willing to assist volunteers and not turn their backs on us ... World powers need to be less selfish and stop having narrow self-interest. Politicians and policy makers needs to have moral courage ... Provisions of increased knowledge mediums and financial assistance to educate persons on environmental issues... Breakdown in communication when it comes to government and sub-officials when it comes to basic, implement of works ... Practicality of methods use in communicating in environmental issues

Appendix 45. COUNTRY PROFILES⁵

Population (mid-year 2005; '000):	82.8
Population growth rate (%):	1.9
Per capita GDP (market prices; \$)	28,385
Main GDP contributors (2005; %):	
<i>Transport & Communication</i>	20.8
<i>Government Services</i>	16.8
<i>Construction</i>	16.2
Life expectancy at birth (yrs)	73.9
Human Development Index (HDI):	0.797
Environmental strategy or plan (year prepared)	2003



Population (mid-year 2005; '000):	70.6
Population growth rate (%):	0.3
Per capita GDP (market prices; \$)	11,479
Main GDP contributors (2005; %):	
<i>Government Services</i>	20.1
<i>Agriculture</i>	18.5
<i>Financial & Business Services</i>	15.0
Life expectancy at birth (yrs)	75.6
Human Development Index (HDI):	0.783
Environmental strategy or plan (year prepared):	2004



Population (mid-year 2005; '000):	105.9
Population growth rate (%):	0.7
Per capita GDP (market prices; \$)	12,847
Main GDP contributors (2005; %):	
<i>Transport & Communication</i>	23.1
<i>Construction</i>	21.5
<i>Government Services</i>	16.7
Life expectancy at birth (yrs)	65.3
Human Development Index (HDI):	0.787
Environmental strategy or plan (year prepared):	2004

⁵ Maps from World Wide Web; Data from Caribbean Development Bank Annual Economic Review (2006)



Population (mid-year 2005; '000):	49.3
Population growth rate (%):	1.2
Per capita GDP (market prices; \$)	23,478
Main GDP contributors (2005; (%):	
<i>Financial & Business Services</i>	20.7
<i>Government Services</i>	18.9
<i>Transport & Communication</i>	15.7
Life expectancy at birth (yrs)	70.0
Human Development Index (HDI):	0.834
Environmental strategy or plan (year prepared):	2004



Population (mid-year 2005; '000):	164.2
Population growth rate (%):	1.1
Per capita GDP (market prices; \$)	14,510
Main GDP contributors (2005; (%):	
<i>Transport & Communication</i>	20.3
<i>Financial & Business Services</i>	19.0
<i>Government Services</i>	14.6
Life expectancy at birth (yrs)	72.4
Human Development Index (HDI):	0.772
Environmental strategy or plan (year prepared):	2004



Population (mid-year 2005; '000):	104.9
Population growth rate (%):	0.4
Per capita GDP (market prices; \$)	11,073
Main GDP contributors (2005; (%):	
<i>Government Services</i>	19.5
<i>Wholesale & Retail Trade</i>	19.4
<i>Transport & Communication</i>	18.9
Life expectancy at birth (yrs)	71.1
Human Development Index (HDI):	0.755
Environmental strategy or plan (year prepared):	2004

Appendix 46a. Overview of Communication Planning framework I

<u>Audiences</u>	<u>Intended Outcomes</u>	<u>Messages</u>	<u>Key Activities</u>	<u>Channels</u>	<u>Management Strategies</u>
Environmental action groups					
Community-based organizations					
Private-sector /groups					
Hotel operators					
Large farmers					
Secondary school students					
Adult males					
Adult females					
Small farmers					
General population					

Appendix 46b. Overview of Communication Planning framework II

<u>Decision stage</u>	<u>Communication Task</u>	<u>Target Audience</u>	<u>Where and When</u>	<u>IMC Options</u>
Awareness of Needs and Options				
Learning about Options				
Consultation / Recommendation				
Usage and Reinforcement				

Appendix 47a. OECS-ESDU: Environmental Awareness Survey: *Households*

	INTERVIEWER	OFFICE USE ONLY
Questionnaire #:		___ " ___
Interviewer:	_____	___ " _____
Country:	_____	_____
Community:	_____	___ " _____
District/Parish:	_____	_____
Geographic location:	Urban ___1 Rural ___2	___
Date:	____ Day _____ Month _____ Year	___ " _____
Interview Start Time:	_____ a.m. / p.m.	_____

B. WHEN YOU APPROACH RESPONDENT HOUSEHOLD:

Introduction: Hello, my name is _____ and I am working on behalf of the Organisation of Eastern Caribbean States (OECS). We are conducting a survey **about the environment**, with people in this area.

- Your household was chosen from a random sample, and we would like to invite someone here to participate. The survey will take about 25 minutes. All the information that we get from you will be treated confidentially. *First*, who was the last person to have a birthday here? ... [Locate R] ... [Repeat **Intro**] ... We would really appreciate your participation in this survey. Your answers will help us to plan environmental programs and set better environmental policies.
- Remember, this is **not a test** – only a survey – we just want to know how you feel about these things. There are no “right” or “wrong” answers.

A. SCREENER:	Yes	No	
a. Are you a resident of this country?	1	2	No ... end
b. Are you between 15 and 74 years of age?	1	2	No ... end
c. Are you a <u>full member</u> of this household i.e. <i>eat & sleep together under same roof for 4 or more nights per week</i> ?	1	2	No ... end
d. Do you have hearing or speech problems to prevent you taking part?	1	2	Yes ... end
e. Have you recently participated in any similar research?	1	2	Yes ... end
f. Would you give us 25 minutes of your time to answer the questions?	1	2	Continue...
i. [If YES] Thank You. First I am going to ask you some background questions about yourself. Will you be prepared to answer these questions?	1	2	Yes ... Go to Q B1
ii. [If NO] The interview is completely confidential. Are there any concerns that you have that I can answer for you? It is so important to have your input as your responses will help us deliver to you, your community and country, a better programme on environmental awareness. Research results will also be more accurate if we interview everyone whom we randomly selected. Can I ask you to reconsider? Or can I come back at another time?	1	2	Continue if R agrees to do interview Refer if more info needed
iii. [If NO] Thank you for your time.			End ...

B. DEMOGRAPHICS: To begin, I would like to ask you some questions about yourself			
B1	Sex [DO NOT ASK]		
	Male	__1	
	Female	__2	
B2	Age: Which of these describes your age range?		
	15 to 24 yrs	__1	
	25 to 34 yrs	__2	
	35 to 44 yrs	__3	
	45 to 54 yrs	__4	
	55 to 64 yrs	__5	
	65 to 74 yrs	__6	
B3	Read: How well do you read?		
	Not at all /Not very well	__1	
	Quite well	__2	
	Very well	__3	
B4a	Education: Last level complete?		
	No formal education	__1	
	Primary	__2	
	Secondary	__3	
	Skills/Vocational [Go to B5]	__4	
	College [Go to B4b]	__5	
	University [Go to B4b]	__6	
	Postgraduate [Go to B4b]	__7	
	Other: _____	__8	
B4b	Highest Qualification: _____	_____	
B5	Work status: Do you currently work for a living?		
	Yes [Go to B6]	__1	
	No [Go to B7]	__2	
B6	Work: You mainly work...?		
	Regular, full-time	__1	
	Regular, part-time	__2	
	Seasonal work	__3	
	Occasional work	__4	
	Other _____	__5	
B7	Income range: Monthly income (EC\$ gross)?		
	None/No income	__1	
	Less than \$1,000	__2	
	\$1,000-2,000	__3	
	2,001-5,000	__4	
	5,001-10,000	__5	
	Over 10,000	__6	
	No response	__7	
B8	Occupation: Your occupation?		
	_____	_____	
B9	Occupation II: Which of these describes you?		
	Unemployed /Housewife/Student	__1	
	Unskilled/Labourer/Domestic	__2	
	Semi-skilled/Machine operators	__3	
	Skilled/Tradesperson/Technical/ Clerical / Sales person	__4	
	Small farmer/Micro business owner	__5	
	Para-Prof/Small business owner or manager / Administrative	__6	
	Medium business owner or manager/ Semi-professional/ Large farmer	__7	
	Professional/Large business mgr_ owner	__8	
B10	Residency: Time lived here (<i>community</i>)? _____ yrs.		
B11	Locations: Is your place of employment...?		
	In your community	__1	
	Outside of your community	__2	
	In more than one town/village on the island	__3	
B12	Transport: How do you mainly travel?		
	Walk	__1	
	Bus/Taxi/Van	__2	
	Own vehicle	__3	
	Other _____	__4	
B13	Marital status: What is your marital status?		
	Single / Dating / Visiting	__1	
	Common-law (<i>live together; unmarried</i>)	__2	
	Married	__3	
	Separated / Divorced	__4	
	Widowed	__5	
B14	Children: Total # living with you (<19y)? _____		
	# Children attending school	_____	
B15	Religion: You belong to?		
	No church or religion	01	
	Anglican	02	
	Baptist	03	
	Church of God	04	
	Methodist	05	
	Pentecostal	06	
	Rastafarian	07	
	Roman Catholic	08	
	Seventh Day Adventist	09	
	Other _____	10	
B16	Church attend: How often do you attend?		
	Not at all	__1	
	Special occasions only	__2	
	Monthly	__3	
	Weekly	__4	
	Daily	__5	

C. INFORMATION / MEDIA SOURCES ON ENVIRONMENTAL AWARENESS

C1. First, I want to ask you some questions about how you tend to get your information. **How many times:** (i) per week do you generally use each of the following...? (ii) did you use each during last week (i.e. from *Sunday* to *Saturday*); and (iii) which ones do you mainly use (i.e. *read, listen to, watch*)?

	(i) # Times per week					(ii) # Days	(iii) Which ones mainly?
	None	1	2-3	4-6	Daily	Last week	(Newspapers, Channels, Stations)
a. Read newspapers	0	1	2	2	3	# = _____	i. _____ ii. _____ iii. _____
b. Listen to radio	0	1	2	2	3	# = _____	i. _____ ii. _____ iii. _____
c. Watch television	0	1	2	2	3	# = _____	i. _____ ii. _____ iii. _____

C2. What times are you most likely to listen the radio and watch television, if at all? Tell me the first (1st) and second (2nd) most likely times for: (a) **radio**; (b) **local television**; (c) **cable television**; and also for (d) **special regional** programming I will ask about.

		Most Likely Listening/Viewing Times							
		<i>NA/Not at all</i>	<i>12 mid- night -6am</i>	<i>6-12 noon</i>	<i>12noon- 6 pm</i>	<i>6-12 mid- night</i>	<i>All times</i>	<i>Other</i>	
e. Radio									
	Weekdays	1 st	0	1	2	3	4	5	6
		2 nd	0	1	2	3	4	5	6
	Sat & Sun	1 st	0	1	2	3	4	5	6
		2 nd	0	1	2	3	4	5	6
f. Television_ local									
	Weekdays	1 st	0	1	2	3	4	5	6
		2 nd	0	1	2	3	4	5	6
	Sat & Sun	1 st	0	1	2	3	4	5	6
		2 nd	0	1	2	3	4	5	6
g. Television_ cable									
	Weekdays	1 st	0	1	2	3	4	5	6
		2 nd	0	1	2	3	4	5	6
	Sat & Sun	1 st	0	1	2	3	4	5	6
		2 nd	0	1	2	3	4	5	6
h. TV_ regional									
	(i) Cable Vision		0	1	2	3	4	5	6
	(ii) Hype.....		0	1	2	3	4	5	6
	(ii) Tempo		0	1	2	3	4	5	6
	(iv) Other:		0	1	2	3	4	5	6

C3. (i) *On* or *from* which of these **media sources** have you heard/seen/read **information about the environment**; and (ii) [DO NOT READ THE RESPONSES] how often have you heard/received/read information about the environment from them?

	(i) <u>Environ info?</u>		(ii) <u>Frequency of info re environment?</u>				
	Yes	No	NA	Never	Rarely	Sometimes	Regularly
a. Books/magazines	1	2	0	1	2	3	4
b. Newspapers	1	2	0	1	2	3	4
c. Radio	1	2	0	1	2	3	4
d. Television: cable channel(s)	1	2	0	1	2	3	4
e. Television: local channel(s)	1	2	0	1	2	3	4
f. Other I _____	1	2	0	1	2	3	4
g. Other II _____	1	2	0	1	2	3	4

C4. Tell me how much you **trust** information that you hear /receive /see **about the environment** from the sources that I name, i.e. how you rate the **trustworthiness** of the information. The possible answers are: *very trustworthy, somewhat trustworthy, not trustworthy, don't know/not sure*.

	How trustworthy?				
	NA	Very	Somewhat	Not at all	DK/not sure
a. Advertisements	0	4	3	2	1
b. Environment official / officer	0	4	3	2	1
c. Government officials	0	4	3	2	1
d. Internet	0	4	3	2	1
e. Law enforcement official	0	4	3	2	1
f. Local community leaders	0	4	3	2	1
g. Newspaper reports	0	4	3	2	1
h. Persons on local television stations	0	4	3	2	1
i. Person(s) on radio	0	4	3	2	1
j. Religious leaders	0	4	3	2	1
k. Teachers	0	4	3	2	1
l. Other _____	0	4	3	2	1

C5. How would you **rate the effectiveness** of tools used to communicate on environmental issues? Tell me whether each of these has "**no effect**", "**little effect**", "**average effect**", "**high effect**", or "**very high effect**". Also let me know if you can think of any other.

	No effect	Little effect	Average	High effect	Very high effect
a. Books / Magazines	1	2	3	4	5
b. Drama/theatre	1	2	3	4	5
c. Exhibitions	1	2	3	4	5
d. Internet	1	2	3	4	5
e. Newspapers	1	2	3	4	5
f. Radio	1	2	3	4	5
g. Television	1	2	3	4	5
h. Workshops / seminars	1	2	3	4	5
i. Other: _____	1	2	3	4	5

C6. Think about **how aware you are, or feel now about the environment and possible effects**. Thinking back, what two (2) things e.g. *an event, something you saw, read, heard, or even experienced* would you say **have had the most impact on you? ... What stirred your interest?**

- a) _____
- b) _____

C7 When was the last time you heard anything about <i>Protected Areas?</i> [DO NOT READ ANSWERS]	C8 How likely are you to develop a greater level of interest in receiving information on the environment and protected areas in the future?
<div> <div>Everyday</div> <div>Under one (1) month</div> <div>1-6 months ago</div> <div>6 months to a year ago</div> <div>Not sure</div> <div>Other</div> </div> <div> <div>___1</div> <div>___2</div> <div>___3</div> <div>___4</div> <div>___5</div> <div>___6</div> </div>	<div> <div>Very likely</div> <div>Somewhat likely</div> <div>Not sure</div> <div>Somewhat unlikely</div> <div>Very unlikely</div> </div> <div> <div>___1</div> <div>___2</div> <div>___3</div> <div>___4</div> <div>___5</div> </div>

D. KNOWLEDGE ABOUT ENVIRONMENTAL ISSUES/CONCERNS

I am going to ask you what you know or have heard about the environment, and your general perceptions or feelings are, about the environment.

D1. Tell me in a few words what you know or hear about the environment, or understand it to mean.

D2. Some things *may* or *may not* be **threats** to our local environment. As I read, tell me whether you believe each one to be **a high threat, a low threat** or **no threat**. If you have never heard about it or do not understand what it means, that's OK, just tell me you **don't know**.

	High threat	Low threat	No threat	DK/Not sure
a. Earthquakes	3	2	1	0
b. Increased greenhouse gases/climate changes	3	2	1	0
c. Landslides	3	2	1	0
d. Loss/extinction of local native species	3	2	1	0
e. Floods	3	2	1	0
f. Sea level rise	3	2	1	0
g. Diseases/epidemics	3	2	1	0
h. Loss or damage to coral reefs	3	2	1	0
i. Droughts or reduction in rainfall	3	2	1	0
j. Local fish kills	3	2	1	0
k. Tree-cutting that is not monitored, or loss of forests	3	2	1	0
l. Poor farming practices	3	2	1	0
m. Hurricanes or large storms	3	2	1	0
n. Sedimentation, or dirtying of rivers	3	2	1	0
o. Sedimentation, or dirtying of coastal areas	3	2	1	0
p. Garbage or litter that are not properly disposed of	3	2	1	0
q. Water pollution	3	2	1	0
r. Air pollution	3	2	1	0
s. Over fishing/reduced fish catch	3	2	1	0
t. Invasive or exotic species that are brought here	3	2	1	0
u. Other _____	3	2	1	0

D3. Within the past five years, have you seen or heard about any **changes in the environment**? For each of these things I mention, has it ... *increased* ... *decreased* ... *both increased and decreased*...? ... *Neither increased nor decreased*, i.e. there's been no change? ... *What?* ... Remember tell me if you have never even heard of it, or just "*don't know*" or are "*not sure*".

	DK / not sure	No change/ neither	Increased	Decreased	Both Increased & Decreased
a. Air temperature	0	1	2	3	4
b. Coral bleaching	0	1	2	3	4
c. Droughts	0	1	2	3	4
d. Fish catches	0	1	2	3	4
e. Garbage (solid waste)	0	1	2	3	4
f. Landslides	0	1	2	3	4
g. Loss of forests	0	1	2	3	4
h. Rainfall	0	1	2	3	4
i. Rising Tides	0	1	2	3	4
j. Seasonality of crops	0	1	2	3	4
k. Storms/hurricanes	0	1	2	3	4
Sedimentation (<i>soiling</i> or <i>dirtying</i>):	0	1	2	3	4
l. Of coastal areas	0	1	2	3	4
m. Of rivers	0	1	2	3	4
<u>Others:</u>					
n. I: _____	0	1	2	3	4
o. II: _____	0	1	2	3	4

D4a. How familiar would you say you are with **environmental issues** in general?

Very familiar____1

Somewhat familiar ____2

Not familiar ____3

D4b. How familiar are you with **government's response** to environmental issues?

Very familiar____1

Somewhat familiar ____2

Not familiar ____3

I want to ask you about a particular method that governments are using to manage and conserve some of the natural and cultural resources of the environment. The change usually results in what is known as "**Protected Areas**".

D5. What is your understanding of the term/phrase "**Protected Areas**"? _____

Think now about the full range of areas that could be called **Protected Areas** e.g. *Fish sanctuaries, Marine-protected areas ... restricted areas ... national parks ... forest reserves ... heritage sites ... cultural sites ... and others*, tell me:

D6. Do you know of any **Protected Area** in your island/country?

Yes	-----1	[Go to D7]
Not sure / I might	-----2	[Go to D7]
No	-----3	[Go to D10]

[If YES/NOT SURE]

D7 Name the Protected Area(s) that you are thinking of in your country?

- a. -----
- b. -----
- c. -----
- d. -----
- e. -----
- f. -----

D8 How would you say protection of those areas you just mentioned, changed the lives of people living in and around the Protected Areas?

Positively ____1

Negatively ____2

No change ____3

Don't know ____4

Other _____5

D8a Could you tell me more? -----

D9 What changes would you **like to see** in Protected Areas management in your community? **[DO NOT READ ANSWERS]**

	<u>Mention?</u>	
	<u>Yes</u>	<u>No</u>
Creation of more jobs	1	2
Management of tourist activity	1	2
More managed use of the trees and forest areas	1	2
More managed fishing	1	2
Education and research	1	2
Local recreation	1	2
More enforcement	1	2
Other I: -----	1	2

Other II: -----	1	2

D9a Could you say more? -----

D10 **[ALL]** Can you suggest any areas [or **other** areas] you think **should become known as Protected Areas** in your country?

- | | |
|------------|-----------|
| i. ----- | iv. ----- |
| ii. ----- | v. ----- |
| iii. ----- | vi. ----- |

D11 **[ALL]** How would Protected Areas benefit or be of value, to people living in or near them?

- i. -----
- ii. -----
- iii. -----

E. ATTITUDES ABOUT THE ENVIRONMENT AND PROTECTED AREAS

E1. For each of these statements that I am now going to read, tell me if you **agree (A)**, or **disagree (D)**, and how strongly e.g. **strongly agree (SA)**, or **strongly disagree (SD)**. For some, it might be that you do not have an opinion, that is, you **neither agree nor disagree**.

	SA	A	Neither A nor D	D	SD
k. Changes in the environment are having a negative impact on my community	5	4	3	2	1
l. I must play a role in improving and maintaining the environment	5	4	3	2	1
m. The government is responsible for maintaining the environment	5	4	3	2	1
n. Most environmental problems are caused by people in this country	5	4	3	2	1
o. Most environmental problems are caused by people in other countries	5	4	3	2	1
p. Most environmental problems are caused by natural disasters like hurricanes and earthquakes	5	4	3	2	1
q. It is important to protect some of the resources present in our environment, such as mangroves, coral reefs and forest areas	5	4	3	2	1
r. God will always provide natural resources for our needs	5	4	3	2	1
s. Natural resources can never run out	5	4	3	2	1
t. It is important to protect some cultural resources, such as Amerindian Sites	5	4	3	2	1

E2. As I read these other statements about **Protected Areas**, tell me whether you **agree (A)**, or **disagree (D)** with each of them – and how strongly i.e. **strongly agree (SA)**, or **strongly disagree (SD)**. Again let me know if you **neither agree nor disagree**, i.e. you do not have an opinion.

Protected Areas [PA] ...	SA	A	Neither agree nor disagree	D	SD
a. __ can make a vital contribution to the conservation of the Caribbean's natural environment	5	4	3	2	1
b. __ can provide opportunities for rural development	5	4	3	2	1
c. __ can help to manage the use of our land and sea areas	5	4	3	2	1
d. __ are a good way to generate income and create jobs	5	4	3	2	1
e. __ can create opportunities for environmental education	5	4	3	2	1
f. __ can provide recreational opportunities for locals	5	4	3	2	1
g. __ are mostly for tourists <i>from outside</i> the region (<i>not locals</i>)	5	4	3	2	1
h. __ are mostly for tourists from the region	5	4	3	2	1
i. __ should be used only for education and research	5	4	3	2	1
j. People who live next to a Protected Area benefit economically from the Protected Area	5	4	3	2	1
k. Marine Protected Areas should allow some fishing by local fishermen	5	4	3	2	1

E3. I now want you to rate your level of interest and concern about the environment and protected areas. The possible answers are **Very High, High, Average, Little** and **None**.

	EXTENT OF INTEREST / CONCERN				
	<i>Very high</i>	<i>High</i>	<i>Average</i>	<i>Little</i>	<i>None</i>
a. What is your current level of concern /interest about the environment?	5	4	3	2	1
b. What is your current level of concern/interest about Protected Areas?	5	4	3	2	1
c. How much chance is there you might develop greater concern/interest in the future?	5	4	3	2	1

F. BEHAVIOUR / PRACTICE IN RELATION TO THE ENVIRONMENT AND PROTECTED AREAS

I am now going to ask you a few more questions we need to analyze the data.

In the past six (6) months, **whom have you talked to about:**

F1 Ways to protect the environment?

i. _____

ii. _____

iii. _____

F2 Environmental problems?

i. _____

ii. _____

iii. _____

F3 In the past two (2) years, how many times have you visited Protected Areas (such as *heritage sites, national parks, marine- or forest- reserves*)?

0 / None ___1
1-3 times ___2
4-10 times ___3
More than 10 times ___4

F4a How do you think your day-to-day actions impact the environment – either directly or indirectly? ... **Positively?** Or **negatively?**

Very positively ___1
Somewhat positively ___2
Neither positively nor negatively ___3

Somewhat negatively ___4
Very negatively ___5
Not sure / don't know ___0

F4b Can you tell me why you said so?

F5 Do you recycle, reuse, or reduce any of your solid or liquid waste? (e.g. *food, plastic bags, cardboard boxes, bottles*, etc.)

Yes ___1
No ___2

F6 What could **you do** to prevent environmental quality from getting worse?

F7 What is the **community's** role in preventing environmental quality from getting worse?

F8 What do you think **should be done** to make people **more aware** of the environment and the impact they have/can have on it?

Thank you so much for your time and participation. Do you have any comments/questions?

Appendix 47b. OECS-ESDU: Environmental Awareness Survey: *Departmental*

	INTERVIEWER	OFFICE USE ONLY
Questionnaire #:		___ " ___
Interviewer:	_____	___ " ___
Country:	_____	___
Community:	_____	___ " ___
District/Parish:	_____	___
Geographic location:	Urban ___1 Rural ___2	___
Agency/Department Name:	_____	___
Date:	_____	___ " ___
	Day Month Year	___
Interview Start Time:	_____ a.m. / p.m.	___

A. WHEN YOU APPROACH RESPONDENT DEPARTMENT / AGENCY:

Introduction: Hello, my name is _____ and I am working on behalf of the Organisation of Eastern Caribbean States (OECS). We are conducting a survey **about the environment** -- including with various agencies and departments that conduct any type of **environmental management** work.

- Your agency/department was one selected for study. We need to speak with the person(s) who could answer about the environment e.g. policies, programmes, projects, and/or communication.
- We would really appreciate your participation.
 - Answers will help us better plan environmental programs and set environmental policies.
 - This type of input will help us deliver better programmes on environmental awareness.
 - Research results would also be more accurate if we interview everyone selected.
- The interview takes about 15 minutes.
- Information will be treated confidentially.

A. SCREENER / INTRODUCTION:	Yes	No	
a. Does this agency/department conduct <u>any type</u> of environmental management work in this country?	1	2	No ... end
b. Has the agency/department recently participated in any similar research?	1	2	Continue...
c. Would you give us 15 minutes of your time to answer the questions?	1	2	Continue...
i. [If YES] Thank You.			Go to B
ii. [If NO] The interview is completely confidential. Are there concerns I can answer for you? Can you reconsider? Or can I come back at another time?	1	2	Continue if R agrees to do interview
			Refer if more info needed
iii. [If NO] Thank you for your time.			End ...

B. DEMOGRAPHICS: To begin, I would like to ask you some questions about the agency / department	
B1 Sex [DO NOT ASK] <div style="text-align: right;">Male __1</div> <div style="text-align: right;">Female __2</div>	B4a Education: Last level complete? <div style="text-align: right;">Primary __2</div> <div style="text-align: right;">Secondary __3</div> <div style="text-align: right;">Skills/Vocational [Go to B5] __4</div> <div style="text-align: right;">College [Go to B4b] __5</div> <div style="text-align: right;">University [Go to B4b] __6</div> <div style="text-align: right;">Postgraduate [Go to B4b] __7</div> <div style="text-align: right;">Other: _____ __8</div>
B2 Age: Which of these describes your age range? <div style="text-align: right;">15 to 24 yrs __1</div> <div style="text-align: right;">25 to 34 yrs __2</div> <div style="text-align: right;">35 to 44 yrs __3</div> <div style="text-align: right;">45 to 54 yrs __4</div> <div style="text-align: right;">55 to 64 yrs __5</div> <div style="text-align: right;">65 to 74 yrs __6</div>	B4b Highest Qualification: _____ __ --
B8. Occupation: your occupation? _____ _____ -- --	B8a Agency's environment-mgmt type work: _____ _____ -- --

C. INFORMATION / MEDIA SOURCES ON ENVIRONMENTAL AWARENESS

C6. Think about **how aware you are, or feel now about the environment and possible effects**. Thinking back, what two (2) things e.g. *an event, something you saw, read, heard, or even experienced* would you say **have had the most impact on you? ... What stirred your interest?**

- c) _____
- d) _____

C7 When was the last time you heard anything about Protected Areas? [DO NOT READ ANSWERS] <div style="text-align: right;">Everyday ___1</div> <div style="text-align: right;">Under one (1) month ___2</div> <div style="text-align: right;">1-6 months ago ___3</div> <div style="text-align: right;">6 months to a year ago ___4</div> <div style="text-align: right;">Not sure ___5</div> <div style="text-align: right;">Other _____ ___6</div>	C8 How likely are you to develop a greater level of interest in receiving information on the environment and protected areas in the future? <div style="text-align: right;">Very likely ___1</div> <div style="text-align: right;">Somewhat likely ___2</div> <div style="text-align: right;">Not sure ___3</div> <div style="text-align: right;">Somewhat unlikely ___4</div> <div style="text-align: right;">Very unlikely ___5</div>
---	---

D. KNOWLEDGE ABOUT ENVIRONMENTAL ISSUES/CONCERNS

I am going to ask you what you know or have heard about the environment, and your general perceptions or feelings are, about the environment.

D2. Some things may or may not be **threats** to our local environment. As I read, tell me whether you believe each one to be *a high threat, a low threat* or *no threat*. If you have never heard about it or do not understand what it means, that's OK, just tell me you *don't know*.

	High threat	Low threat	No threat	DK/Not sure
a. Earthquakes	3	2	1	0
b. Increased greenhouse gases/climate changes	3	2	1	0
c. Landslides	3	2	1	0
d. Loss/extinction of local native species	3	2	1	0
e. Floods	3	2	1	0
f. Sea level rise	3	2	1	0
g. Diseases/epidemics	3	2	1	0
h. Loss or damage to coral reefs	3	2	1	0
i. Droughts or reduction in rainfall	3	2	1	0
j. Local fish kills	3	2	1	0
k. Tree-cutting that is not monitored, or loss of forests	3	2	1	0
l. Poor farming practices	3	2	1	0
m. Hurricanes or large storms	3	2	1	0
n. Sedimentation, or dirtying of rivers	3	2	1	0
o. Sedimentation, or dirtying of coastal areas	3	2	1	0
p. Garbage or litter that are not properly disposed of	3	2	1	0
q. Water pollution	3	2	1	0
r. Air pollution	3	2	1	0
s. Over fishing/reduced fish catch	3	2	1	0
t. Invasive or exotic species that are brought here	3	2	1	0
u. Other_____	3	2	1	0

D3. Within the past five years, have you seen or heard about any **changes in the environment**? For each of these things I mention, has it ... *increased* ... *decreased* ... *both increased and decreased*...? ... *Neither increased nor decreased*, i.e. there's been no change? ... *What?* ... Remember tell me if you have never even heard of it.

	DK / not sure	No change/ neither	Increased	Decreased	Both Increased & Decreased
a. Air temperature	0	1	2	3	4
b. Coral bleaching	0	1	2	3	4
c. Droughts	0	1	2	3	4
d. Fish catches	0	1	2	3	4
e. Garbage (solid waste)	0	1	2	3	4
f. Landslides	0	1	2	3	4
g. Loss of forests	0	1	2	3	4
h. Rainfall	0	1	2	3	4
i. Rising Tides	0	1	2	3	4
j. Seasonality of crops	0	1	2	3	4
k. Storms/hurricanes	0	1	2	3	4
Sedimentation (soiling or dirtying):	0	1	2	3	4
l. Of coastal areas	0	1	2	3	4
m. Of rivers	0	1	2	3	4
Others:					
n. I: _____	0	1	2	3	4
o. II: _____	0	1	2	3	4

D4a. How familiar would you say you are with **environmental issues** in general?

Very familiar ____1

Somewhat familiar ____2

Not familiar ____3

D4b. How familiar are you with **government's response** to environmental issues?

Very familiar ____1

Somewhat familiar ____2

Not familiar ____3

I want to ask you about a particular method that governments are using to manage and conserve some of the natural and cultural resources of the environment. The change usually results in what is known as "**Protected Areas**".

D5. What is your understanding of the term/phrase "**Protected Areas**"? _____

Think now about the full range of areas that could be called **Protected Areas** e.g. *Fish sanctuaries, Marine-protected areas ... restricted areas ... national parks ... forest reserves ... heritage sites ... cultural sites ... and others*, tell me:

D6. Do you know of any **Protected Area** in your island/country?

Yes _____1 [Go to D7]
 Not sure / I might _____2 [Go to D7]
 No _____3 [Go to D10]

[If YES/NOT SURE]

D7 Name the Protected Area(s) that you are thinking of in your country?

- a. _____
- b. _____
- c. _____
- e. _____
- f. _____
- g. _____

D9 What changes would you **like to see** in Protected Areas management in your community? **[DO NOT READ ANSWERS]**

	Mention?	
	Yes	No
Creation of more jobs	1	2
Mgmt of tourist activity	1	2
More managed use of the trees and forest areas	1	2
More managed fishing	1	2
Education and research	1	2
Local recreation	1	2
More enforcement	1	2
Other I: _____	1	2
Other II: _____	1	2

D10 [ALL] Can you suggest any areas [or other areas] you think **should become known as Protected Areas** in your country?

- i. _____
- ii. _____
- iii. _____

D9a Could you say more? _____

G. COMMUNICATION ISSUES FOR ENVIRONMENTAL AGENCIES/DEPARTMENTS etc.

This section will assist us in capturing information from those who **have communicated** with or **may have** to communicate with various publics, on the subject of the environment. Please feel free to ask another staff member to assist you if you need other inputs in order to answer the questions.

G1. Which of these best describes your type of organization /institution? [Refer also to B8a]

- Public Sector Agency __1
- Non-governmental organization (local or national) __2
- Non-governmental organization (regional or international) __3
- Government Department __4
- Environmental organization __5
- Other (Please specify) _____ __6

G2 How often do you communicate with the public on environmental issues?

- Don't know/Can't tell __0
- 2-3 times a week __1
- Weekly __2
- Every 2 wks __3
- Monthly __4
- Every 3 months __5
- Other _____ __6

G3 What are the various communication strategies you use to reach your target group?
[DO NOT READ ANSWERS / CIRCLE ALL THAT APPLY].

	<u>Yes</u>	<u>No</u>
Ad hoc communication approaches	1	2
Public Education Campaigns	1	2
Targeted Communication Plans	1	2
An active Communications Programme/filled post	1	2
Mass media Campaigns	1	2
Advocacy Campaigns	1	2
Other _____	1	2

G4 What is your average annual budget range for initiatives/ projects/ plans /campaigns etc. that focus on environment awareness, education and outreach?

- No precise budget allocation __1 [Amts/source vary]
- Less than EC\$ 10,000.00 __2
- EC\$ 11,000.00 - \$25,000.00 __3
- EC\$ 26,000.00 - \$30,000.00 __4
- EC\$ 31,000.00 - \$ 40,000.00 __5
- EC\$ 41,000.00 - \$ 50,000.00 __6
- EC\$ 51,000.00 - \$ 60,000.00 __7
- More than EC\$ 60,000.00 __8
- Don't Know __0 [Other Staff Know?]

G5 What methods of communication do you use to reach your various target groups on environmental issues? Name all methods [DO NOT READ ANSWERS]

	<u>Mention?</u>	
	<u>Yes</u>	<u>No</u>
Brochures/flyers	1	2
Internet	1	2
Newspapers	1	2
Radio	1	2
Television	1	2
Other _____	1	2
Don't communicate	1	2

G6. (i) How successful would you say each of the following has been as a communication tool in your campaigns/plans/initiatives? And, (ii) what have you found to be the best audience with which to use each tool?

	(i) EXTENT OF SUCCESS					(ii) BEST AUDIENCE
	DK/NA	Not at all	Very limited	Moderately	Highly	
a. Books/magazines	0	1	2	3	4	-----
b. Brochures/Pamphlets/Flyers	0	1	2	3	4	-----
c. Exhibitions	0	1	2	3	4	-----
d. Internet	0	1	2	3	4	-----
e. Meetings/Workshops /Conferences	0	1	2	3	4	-----
f. Newsletters	0	1	2	3	4	-----
g. Newspapers	0	1	2	3	4	-----
h. Radio	0	1	2	3	4	-----
i. Television	0	1	2	3	4	-----
j. Other -----	0	1	2	3	4	-----
-----	0	1	2	3	4	-----

G7 What kind of feedback mechanisms have you used to measure the effectiveness of your communication strategies/campaigns/initiatives? [DO NOT READ ANSWERS].

		Mention?	
		Yes	No
a.	Group discussions	1	2
b.	Polls	1	2
c.	Public Awareness Surveys	1	2
d.	Public Education Audit	1	2
e.	Questionnaires	1	2
f.	Other -----	1	2
g.	None	1	2

G8. (i) Tell me your **primary target groups**; and (ii) rate the **level of interest** of each target group on environmental issues and concerns.

(i) <u>Primary Target Groups</u>	(ii) <u>Level of interest re environ issues & concerns</u>					
	<u>Very High</u>	<u>Somewhat High</u>	<u>Average</u>	<u>Somewhat Low</u>	<u>Very Low</u>	<u>No interest at all</u>
a. -----	5	4	3	2	1	0
b. -----	5	4	3	2	1	0
c. -----	5	4	3	2	1	0

G9. What do you consider the most valuable reasons for communicating with the public on the environment? Name as many reasons as you can. [DO NOT READ ANSWERS]

		<u>Yes</u>	<u>No</u>
a.	To gain public support	1	2
b.	To change behaviour	1	2
c.	To identify the barriers for adopting a preferred attitude change	1	2
d.	To examine the factors that favour the change	1	2
e.	To share information	1	2
f.	To gain media support	1	2
g.	To influence policy	1	2
h.	Other	1	2

G10 Indicate your two (2) greatest **challenges** when communicating on environmental issues, with your target groups:

- a.

 b.

G11 Indicate the two (2) greatest **barriers** that hinder effective communication on environmental issues with your various target groups

- a.

 b.

G12 How do you plan to overcome the challenges and barriers to improve future communication on environmental issues with your various target groups?

-

G13 How well prepared would you say that others in your agency/department are to **meet and overcome**, these same challenges and barriers e.g. *would they answer the same way?*

		<u>Extremely well</u>	<u>Quite/Moderately</u>	<u>Not at all</u>
a.	Clerical /Administrative staff	3	2	1
b.	Technical	3	2	1
c.	Management	3	2	1

G14 Do you have any additional comments/suggestions that you would want to share with us to assist with our environmental awareness programmes?

-

Thank you very much for your time. We really appreciate your participation.