

# FINAL REPORT



CROSS-CUTTING ISSUES OF  
PUBLIC AWARENESS,  
EDUCATION AND TRAINING

Prepared for National Environment  
and Planning Agency The National Capacity  
Self Assessment Project (NCSA) - Jamaica  
5 Oxford Park Avenue  
Kingston 5 Jamaica, W.I.



Prepared by Penelope Budhlall | Public Education Specialist  
Edited by Denise Forrest | Forrest and Associates  
Project Manager/ Lead Consultant June 2005

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## LIST OF ACRONYMS AND ABBREVIATIONS

BJCMNP	Blue & John Crow Mountains National Park
CAC	Consumer Affairs Commission
CAPE	Caribbean Advanced Proficiency Examination
CBD	Convention on Biodiversity
CPTC	Creative Production & Training Centre
CSEC	Caribbean Secondary Examination Certificate
CWIP	Coastal Water Quality Improvement Project
CXC	Caribbean Examination Council
EE	Environmental Education
EESD	Environmental Education for Sustainable Development
ENACT	Environmental Action Programme
ENGO	Environmental Non-Government Organization
GOJ	Government of Jamaica
IDB	Inter-American Development Bank
JCDT	Jamaica Conservation & Development Trust
JEA	Jamaica Export Association
JET	Jamaica Environment Trust
JIS	Jamaica Information Service
LMOs	Living Modified Organisms
MIND	Management Institute for National Development
MLE	Ministry of Land and Environment
MOCST	Ministry of Commerce, Science & Technology
MOEYC	Ministry of Education Youth & Culture
MOFP	Ministry of Finance & Planning
MOH	Ministry of Health
MOJ	Ministry of Justice
MOTW	Ministry of Transport & Works
NBSAP	National Biodiversity Strategy and Action Plan
NCSA	National Capacity Self Assessment
NEEC	National Environmental Education Committee
NEEAPSD	National Environmental Education Action Plan for Sustainable Development
NEPA	National Environment & Planning Agency
NGO	Non-Governmental Organization
NISP	National Implementation Support Partnership
NLA	National Land Agency
PEPA	Portland Environmental Protection Association
PMU	Project Management Unit
PSC	Project Steering Committee
PSOJ	Private Sector Organisation of Jamaica
R2RW	Ridge to Reef Watershed Project
ROSE	Reform of Secondary Education
SD	Sustainable Development
SEN	Student Environment Network
SEP	Schools Environment Programme
TPDCo	Tourism Product Development Company
TOR	Terms of Reference
UN	United Nations

UNCBD United Nations Convention on Biodiversity  
UNCCD United Nations Convention for Combating Desertification  
UNFCCC United Nations Framework Convention on Climate Change  
UTech University of Technology  
UWI University of the West Indies



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The work of Mr. Aldin Bellinfantie was much appreciated as he guided the Focus Group discussions and authored Chapter 8 of the report which deals with the beneficiary impact assessment.

I also wish to extend our appreciation to the many organisations and individuals who participated in the consultations their contributions were invaluable to the NCSA process.

Special thanks go to Mrs. Winsome Townsend, Director Strategic Planning Policy and Projects Division (NEPA) and chair of PSC, Miss Keina Montaque, Project Assistant (NCSA) and the Convention Focal Points for their support.

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## EXECUTIVE SUMMARY

This study has been undertaken under Jamaica's National Capacity Self-Assessment Project, which aims to assess Jamaica's capacity to meet its obligations under the UN Convention on Biological Diversity and the Cartagena Protocol on Biosafety, Framework Convention on Climate Change, and Convention for Combating Desertification. Public awareness, education and training have been identified as cross-cutting issues for all three Conventions.

The methodology used by the Consultants was a combination of:

- Review of documents on the Conventions, environmental education in Jamaica, and successful methodologies used in other countries.
- Consultation with persons involved in environmental education and projects with an environmental education component through interviews and questionnaires
- Focus group discussions with persons who had been the beneficiary of environmental educational programmes and projects.

All three Conventions contain articles relating to obligations to carry out public awareness and education programmes and to implement training programmes where necessary. It is vital that personnel at the policy and administrative levels of agencies responsible for or supporting implementation of the Conventions are fully informed so that they can make informed decisions, and that the public also is aware of the role that they have to play. It is also important to ensure that the skills necessary for implementation exist in the relevant organizations.

In the thematic assessment reports which formed the platform for the cross-cutting review public awareness is cited as a key issue for implementation of Jamaica's obligations under the Conventions, and some initiatives have been taken in this regard. The efforts have, however, been sporadic and uncoordinated, and there is much more work to be done. Training needs have been identified for the UNCBD, the Cartagena Protocol on Biosafety and the UNFCCC.

Areas of need for public awareness and training have also been identified in the Policy and Legal Cross-Cutting Report, mainly in the areas of public empowerment for action through information and education, and continued sensitization of those involved in the enforcement, legal and judiciary process.

Environmental education has been taking place as a result of a number of initiatives throughout the island.

At the **community level**, NGOs and NEPA projects such as the Ridge to Reef Watershed and Coastal Water Improvement projects have impacted specific communities with educational programmes and improved environmental practices, but there is need for replication of these initiatives in more communities to increase the impact on the environment.

In the **formal education system**, environmental education for sustainable development has been infused into the curriculum from early childhood to grade nine, with complementary infusion into the curricula of teacher training colleges at the early childhood and secondary levels. Some support materials have been produced and some teachers have been trained, with pilot projects taking place in six primary schools and two teacher training colleges. The need is for the development and distribution of learning materials and

system-wide teacher training in environmental education. The Schools Environment Programme has brought practical, hands-on environmental education to 350 schools, but the reach of the project has been limited, and the programme is in jeopardy due to imminent withdrawal of funding.

Through the ENACT supported **Greening of Government programme** and introduction of **Environmental Management Systems** to Private Sector organizations, many employees have been exposed to environmental training which they have taken back to their organizations. The integration of the Holistic Governance programme into the offering of the Management Institute for National Development offers an opportunity for reaching government officials and private sector decision-makers with messages about the need to change how we make decisions that affect the environment and about the Conventions.

Many Government departments have environmental education programmes to support their portfolios, for example The Forestry Department and Fisheries to name a few.. These could be better coordinated and synergies used to make more impact.

Focus group discussions were conducted with persons from across the island who had been involved in public education projects at the local or national level. Participants identified programmes related to the environment at community, parish and national levels.

In the main, government is seen as a facilitator for all projects and programmes both locally and nationally. Citizens should also play their part by taking responsibility for their own surroundings, and teaching others. NGOs are seen as watchdogs for the environment with a role to play in education of the community. In general, the Private Sector is contributing but could do more in the areas of funding, sponsorship and incentives.

Public Education and training has been identified in all the thematic assessments as a priority issue. However the execution of public education programmes to support the implementation of the Convention has failed to recognize the synergies which exist and had been stopped by lack of funding and a coordinated integrated approach to implementation.

Capacity issues were identified at the individual institutional and systemic levels. These constraints are summarized below.

From document reviews, interviews, focus groups and questionnaires completed, the following capacity constraints, gaps and weaknesses have been identified.

#### **Individual**

- Media and communications practitioners need to be engaged in the process and given environmental exposure
- Environmental experts need communications/media training to help them to make better use of media and communication techniques in getting their message across
- Ignorance of environmental issues
- Entrenched cultural practices and behaviour inhibit change
- There is attitudinal resistance to change

### **Institutional**

- Need for trainers for community learning
- Teachers in the school system need more environmental training
- Projects and incentive schemes are needed for more communities to engage in environmental activities

### **Systemic**

- Need for clear policy initiatives for environmental education
- Learning Resources – more to be produced along with a system for accessing and sharing information
- Poor coordination and sharing of resources between government agencies with similar objectives in environmental education;
- Need for sustainable long term funding for environmental education – short programmes do not produce the behaviour change which is necessary to achieve impacts in environmental management at the community level.
- Local good practice projects are not being given national attention and are therefore not being replicated nationally – there is a focus on negative news which affects the national psyche.

### **Recommendations For Strengthening Capacity In Environmental Education.**

- Establish Leadership at the Policy Level
- Assign a Home for the Public Awareness & Education Function
- Establishment of a Resource Centre for EE
- Identify Desirable Knowledge, Attitudes and Behaviour (KAB)
- Develop System of Surveying
- Develop an Awareness Plan
- Develop a Training Plan

Public Education at all levels and in several sectors is necessary for the successful implementation of the Conventions. Education on the Conventions should not, however, be done in isolation, but in conjunction with a more generalized education programme geared at educating about environmental education for sustainable development.

Several initiatives in the public and NGO sectors which have been undertaken can be built on in the development and implementation of a comprehensive public education programme on the three Conventions. The strengths of previous programmes lie in the development of strategies that have made those impacted by them aware of environmental issues. The weaknesses lie in the fact that such programmes have been scattered in time and space and were not sustained. Another weakness is the lack of scientific data on the impact of these programmes. The lessons learnt from such programmes can be used to inform a more long-term, sustained educational programme based on the objectives of the Conventions on Biodiversity/Biosafety, Climate Change and Desertification.

Organizations with similar educational objectives will be more effective in their mission of environmental education if they seek opportunities for synergy and collaboration and work together in implementing a comprehensive integrated educational programme on the Conventions under the National Environmental Education Action Plan for Sustainable Development.

# 1. INTRODUCTION

## The National Capacity Self-Assessment Project

Jamaica is a signatory to the following United Nations Conventions

- UN Convention on Biological Diversity (UNCBD)
- UN Convention on Combating Desertification (UNCCD), and the
- UN Framework Convention on Climate Change (UNFCCC).

The National Capacity Self Assessment project has been undertaken to assess Jamaica's capacity to meet its obligations under these Conventions.

The assessment has been undertaken in six areas:

- In each thematic area (total 3)
- Cross-cutting issues of public education and awareness
- Cross-cutting legal and policy issues
- Cross-cutting institutional and funding issues

This report seeks to assess Jamaica's capacity to implement the public awareness and education programmes necessary to support the implementation process needed for the Conventions. The detailed Terms of Reference are found in **Appendix I**.

A common thread running through all three Conventions along with other documentation which was reviewed on the Conventions, is the need for public awareness and education about the Conventions and the issues which they seek to address. Public awareness, education and training have, been identified as a cross-cutting capacity issue. The assumption is that an aware and educated public will in an enabling environment have a positive impact on a nation's capacity to meet its obligations under the Conventions.

It is important that Jamaicans understand that we need to take preventive and mitigative action with regards to the environment, not only to meet our obligations under the Conventions, but for the protection and conservation of our natural resource base which is critical to natural development. The country also needs to practice sustainable development to pass on to the next generation a viable nation with an environment that can sustain the future development of our island home.

The thematic reports<sup>5</sup> have fully discussed Jamaica's obligations with regard to the three Conventions. The findings of this report will focus only on the public awareness and education issues and in this regard will build on the findings of the earlier thematic reports cutting issues for all three Conventions.

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<sup>5</sup> Fisher, Elaine; *Thematic Assessment, United Nations Convention on Biological Diversity and the Cartagena Protocol on Biosafety*, NSCA Jamaica, 2005  
Mahlung, Clifford; *Thematic Assessment, United Nations Framework Convention on Climate Change*, NSCA Jamaica, 2005  
Stair, Marjorie; *Thematic Assessment United Nations Convention to Combat Desertification*, NSCA Jamaica, 2005

## 2. METHODOLOGY

### 2.1 Document Review

Consultants reviewed documents related to the Conventions, including:

- The Stocktaking Report<sup>6</sup> on Jamaica's performance vis à viz the Conventions
- The Conventions
- The Thematic reports
- The National Strategy and Action Plan on Biological Diversity in Jamaica

The Consultants also reviewed a number of documents on environmental education initiatives in Jamaica, particularly those published by the National Environmental Education Committee (NEEC), Jamaica Environmental Trust (JET), the Greening of Government programme, the Coastal Water Quality Improvement Project and the Ridge to Reef Watershed Project (R2RW).

Additionally, documents from other countries that described successful environmental strategies were reviewed.

The documents reviewed are found at **Appendix II**.

### 2.2 Interviews, Questionnaires and Focus Groups

The Consultants interviewed persons involved with environmental education programmes or requested that they complete a questionnaire (see **Appendix III**). Only two out of five questionnaires were completed and returned. The list of persons interviewed or who completed forms is found in **Appendix IV**.

Five participatory focus group meetings were held using learning exercises with persons who had been exposed to environmental education programmes executed by various agencies. The groups were:

- Persons drawn from various community groups and NGOs in Portland who had been involved with the Coastal Water Quality Improvement Project (CWIP)
- Personnel in the refrigeration and air conditioning industry who had participated in training programmes put on by the National Ozone Unit
- Teachers and students of Sligoville All Age School who had participated in the Jamaica Environment Trust's Schools Environment Programme.
- Lecturers and students of Church Teachers College, which was a "model" sustainable college of the NEEC/ENACT environmental education project.
- Community members who had been involved in awareness programmes put on by the Ridge to Reef Watershed Project.(R2RW)

The list of persons who participated in the focus groups is found at **Appendix V**.

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<sup>6</sup> Dr. Elaine Fisher, *Stocktaking Report prepared for the National Capacity Self- Assessment Project*, October 2004

The methodology used was highly participatory, where participants were asked to express their views, individually and in groups, on various environmental issues, and then to share them with the wider groups. This approach allowed the consultants to be able to gauge of the level of awareness on the environment and issues related to the conventions. The methodology and results are discussed in greater detail in Chapter 6.



### 3. PUBLIC AWARENESS IN THE CONVENTIONS

#### 3.1 Public Awareness and Education Requirements of the Conventions

The Parties to the Conventions have identified public awareness and education as a critical success factor for the implementation of the Conventions.

**Article 13 of the United Nations Convention on Biological Diversity (UNCBD)** states:

The Contracting Parties shall:

- (a) Promote and encourage understanding of the importance of, and the measures required for, the conservation of biological diversity, as well as its propagation through media, and the inclusion of these topics in educational programmes; and
- (b) Cooperate, as appropriate, with other States and international organizations in developing educational and public awareness programmes, with respect to conservation and sustainable use of biological diversity.

**Article 12** refers to training and research:

The Contracting Parties, taking into account the special needs of developing countries, shall:

- (a) Establish and maintain programmes for scientific and technical education and training in measures for the identification, conservation and sustainable use of biological diversity and its components and provide support for such education and training for the specific needs of developing countries.

**Article 6 of the United Nations Framework Convention on Climate Change (UNCCD)** refers to the obligation of parties to the Convention with regards to public education and training:

In carrying out their commitments under Article 4, paragraph 1(i), the Parties shall:

- (a) Promote and facilitate at the national and, as appropriate, subregional and regional levels, and in accordance with national laws and regulations, and within their respective capacities:
  - (i) The development and implementation of educational and public awareness programmes on climate change and its effects;
  - (ii) Public access to information on climate change and its effects;
  - (iii) Public participation in addressing climate change and its effects and developing adequate responses; and
  - (iv) Training of scientific, technical and managerial personnel.

(b) Cooperate in and promote, at the international level, and, where appropriate, using existing bodies:

(i) The development and exchange of educational and public awareness material on climate change and its effects; and

(ii) The development and implementation of education and training programmes, including the strengthening of national institutions and the exchange or secondment of personnel to train experts in this field, in particular for developing countries.

**Article 5 of the United Nations Convention to Combat Desertification (UNCCD)** refers to the obligations of affected Country Parties and includes

- Promote awareness and facilitate the participation of local populations, particularly women, youth, with the support of non-governmental organizations, in efforts to combat desertification and mitigate the effects of drought.

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**Article 4 of the Regional Implementation Annex for Latin America** and the Caribbean states:

In the light of their respective situations, the affected Country Parties of the region may take account, inter alia, of the following thematic issues in developing their national strategies for action to combat desertification and/or mitigate the effects of drought, pursuant to article 5 of the Convention:

- (a) increasing capacities, education and public awareness, technical, scientific and technological cooperation and financial resources and mechanisms.

### **3.2 Rationale for Public Awareness, Education and Training**

It is clear, therefore, that the framers of all three Conventions saw public awareness and participation as part of the solution for countries to meet their obligation under the conventions. The conclusion may be drawn that:

- At the policy and administrative level, those making and implementing decisions must be aware of the conventions, their content, and the need to include them in their corporate plans, as well as to be guided by the country's obligation in formulating policies.
- At the business, community and individual levels, the need is less to know about the conventions, although this might be useful, but more to have an understanding of the issues related to biological diversity, climate change and land degradation: how actions at the individual, business operator or community level affect the environment and issues of sustainable development? What is it that could be done differently to minimize the impact on the environment? Public awareness and education must lead to behaviour change if it is to be effective.

It must be recognised that providing information is only part of the challenge and that changing behaviour is a long term process which requires sustained programmes and resources.

With regards to training, there is a need to increase the number of persons with environmental training, so that they can play a key role in government, private sector, and non-governmental organizations in leading towards more environmentally friendly policies, plans and programmes. There is also a need for the development of special skills related to implementation of the Conventions.

### 3.3. Cross-cutting Public Awareness Issues

Although the Conventions have a variety of issues to be brought to the attention of the public, there is enough similarity to encourage the development of common programmes. Table 1 shows examples of issues that are common across the Conventions.

**Table 1: Examples of Issues of Relevance to all Three Thematic Areas**

Human Actions	UNCBD	UNFCCC	UNCCD
<b>Deforestation</b>	Loss of biodiversity	Reduces forests or “sinks” for greenhouse gases	Causes land degradation
<b>Emissions from fossil fuels</b>	Global warming → loss of habitats and migration of species → species loss	Produce greenhouse gases which cause global warming → rising temperatures, sea level rise	Global warming causes drought conditions which desertification
<b>Land clearing for agriculture, housing and industry; burning of trees for charcoal</b>	Loss of biodiversity and habitats	Removal of vegetation increases Carbon dioxide	Loss of vegetation → possible land degradation

In making the public aware of the dangers of deforestation, for example, one could talk about the effects across the Conventions, without even referring to the Conventions. One could show for example how deforestation can lead to loss of soil, making the land less production. It will also remove the trees which are an important factor in preventing carbon dioxide build up in the atmosphere, which in turn leads to global warming. Trees are also important as they provide habitat for many species, and are valuable resources in themselves for what they produce.

### 3.4 Summary

All three Conventions contain articles relating to obligations to carry out public awareness and education programmes and to implement training programmes where necessary. It is vital that personnel at the policy and administrative levels of agencies responsible for or supporting implementation of the Conventions are fully informed so that they can make informed decisions, and that the public also is aware of the role that they have to play. It is also important to ensure that the skills necessary for implementation exist in the relevant organizations.

## 4. PUBLIC EDUCATION ISSUES FROM THEMATIC ASSESSMENTS

### 4.1 Thematic Assessments

#### 4.1.1 United Nations Convention on Biological Diversity<sup>7</sup>

*Biodiversity or biological diversity is the variety of organisms and their habitats found within an environment.*

In the thematic report<sup>1</sup> public awareness is mentioned as a cross-cutting issue in relation to thematic areas and cross-cutting issues of the CBD and is given high priority rating in Table 2: *Obligations under the Convention* (page26). While the issue of public education is being described in the report as ongoing, the adequacy of resources is said to be severely limiting.

The National Biodiversity Strategy and Action Plan (NBSAP) is Jamaica's official framework for meeting its obligations under the UNCBD. It is noteworthy that while the NBSAP identifies public awareness to be of high priority, none of the thirteen project proposals written as a result of the plan have addressed this topic.

The NBSAP has this to say about public awareness:

There is an urgent need to heighten awareness and understanding among Jamaicans of the need to conserve biodiversity and to sustainably use biological resources. Environmental education is an essential tool to build support for biodiversity conservation and to change attitudes and behaviour, as well as to encourage public support for biodiversity related policies, strategies, plans and programmes.

Despite substantial investments in this area, awareness of environmental issues in Jamaica remains at a relatively low level. However, recent increases in membership in, and the number of, environmental organisations are encouraging and indicate increased concern for environmental issues. This growing membership will also greatly assist with increasing public awareness of environmental issues and responsibilities.<sup>8</sup>

The NBSAP acknowledges a number of environmental education initiatives which have taken place, including:

- Establishment of the NEEC to spearhead the development of a National Environmental Education Action Plan for Sustainable Development;
- Environmental groups and communities working together to reduce the impact of development and to clean up degraded sites;
- Celebration of environmental days and occasions;
- A biennial environmental green exposition;
- Print and electronic media campaigns.

Other references to public awareness are:

- Protected Areas public awareness project proposed under the National Implementation Support Partnership (NISP).<sup>9</sup>

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<sup>7</sup> Fisher, Dr. Elaine, *Thematic Assessment: Convention On Biological Diversity And The Cartagena Protocol On Biosafety*, NCSA/NEPA 2005

<sup>8</sup> NEPA NBSAP- *National Strategy and Action Plan on Biodiversity in Jamaica*, July 2003, p24

<sup>9</sup> NEPA NBSAP- *National Strategy and Action Plan on Biodiversity in Jamaica*, July 2003, p18

- Environmental education and capacity building initiatives under the Coastal Water Quality Improvement, Ridge to Reef Watershed and ENACT projects

A Clearing House Mechanism (CHM) has been established at the Institute of Jamaica. The Clearing-house Mechanism (CHM) is an international network that gathers and distributes information on Biological Diversity in support of the **United Nations Convention on Biological Diversity** (UNCBD). Jamaica's National Focal Point for the CHM is the **Institute of Jamaica**. . At the national level, the CHM will support the implementation of the CBD. Links are provided to Jamaican biodiversity-related information and organisations as well as to the global CHM which has links to global biodiversity information, scientific and technical initiatives, search engines and funding opportunities.<sup>10</sup>

With regard to the capacity assessment as it relates to needed skills on analysis of capacity constraints<sup>11</sup> in the Biodiversity Thematic Assessment indicate that there are capacity gaps in the following areas, which points to the need for training:

- Insufficient persons with skills in environmental management, particularly in non-governmental organisations. (NGSO's)
- Absence of capacity in Intellectual Property Rights as they relate to biodiversity
- Insufficient persons to conduct workshops in the areas of valuation of natural resources
- Sensitisation of the judiciary and training for customs and immigration officials and the police
- Lack of knowledge/understanding of the importance of sustainable use of forests and fisheries.
- Insufficient persons with the skills to establish in-situ and ex-situ collections
- The NBSAP points to the need for the development of skills in project writing, financial resource identification and negotiation. It is also expected that negotiation skills will be addressed under the Early Action Grant associated with the NISP during 2005/6

It should be noted that the ENACT project has supported sensitization of the judiciary, while CWIP and R2RW projects have supported training of the police. The question arises how can the country move from one -off training through projects to a systemic long term programme.

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<sup>10</sup> CHM website: [www.jamaicachm.org.jm](http://www.jamaicachm.org.jm)

<sup>11</sup> NEPA NBSAP- *National Strategy and Action Plan on Biodiversity in Jamaica*, July 2003, p 24

#### 4.1.2 The Cartagena Protocol on Biosafety

Some work has been done in the area of public awareness with regard to Biosafety:

- A public education programme on Biosafety was implemented by the NCST in collaboration with the Jamaica Society for Agricultural Sciences and the National Biosafety Committee between March 2001 and December 2002. Attempts to obtain the report of this workshop have been unsuccessful.
- A UNEP-GEF project on the development of national Biosafety frameworks has developed mechanisms for public awareness, education and participation.

Capacity needs identified in the Action Plan for the implementation of the Biosafety Protocol, which was adopted at the Conference of Parties in 2004 include:

- Human resources development and training
- Awareness, participation and education at all levels including decision makers, stakeholders and the general public.
- Information exchange and data management including full participation in the Biosafety Clearing House
- Skills for the development of regulatory and administrative measures to control the safe handling of and transfer of Living Modified Organisms.

These have been identified among others as key areas requiring action.

#### 4.1.3 UN Framework Convention on Climate Change

*For centuries we've been clearing forests and burning coal, oil, and gas, pouring carbon dioxide and other heat-trapping gases into the atmosphere faster than plants and oceans can soak them up.*<sup>12</sup>

The Thematic Report on the The United Nations Framework Convention On Climate Change (UNFCCC)<sup>13</sup> states that Article 4 of the Convention outlines the obligations of Jamaica as a non-Annex I Party. These include:

Promote and cooperate in education, training, and public awareness related to climate change and encourage the widest participation in this process, including that of non-governmental organizations.

The findings of the thematic assessment revealed that to date very little has been done in the area of public awareness about climate change and the Convention. In reviewing the status of activities under obligations the report finds that with regard to education, training and public awareness, some aspects still being negotiated. Limited public awareness undertaken.' Section 8.18 of the report notes that, no formal

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<sup>12</sup> Tim Appenzeller & Dennis R. Dimick; *Signs from the Earth*, National Geographic Magazine, Sept. 2004

<sup>13</sup> Clifford Mahlung, *Thematic Report on the Implementation of the United Framework Convention On Climate Change (UNFCCC)- NCSA/NEPA* January 2005

public awareness program has been developed, hence there is a low level of understanding in both Government and the public.

“It is significant to note that although many vulnerability assessment methodologies have been applied to different regions of the world with varying degrees of success, global assessments have consistently identified the Small Island States as one of the most high-risk areas, irrespective of methodology employed.”<sup>14</sup>

This means that Jamaica and the other small islands are among the countries most vulnerable to the projected effects of a change in the global climate system. The most significant and immediate consequences are likely to be related to:

- Changes in sea levels,
- Rainfall regimes,
- Soil moisture budgets,
- Prevailing winds (speed and direction) and
- Short-term variations in regional and local patterns of wave action.<sup>15</sup>

Given these impacts, which the experts say are inevitable, it is important that Jamaicans realize the seriousness of the situation, and began to develop strategies and programmes to adapt/mitigate climate change.

The thematic assessment recommends the design and implementation of a public awareness programme targeting audiences at several levels of the society. Target groups should be:

- Policy makers
- Different age groups
- Lecturers
- Teachers
- Teacher Trainers
- General public
- Groups in vulnerable areas

#### *Capacity Development and Training*

No capacity development projects or activities have been developed specifically to address climate change in Jamaica, (Section 81.6)<sup>16</sup>.

The skills required for implementation of obligations under the Conventions as stated by the UNFCCC’s secretariat are categorized as follows:

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<sup>14</sup> Small Island States -Impacts, Adaptation and Vulnerability of the Third Assessment Report of the Intergovernmental Panel on Climate Change, Executive Summary of Chapter 17:.

<sup>15</sup> Mahlung, January 2005, p4

<sup>16</sup> Mahlung, January 2005

Skills required for responding to economic impacts of climate change

- Human/Economic Geographers
- Resource/environmental economists
- Environmental scientist
- Resource managers

The Climatic Thematic Assessment found that the country requires the following skills in order to suitably address the climate change issues

- Climatologists/Meteorologists with a focus on regional climate regimes,
- Climate change scientists (in addition to climatologists/meteorologists),
- Climate modelers
- Geographers including
  - Geo-morphologists
  - Hydrologists
  - Hydro-geologists
  - Agro-climatologists
  - Agro-meteorologists
  - Coastal zone management specialists
  - Coastal managers
  - Water resource specialists
  - Physical oceanographers
  - Marine/fisheries scientists
- Social scientists
- Population and cultural geographers
- Social anthropologists
- Human security specialists
- Livelihood specialists
- Sustainable development specialists, etc

A survey was undertaken in relevant institutions<sup>17</sup> to identify whether they possessed the human capacity to fulfill the role that they could play in preparing Jamaica for the effects of climate change. Of fifteen agencies which responded, following was the breakdown of responses:

Yes: 6      No:5      Yes/No: 1<sup>18</sup>      Depends on the role: 1      Not applicable: 2 .

The thematic report concludes that a needs assessment of the human resources in each relevant institution is required. This would presumably form the basis of a training plan for implementation of climate change measures.

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<sup>17</sup> Mahlung, January 2005, p.35

<sup>18</sup> Responses from persons from different units



#### 4.1.4 UN Convention on Combating Desertification Thematic Assessment

The most startling revelation with regards to public awareness in this report is that: Senior Directors in some of the organizations of greatest relevance in meeting the obligations of the UNCCD are not aware of the UNCCD and its obligations.

The only action which has been taken to address the obligation for public awareness under the Convention (Article 5-d), was the holding of a National Public Awareness Seminar in March 2000.

The workshop objectives included increasing knowledge and awareness of the UNCCD, providing information on developments in implementing the Convention nationally, regionally and internationally, to enhance the process of consultation with regards to drought and desertification issues and to obtain input into the implementation of the Convention in Jamaica<sup>19</sup>.

Participants included students who participated fully in the two day deliberations. Their responses to the workshop included:

- “I will share what I learnt about deforestation at school”
- “I do geography but I had a carefree attitude about the environment. This is a wake-up call for me. I will make a report to my class and try to inform the community through my environment club.”
- “I knew nothing except littering, this has taught me a lot. I knew nothing of land degradation and deforestation and didn’t know that there is something I can do. I will spread the word.”

#### Capacity Issues

The thematic report outlined the following capacity constraints/needs at the individual, institutional and systemic levels:

*Individual:* Public education on the UNCCD, water conservation and drought management. At this level the need for training is a major issue.

*Institutional:* Internal education of staff in key organizations re obligations of UNCCD

*Systemic:* Cabinet/Parliament should place greater emphasis and assign greater priority to the obligations as Party of UNCCD and the country’s response..

In an interview with Mr. Philbert Brown, Focal Point for UNCCD and Dr. Richard Fox, of the UNCCD secretariat, and the following issues about land degradation were raised:

- Desertification does not mean advancing deserts, but land degradation – improper use of the land leading to its reduced usefulness.
- Land is the totality of soil, flora, fauna and water, therefore land degradation is linked with loss of biodiversity and land cover.
- There is need for awareness of the areas which are at greatest risk for land degradation.

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<sup>19</sup> This and the following are extracted from the report of the National Public Seminar on Desertification

- Jamaica is a participant in the Convention on Desertification, and is therefore part of an international struggle against desertification. As a nation, we have to play our part to fix our house.
- As an island state we have limited land resources which are an important part of our production capability in agriculture, tourism, and habitat for our people as well as flora and fauna. Land is finite: our agriculture, tourism and population are likely to expand, but the land cannot, therefore we have to preserve the integrity and quality of the land.
- The three conventions are related and we need to organize for awareness about the conventions and the interlinkages
- An information database about the state of land resources is lacking
- Landslides such as those experienced during and in the wake of hurricane Ivan result from cutting down trees on the mountain slopes and lack of proper cultural practices such as terracing land, using root-holding grasses, etc.
- Awareness must be designed to address practical issues

Dr. Cox made the following points:

- Habitat, microclimate change and soil erosion are all interconnected and are linked to forestry, Agriculture, Land Zoning and water policy. When forests disappear, land disappears.
- Bauxite, Jamaica's biggest industry has contributed to the process of land degradation, because of the strip mining method of extracting bauxite.
- Land degradation is an historical process, which needs to be examined to see how it relates to now and the future

## 4.2 Policy and Legal Cross-cutting Issues

The following public education and training issues were identified by the Consultants in Policy and Legal Cross-cutting Issues under the NCSA:<sup>20</sup>

### 4.2.1 Legal Issues

The broader setting for implementation is beset with **capacity challenges** as regards:

- Insufficient empowerment of private citizens by knowledge as to what rights they have and by law enabling them to bring legal action where there has been environmental law breaches, where such private citizen cannot show proprietary or pecuniary loss, and concomitant standing (*locus standi*) to bring the action;
- The Judiciary needing to view environmental law breaches with greater seriousness;
- Police force members needing to view environmental law breaches with greater seriousness;
- Citizens not being sufficiently empowered to get government or its agencies to act with dispatch.

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<sup>20</sup> Hugh Hyman and Rainee Oliphant, Presentation: *Policy & Legal Cross-Cutting Issues*, NEPA, April 2005

- Train particular persons at the Office of the Chief Parliamentary Counsel towards equipping them to better expedite the preparation of environmental legislation;
- Improve (by training, certification, equipment or otherwise) the capacity of environmental and other professionals to carry out valuation of environmental loss and furnishing expert evidence in environmental litigation generally.

#### 4.2.2 Policy Issues:<sup>21</sup>

Priority Areas of Action:

- Provision of increased inter-agency access to relevant information
- Public education as to the responsibilities of the Country under the three Conventions required especially in relation to the potential role of these agencies in the implementation process.

Notably these findings at the policy and legal levels present the need for more access to information, education and training. In that report the following recommendation was made:

"Educate citizens as to their rights re the environment and explore having private citizens and environmental non-governmental organizations (NGOs) more empowered to bring "public interest" court actions where their interest in the due conservation of the environment is breached and make the requisite legislative changes to address technical legal impediments to bringing such actions;"

The issue does not relate only to the Conventions but the issue of governance as it relates to persons ability to take part in the decision making process and the right to information.

### 4.3 Outcome of the Focus Groups and National Workshop

A series of focus groups and a national workshop were held to consult with stakeholders and key decision makers on implementation of the Conventions. The first two focus groups brought together persons from key organizations and subject specialists to review the findings of the thematic assessments and provide direction for the way forward, while the third was aimed at engaging key decision makers in the process. The purpose of the National Workshop was to review findings and develop action plans.

The meetings held in Kingston in 2004 were as follows:

- Focus Group on the UNCBD - November 9
- Focus Group on the UNFCCC and the UNCCD - November 10
- Focus Group with Permanent Secretaries and Senior Directors – November 30
- National Workshop– December 1.

Public awareness and education and capacity issues related to training emerged from these sessions as an important issue.

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<sup>21</sup> Raine Oliphant, Presentation on Policy Cross-Cutting Issues, NEPA, April 2005

The focus groups identified insufficient public awareness and evaluation of public education programmes as areas of weakness and recommended that **Comprehensive, integrated public awareness programmes**” should be implemented. A constraint identified was insufficient trained persons.

A working group was appointed at the national workshop to develop a comprehensive public education programme for the country. The outcome of the working group is found in **Appendix II**

#### **4.4 Summary**

Public awareness is cited as a key issue for implementation of Jamaica’s obligations under the Conventions, and some initiatives have been taken in this regard. The efforts have, however, been sporadic and uncoordinated, and there is much more work to be done. Training needs have been identified for the UNCBD, the Cartagena Protocol on Biosafety and the UNFCCC.

Areas of need for public awareness and training have also been identified in the Policy and Legal Cross-Cutting Report, mainly in the areas of public empowerment for action through information and education, and continued sensitization of those involved in the enforcement, legal and judiciary process.

## 5. THE ENVIRONMENTAL EDUCATION LANDSCAPE IN JAMAICA

Environmental Education, referred to in Agenda 21 as Environmental Literacy, after the UN Conference on the Environment & Development in Rio de Janeiro in 1992, has emerged as a vital and critical issue at the global, national and local level as we enter a new millennium<sup>22</sup>.

### 5.1 Institutions Involved in Environmental Education

There is a range of institutions and initiatives which are involved in formal and informal education across the island. Those with environmental related programmes will be described under the following headings:

- NEPA and NEPA-related initiatives
- Other Government Agencies
- The Education System
- Non-Governmental Organizations

### 5.2 NEPA and NEPA-based Initiatives

*The National Environmental Education Committee (NEEC)/National Environmental Education Action Plan for Sustainable Development*

The main environmental education initiative is led by the National Environmental Education Committee (NEEC). The NEEC is a conglomerate of about 50 member organisation with each individual member organisation conducting its environmental education activities, with the hub being the Secretariat which is housed in NEPA.. The work of the NEEC was strengthened over the period 1996 to 2004 under the Environmental Action Programme (ENACT), a project of the Government of Jamaica and the Canadian International Development Agency (CIDA).

A major achievement of the NEEC has been the development and implementation of the National Environmental Education Action Plan for Sustainable Development (NEEAPSD) which was tabled in Parliament in 1998.

The NEEAPSD is a national framework for incorporating environmental education into all aspects of Jamaican life. It describes a vision of a sustainable future and presents specific goals, outcomes and activities to achieve this vision within five programme areas:

- Teacher professional development
- Curriculum development and implementation
- National public awareness
- Community learning
- Resources and practices.<sup>23</sup>

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<sup>22</sup> Franklin McDonald: *National EE Action Plan for Sustainable Development - Foreword*; NEEC 1998

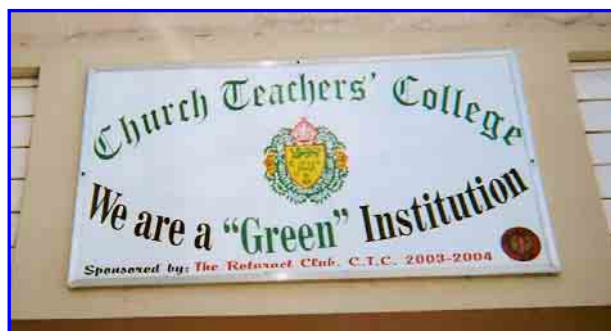
The *Proceedings of the National Consultation on Environmental Education for Sustainable Development* held in 2003 sets out the status of the programmes of the NEEAPSD. It records achievements under all five programme areas. Successes cited are:

- Increased EE awareness
- Wide referencing of the Plan
- Donor recognition of the importance of environmental education
- Regional initiatives

Dr. Margaret Jones-Williams in an assessment of the implementation of the programme areas in the NEEAPSD, notes the following accomplishments:<sup>24</sup>

#### *Teacher Professional Development:*

- Integration of EESD into the Ministry of Education Professional Development Programme and Awareness Programmes for Education Officers and Principals islandwide.
- Production of a handbook for teachers and principals
- Pilot projects at the Teachers' Colleges under the Sustainable Teacher Environmental Education Programme have resulted



in overall increased awareness of EESD, initiation of environmental clubs, action research and stewardship programmes

- Revision of Joint Board of Teacher Education Early Childhood and secondary teacher education syllabuses to include Environmental Education for Sustainable Development.

#### *Curriculum Development and Implementation*

- Policy statements from the MOEYC, MLE re EESD in curriculum development
- Supporting new primary level syllabuses
- Infusion of EESD in all levels of the formal education system

#### *Community Learning*

- Training of 110 environmental education facilitators
- Printing simplified version of environmental legislation produced by JET
- EESD Training for 40 community leaders

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<sup>23</sup> Proceedings of the National Consultant on Environmental Education for Sustainable Development

<sup>24</sup> NEEC, *Proceedings of the National Consultation on Environmental Education for Sustainable Development*

### *National Public Awareness*

- Member agencies of the NEEC, as well as environmental non-government organisations, have been active in this area
- NEEC posters produced and distributed.

### *Resources and Practices*

- Production of the Life-Line training kits
- Adding to the body of resource materials available nationally
- Production of campaign posters
- Other resources produced under the other four programme areas, including the Training Manuals for the Management Institute of National Development (MIND) and other training materials.

Under the Holistic Governance programme courses were conducted at the two pilot colleges, resulting in a raised level of awareness and programmes as was evident at a visit to Church Teachers' College's Environmental Day in 2005.

Clearly, the NEEC and the NEEAPSD have laid the groundwork for further programmes in education and awareness about the environment, including education related to the Conventions. There is, however, still much work to be done in spreading the information nationwide and across the education system.

### *The Greening of Government*

Under the GOJ's 'Greening of Government' programme which was supported by ENACT, the *Holistic Governance: Sustainable Development in Action* series of courses was developed at the Management Institute for National Development (MIND).

Greening of Government is defined as "the process of integrating environmental considerations into the decision-making processes at the policy, strategic planning and operational levels of government" as every sector including government has aspects of its core business that interact with the environment."<sup>25</sup>

Thirteen different courses were offered between May 2001 and June 2004, namely:

- Environment and Sustainable Development (42 hours)
- Environmental Business Management (24 hours)
- Environmental Economics (30 hours)
- Environmental Management Systems (24 hours)
- Environmental Stewardship for Management (30 hours)
- Environmental Stewardship for Administrative Staff (18 hours)
- Leadership in Environmental Education for Sustainable Colleges (30 hours)

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<sup>25</sup> Management Institute for National Development: *Holistic Governance: Sustainable Development on Action; Courses for Public Service and Private Sector Staff, April 2004- March 2005*

- Environmental Stewardship for Principals, Teachers & Bursars (24 hours)
- Environmental Stewardship for Senior Technical Officers and Procurement Officers (30 hours)
- Environmental Stewardship for Ancillary Staff (18 hours)
- Environmental Stewardship for Teachers (24 hours)
- Integrated Environmental Management and Planning (36 hours)
- Strategic Environmental Assessment (36 hours)

Eleven publications have been developed to support the courses mentioned above. Each participant was presented with a 550 page text entitled “Environment and Sustainable Development”. There are also a number of videos that are used in delivery of the courses, including a series called “People Count” sponsored by Ted Turner of CNN. Others include: “Earth to Sea” which is a Jamaican video.

This programme has been very popular not only with personnel from government organisations, but also with persons from the private sector who heard about it and asked to be included. A total of 3000 participants have been exposed to the courses. All levels of staff have participated in the courses from Permanent Secretaries to ancillary staff.

Almost all ministries/agencies of the GOJ have participated in these courses.

An evaluation was done among all government agencies whose staff had participated in courses. There was a 60% response rate with the following results:

- 100% of respondents had heard of the programme
- 89% said they sent staff on training because it was important
- 8% said that they sent staff because employees had requested the training
- 64% said that the materials were used as reference by staff on a day-to day basis
- 72% are willing to pay for this kind of training
- 97% would like to see the Holistic Governance training programme continued.

#### *Impact of the Programme*

Elizabeth Emanuel, Coordinator of the GOJ Greening of Government programme, says that the training programme has had the following impact:

- There is a greater awareness of environmental issues in the public sector
- MIND is now practising “green” catering: They use reusable, not disposable ware in catering for all courses.
- JDF has changed its incinerator and retrofitted its vehicles to be more environmentally friendly.
- The Fisheries Division has developed a new sustainable fisheries policy.
- The Ministry of Agriculture has developed guidelines for dairies
- Several ministries have developed their own environmental stewardship programmes some are doing strategic environmental assessment of their policies, plans and programmes.



- The Environmental Stewardship course has provided a framework for implementation of some aspects of the Orane Plan for reducing government costs, e.g. fleet management, publications, management of hazardous chemicals.
- It is proposed that ministries and agencies will be directed to develop environmental stewardship action plans.

This programme has the potential of being expanded to be a vehicle of education for public and private sector personnel about the Conventions.

*National Environment and Planning Agency*

The National Environment and Planning Agency is the government organisation with the major responsibility for education about the environment. The Public Education and Community Outreach Branch is the section within the agency which implements environmental education programmes, as well as publicity for the organisation.

An interview with Miss Vimin Gayle, then Acting Manager of the Public Education and Community Outreach Unit, revealed the following information:

- In terms of Public Education on the Conventions, NEPA has not focused on either Climate Change or Desertification.
- Aspects of Desertification would be covered in programmes dealing with watershed management and deforestation.
- Climate Change would have been touched on when dealing with ozone depletion or coastal zone management.
- With regards to Biodiversity, when the National Biodiversity Strategy and Action Plan (NBSAP) was being developed and launched, there was emphasis on Public Education. Consultations were held with stakeholders to get their input into the plan. The type of activities included
  - Stakeholder consultation
  - Publication of posters
  - A brochure
  - A cartoon for children was published in the newspapers
  - A video that captured the theme (produced by Richard Nelson)

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These were all used in the public education effort.

NEPA collaborated with the Institute of Jamaica. in developing and implementing a public education programme, which was linked to activities around the Action Plan and to International Biodiversity Day (May 22, 2003). Activities for the day included:

- An Environmental Expo and Fun Day in Portmore, which included a petting zoo, veterinary advice clinic, focus on the biodiversity of Portmore and Hellshire e.g. the ecological significance of the area, including its being a habitat for the iguana, crocodile and the yellow snake.

- Every exhibition that NEPA mounts or participates in has something on biodiversity in the marine and terrestrial environment, flora and fauna. There is emphasis on fauna which are protected by law. Laws governing plants are not emphasised.

In general NEPA's target groups are: NGOs, Government agencies and departments, professional groups, the geological society, and tourism interests as well as the general public. Education programmes are targeted to different groups.

There is an attempt to educate people on the value and importance of the variety of species found in "bush" and their significance in the ecosystem. School projects include the collection of leaves, identification of plants and research. Competitions get teachers involved.

It was concluded that there is need for education about the Conventions and that NEPA should play a major role in education about the Conventions.

NEPA is also host for a number projects in which there is a public education component. These are described below.

#### *A. The Ridge to Reef Watershed Project (R2RW)*

R2RW is a five-year initiative between the Government of Jamaica's National Environment and Planning Agency (NEPA) and USAID, addressing the degradation of watersheds on the island. R2RW comprises three interrelated components or Contract Results, reflecting the overall objectives of the initiative:

- Working with local-level organizations to promote sustainable environmental management practices for resource users;
- Identifying and supporting solutions that encourage better enforcement of existing environmental regulations and policy; and
- Enhancing the capacity of Jamaican government agencies and private-sector and civil society organizations to implement effective watershed management programs in Jamaica.

Education has been undertaken under all three components:

- Training and education of communities in the two project areas (Great River and Rio Grande watersheds)
- Education about illegal environmental practices (through publication of a series of posters)
- Sensitization of the judiciary on environmental legislation.

The project ended in June 2005.

#### *B. The Coastal Water Quality Improvement Project (CWIP)*

The Coastal Water Quality Improvement Project (CWIP) is a USAID-funded activity designed to protect and improve the environmental quality of the country's coastal resources. The Project relied on a community-based programme to tackle the problem. In implementing the project, NEPA worked in partnership with national agencies, national and local NGOs, community groups, and the private sector. Activities focused in the following five areas:

- Support community-based initiatives to address environmental concerns;
- Improve the operation and maintenance of municipal wastewater management systems;
- Improve environmental practices of industries and commercial establishments;
- Establish NGO-government partnerships to monitor coastal water quality; and
- Support improved coordination of coastal zone management activities.

Waste water management has been a focus of the project – improvement of the quality of waste water that enters the sea.

Under support of community based initiatives, the project has worked with local communities to educate them and help them to change behaviour that impacts negatively on the marine environment. The strongest link to the Conventions is to preservation of biodiversity in the coastal marine environment.

*Impact of the Ridge to Reef Watershed (R2RW) and Coastal Water Quality Improvement (CWIP) Projects*

Both these projects have, by their involvements in rural communities and strong emphasis on education, brought strong messages of environmental protection to community members.



Focus group with participants in the CWIP project

R2RW has produced an impressive array of educational materials in print and electronic formats.

CWIP worked closely with the Portland Environment Protection Association (PEPA) and the College of Agriculture, Science & Education (CASE) in carrying out its educational programmes in Portland. This project also has produced a range of educational materials.

Persons who had been trained in both programmes demonstrated a high degree of environmental awareness in our evaluation exercise.

*C. Institutional Strengthening for the Rehabilitation of Kingston Harbour*

This project aims to address some of the major problems affecting Kingston Harbour. Component D of this GOJ/IDB funded project focuses on public education, for the general public, and through the development for educational modules for use in schools.

The focus on the improvement of the quality of water in the harbour aims to preserve and increase biodiversity of marine life. This objective supports the UNCBD.

These projects have relevance to the UN Conventions in that they encourage sustainable use of the land and coastal waters, and have put in place educational programmes and projects in communities which can form a platform for education about the Conventions. The problem is the challenge of continuing the

work which has been begun by these projects both in terms of institutionalising with the executing agency and finding the resources to continue the work.

### 5.3 Other Government Agencies

#### *Fisheries Division*

The Fisheries Division of the Ministry of Agriculture does public education on fisheries-related topics directed at the general public and schools through

- presentations to schools and other groups
- participation in exhibitions, workshops and symposia
- provision of teaching materials

It also organizes workshops and seminars aimed at educating and informing fishermen.

The Division also makes fisheries data and research findings available to interested persons.

#### *Forestry Department*

The Forestry Department (FD) of the Ministry of Agriculture does education about the importance of forests, and the need to conserve, protect and enhance them. This is of importance to all three Conventions.

Through the Forestry Capacity (Bridging) project<sup>26</sup>, The Department has produced manuals and guides on forestry related topics such as working with communities, enforcement, guidelines for writing biophysical inventory reports, etc. This project also has a training component under which Forestry Department staff as well as those from other government agencies and NGOs received training in planning skills, project management, monitoring and evaluation, supervisory and forest management.

The FD has also implemented a *Forest Awareness Programme* under the *Trees for Tomorrow Programme*<sup>27</sup>

The purpose of this activity is to gain support from the public and key stakeholders for the sustainable management of forests and upper parts of watersheds and to improve the image and visibility of the FD. The programme works closely with other organisations involved in environmental awareness. Activities undertaken by the programme include school competitions, presentations to schools, service clubs and summer camps; setting up information centres at agricultural shows and other environmental theme exhibitions; regular media submissions on forest-related topics, organising a National Tree Planting Day; and annual “*Open House*” days for the public at the various FD offices.

#### *Rural Agricultural Development Agency (RADA)*

RADA offers extension services to farmers, and can play an important role in education about deforestation and land degradation

#### *National Solid Waste Management Authority (NSWMA)*

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<sup>26</sup> Forestry Department website: [www.forestry.gov.jm/fcp\\_info.htm](http://www.forestry.gov.jm/fcp_info.htm)

<sup>27</sup> Forestry Department website: [www.forestry.gov.jm/tft\\_info.htm](http://www.forestry.gov.jm/tft_info.htm)

This agency, which is responsible for solid waste management islandwide, does education about proper solid waste disposal practices, and discourages the public from burning their waste.

*Office of Disaster Preparedness and Emergency Management (ODPEM)*

ODPEM, the agency responsible for disaster management and mitigation, often makes the link between improper environmental practices and disastrous effects of natural events such as heavy rains and hurricanes.

*Consumer Affairs Commission (CAC)*

The CAC is a statutory body in the Ministry of Science, Commerce & Technology which advocates consumer rights, and also does consumer education. The opportunity here is to request that they inform the consumer on issues such as choice of products with regards to energy efficiency, emissions, etc.

*Tourism Product Development Company (TPDCo)* Through its *Team Jamaica* programme, TPDCo does training of tourism workers at all levels and in all sub-sectors of the industry. The programmes include a section on the environment.

*The Institute of Jamaica (IOJ)*

The Institute of Jamaica is the National Focal Point for the **Clearing House Mechanism for the CBD**.<sup>28</sup> The CHM is based in the Natural History Division (NHD) which has been the pioneer of science studies in Jamaica. Formerly known as *The Science Museum*, it is the oldest division of the Institute, which was founded in 1879. The NHD aims to stimulate in Jamaicans and visitors, an interest in and appreciation of Jamaica's flora and fauna. Major activities include the collection, storage and preservation of floral and faunal specimens; providing information to the public on Jamaican natural history and pursuing scientific investigations.

#### **5.4 The Formal Education System**

The Ministry of Education Youth & Culture and the Joint Board of Teacher Education, with the help of the NEEC and NEPA, have incorporated environmental concepts into their curricula at all levels from Early Childhood to Grade 9. Support for this process has come through the ENACT/NEEC environmental education programme. The status of environmental education in the formal system is shown at Table 2.

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<sup>28</sup> See Section 4.1.1

**Table 2: Status of Environmental Education in the School System** <sup>29</sup>

Level	Status
Early Childhood	Concepts have been infused into early childhood (EC) curricula and the EC curriculum at Teachers Colleges
Primary	Concepts infused into the curriculum. Primary curriculum “very environmental” in its approach, but is not being widely or well taught because teachers are not equipped to teach it and there are no support materials. A pilot project in 6 schools was done through ENACT
	The handbooks that were produced for teachers and principals were distributed only in the pilot project schools.
Secondary Level	EE concepts have been incorporated into the ROSE curriculum (grades 7-9). CXC CSEC and CAPE syllabuses have environmental content in various subject areas. The SEP is in a few secondary schools.
Teachers' Colleges	EE infused into EC and secondary teaching curricula. Primary not undertaken. Sustainable Colleges for EE pilot project implemented in Shortwood and Church Teachers' Colleges.

The problem identified is that the teachers need more training and access to learning materials to make them better equipped to teach environmental education and to make them comfortable with the topic.

At the **tertiary level**:

The **University of the West Indies** has a number of environmental studies options:

The following courses are offered at the undergraduate level at the Mona campus:

- The Environmental Sciences option is available to students primarily in the departments of Life Sciences and Chemistry
- The Environmental Biology option is available in the Department of Life Sciences;
- Genetic Engineering
- The Earth Sciences Option is available in the Department of Geography and Geology
- The School of Education offers an Environmental Education course in its B.Ed. programme.

The Cave Hill campus offers a programme in Meteorology at undergraduate and post-graduate levels, and the St. Augustine campus offers Engineering and Agriculture programmes.

At the post-graduate level, a Master of Science degree in Urban and Rural Environmental Management is offered. The Department of Geography and Geology also offers M.Phil and PhD. Programmes in Environmental Management Studies. The School of Education includes an Environmental Education course in the M. Ed. Programme.

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<sup>29</sup> Interview with Janice HoLung

The **University of Technology** has a B.Sc. programme in Environmental Health, which is the course pursued by those wishing to be Public Health Inspectors. An examination of the course content, however, revealed that the emphasis is more on health than on the environment. Other programmes which have environmental components are:

- B.Sc. in Urban and Regional Planning (6 hours)
- B.Sc. in Construction and Engineering Management (2 hours).

**Northern Caribbean University offers:**

- Environmental Science elective in the B.Sc. Biology programme
- The option to pursue Environmental Biology as the specialization in the M.Sc in Biology
- In the Science Education undergraduate programme, Environmental Education as an option

**Caribbean International University (Knox Community College)** offers an associate degree in Environmental Management.

**The College of Agriculture, Science & Education (CASE)** offers a Bachelor's degree in Environmental Technology.

### **5.5 Non-Governmental Organizations**

A number of environmental Non-Governmental Organizations have been undertaking environmental education for many years.

*The Jamaica Conservation and Development Trust (JCDDT)*

The Jamaica Conservation and Development Trust (JCDDT) manages the Blue and John Crow Mountain National Park (BJCMNP) where it promotes environmental conservation and sustainable development.

In order to achieve this objective, their activities include educational programmes in schools and communities in the BJCMNP:

(A) SCHOOLS: They visit at least 25 schools annually, and work with at least twelve of the schools on programmes such as organic gardening, solid waste management, environmental clubs, research and posters, some of which is done in conjunction with the Schools Environment Programme. Each year they have a different theme.

(B) COMMUNITIES: They conduct presentations/meetings on different themes relevant to park management, on an ad hoc basis, with different community groups, e.g. citizens' associations around the park – about 5 – 8 meetings/year. They work more closely with one or two of the communities around the park to encourage/assist them to be involved in the management of the Park.

(C) YOUNG ADULTS IN COMMUNITIES: JCDDT also provides training e.g. tour guiding, flora and fauna awareness, and nursery development, in order to assist young adults to develop more environmentally sustainable income-generating opportunities for themselves and communities.

(D) VISITORS TO HOLYWELL PARK (mainly families from Kingston and school groups) There is an Interpretive Programme at Holywell including guided tours of the Oatley Mountain Trail, botanical signs and exhibits, plus an educational presentation.

The JCDT hosts **Green Expo** – a biennial environmental exposition which aims to educate the public about the benefits of adopting environmental practices and purchasing environmentally friendly products and services.

Most of the JCDT programme relates to biological diversity and land degradation. The issue of climate change is addressed at Green Expo through the promotion of energy conservation and alternate energy sources.

This ENGO reaches a great number of people with its educational programmes each year: approximately 12,500 students in 25 schools around the park; 600 persons at meetings in communities around the park; 10,000 visitors to Holywell Park; 2,500 adults and 5,000 children visit Green Expo every two years.

*Jamaica Environment Trust (JET)*

This NGO has carried out a range of educational programmes – “Nuff Respect for Nature” 1994, Schools Environment Programme 1997-present, Student Environment Network 1998-present, audio visual presentations to a range of audiences, articles, radio programmes, TV programmes, written materials, conducting teacher workshops on a range of environmental issues

**The Schools Environment Programme (SEP)** is a large environmental education programme



*The herb garden at Sligoville All Age School – a participant in the School's Environment Programme*

implemented in over 350 Jamaican schools, reaching approximately 280,000 students and teachers (year 2003/2004). The programme aims at promoting environmental awareness, ethics and action in students, and encouraging the development of environmentally friendly schools and communities in Jamaica. The SEP seeks to involve students in activities which improve the school environment, increase student environmental knowledge, and enable schools to serve as examples within their local communities.

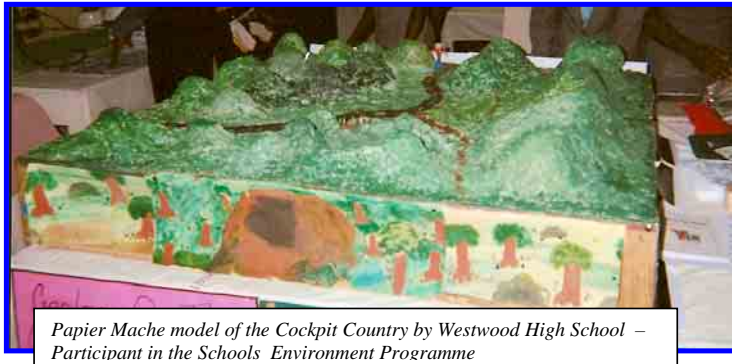
The Schools Environment Programme is a structured, hands-on, learning programme, which is run as a

competition. A national awards ceremony is held each year. SEP is guided by a Teacher's Manual, which outlines a required range of activities with an emphasis on improved teaching practice and curriculum integration. The SEP Teacher's Manuals have now been linked to the primary and ROSE (Secondary) Curricula.

The programme is divided into four main categories:



- Managing your garbage
- Greening your school
- Establishing or strengthening an environmental club
- Environmental research.



*Papier Mache model of the Cockpit Country by Westwood High School – Participant in the Schools Environment Programme*

Each school must do at least one activity from each category to be eligible for judging.

A number of topics related to the Conventions were found in an examination of the Junior and Senior level teachers' guides. These include: the importance of trees and tree planting, forests, biodiversity,

environmental effects of fossil fuel based energy, alternative sources of energy, energy conservation, ecosystems, deforestation and soil erosion and the importance of watersheds.

The SEP has reached 350 schools in various parishes with an interesting, action-oriented environmental education programme. The materials produced by the programme (the Teachers Handbook and the booklets on the different project areas) are valuable resources for teachers, offering a wide variety of suggested activities in environmental education. It has also resulted in a cadre of teachers who are trained and aware of environmental issues, as the consultants discovered when they conducted a focus group exercise at Sligoville All Age School.

#### *The Student Environment Network*

The Student Environment Network (SEN) was formed after the first *Earth Time Now!* Conference in November 1997, SEN is a coalition of secondary school environmental clubs. Student members seek to support and visit each other, share information, advocate on environmental issues, and hold an annual youth conference about environmental issues. SEN holds quarterly meetings, issues newsletters, conducts advocacy campaigns and goes on an annual field trip. SEN has not yet succeeded in making the organization island-wide, although this is the intention. It presently encompasses six corporate area high schools. This programme provides the opportunity for developing a cadre of environmentally aware young people who want to make a difference to the environmental practices in Jamaica.

#### *Other NGOs*

Several other NGO's throughout Jamaica are engaged in environmental projects and education programmes in their communities. Some of these are:

**Caribbean Coastal Area Management Foundation (CCAM)** manages the Portland Bight Protected Area in south Clarendon. Peter Espeut, Executive Director of CCAM) – has done two environmental awareness studies among the general public in 1991 and 1998.

**The Portland Environment Protection Association (PEPA)**, was founded in June 1988 and is an association of community organizations, service clubs and civic organizations, bound together by a common interest in protecting the natural environment of the parish of Portland. The organization is made up of representatives from forty-one civic groups and associations within the parish. Their activities include community projects with an environmental education component, and environmental education projects in schools.

**Friends of the Sea**: This Ocho Rios based organization manages a project to improve the environment in the Dunn's River watershed area. The project includes tree planting and environmental education involving a number of schools in and around the community.

**Northern Jamaica Conservation Association**: focuses on the protection of the environment and marine resources on Jamaica's north coast.

**Negril Environmental Protection Trust (NEPT)** and the **Negril Coral Reef Protection Society (NCRPS)** implement environmental projects in the Negril Area including educational initiatives aimed at protecting the environmental resources of the Negril area.

**Southern Trelawny Environmental Agency** manages a Project on conservation in the Cockpit country and implements the Schools Environment Programme with schools in Trelawny,

#### **Montego Bay Marine Park**

The **UNDP/LIFE Programme** has implemented environmental projects in inner-city and poor rural communities along with community empowerment programmes, and could be a powerful medium for reaching these communities.

The **Jamaica Association for the Elderly** has an annual tree planting of Neem trees.

Many of the NGOs have membership from community groups, thus offering opportunities for networking. They therefore offer an important opportunity for partnership in education about the Conventions, especially where they already have environmental programmes in place.

However while there are a reasonable spread of NGO's across the country, the NGO community faces its own capacity challenge with respect to trained staff and funding. The sustainability of their activities is a question which must be addressed on the issue of sharing resources to avoid duplication of effort.

#### **5.6 Summary**

Environmental education has been taking place as a result of a number of initiatives throughout the island.

At the **community level**, NGOs and NEPA projects such as the Ridge to Reef Watershed and Coastal Water Improvement projects have impacted specific communities with educational programmes and improved environmental practices, but there is need for replication/mainstreaming of these initiatives in more communities to increase the impact on the environment.

In the **formal education system**, environmental education for sustainable development has been infused into the curriculum from early childhood to grade nine, with complementary infusion into the curricula of teacher training colleges at the early childhood and secondary levels. Some support materials have been produced and some teachers have been trained, with pilot projects taking place in six primary schools and two teacher training colleges. The need is for the development and distribution of learning materials and system-wide teacher training in environmental education. The Schools Environment Programme has brought practical, hands-on environmental education to 350 schools, but the reach of the project has been limited, and the programme is in jeopardy due to imminent withdrawal of funding.

Through the ENACT supported **Greening of Government programme** and introduction of **Environmental Management Systems** to Private Sector organizations, many employees have been exposed to environmental training which they have taken back to their organizations. The integration of the Holistic Governance programme into the offering of the Management Institute for National Development offers an opportunity for reaching government officials and private sector decision-makers with messages about the need to change how we make decisions that affect the environment and about the Conventions.

Many Government departments have environmental education programmes to support their portfolios, e.g. forestry, fishing, health etc. These could be better coordinated and synergies used to make more impact.

There are a number of NGOs involved in environmental education, the ability of these NGO to develop and sustain effective environmental educative programme are by the lack of funding and technical capacity and sustainability issues. There is no doubt however, that the NGO community has a valuable role in the environmental landscape. The challenge remains in seriously addressing the capacity issues within the sector.

## 6. BENEFICIARY IMPACT ASSESMENT

The purpose of the Beneficiary Impact Assessment was to carry out a review of the impact of environmental education projects as part of a capacity assessment of the public education and awareness issues that cut across the three thematic areas. The methodology used was to have focus group discussions with different interest groups at different locations across the Island (Port Antonio, Kingston, Mandeville and the Great River Valley in the west). To review the methodology and process in more detail, see Appendix VII.

The results of this Beneficiary Impact Assessment, are reported under the following headings which directly reflect the information sought and obtained in the sessions.

- What was done?
- Who was involved and why?
- What are the findings?
- Was the exposure to environmental education in these areas useful?
- Did it change how people behave?
- What were the lessons learnt?
- How does it inform the capacity assessment?

### 6.1 What was Done?

#### 6.1.1 *Public education programmes/projects within the environmental sector.*

Focus group discussions were conducted with persons from across the island who had been involved in public education project at the local or national level. From these sessions it was apparent that some degree of impact was achieved although how these projects/programmes resulted in changes in behavior is not entirely clear. The assessment process placed such programmes and projects in three categories: a) programmes having local impact; b) those having Parish wide impact and c) those that have a national impact.

In analyzing these programmes it was also obvious that the content had relevance to varying degrees to three thematic areas encompassed by the United Nations Conventions on Climatic Change, Combating Desertification and Biological Diversity. For example, tree planting programmes are understood by all participants to be dealing with land degradation which by extension, directly impacts on climate change and biodiversity.

#### *Community Programmes:*

In communities across the island, it was possible to identify environmental programmes that were planned locally or had an impact in those communities. Such programmes included public education and awareness, re-forestation and tree planting, best kept village competitions, organic farming, establishment of sewage systems, establishment of green areas, solid waste management including composting, recycling, separation and reducing burning of garbage.

### *Parish Programmes:*

At the Parish level the programmes that were identified included the work of the public health inspectors and Pesticide Control Authority (PCA) of the Ministry of Health, educational programmes and projects carried out by agencies such as NEPA, CWIP and R2RW, the work of NGOs such as PEPA and JET, soil conservation, solid waste management including garbage collection in major towns and the erection of skips.

An interesting example of solid waste management was found in Portland where schools were encouraged to use paper instead of styrofoam lunch boxes, and PEPA facilitated this by selling paper boxes.

There has also been the establishment of a bird sanctuary, tree planting in watershed areas, a sanitation system involving wetlands, and harvesting water from roofs.

The publication of a calendar of environmental activities has also proved useful in the Parishes of St James, Portland and Manchester

### *Islandwide Programmes*

In identifying environmental programmes across the island, participants recalled programmes carried out by RADA, NEPA, NSWMA, the Forestry Department and USAID.

They were aware of sewage systems that had been put in place, cleaning of harbours, timely water quality advisories, river training and beach reinforcement as well as Blue Flag certification of beaches. The anti-litter campaigns and laws, closed season regulations for fishing and bird hunting, signing of international conventions, Green Globe certification for hotels and Audubon certification for golf courses were also identified as programmes that were having national reach and impact.

In terms of environmental education, there were workshops for schools, supporting infusion of environmental concepts in the curriculum, and also the promotion of national and international recognition of environmental organizations, programmes and projects. NEPA and other NGOs promote/sponsor expositions, seminars, fairs, workshops and other media events for public awareness and education on a national scale.

#### *6.1.2 The Existence of Relevant Public Education Programmes and Materials*

The following is a list of public education programmes that participants related as being developed and implemented across the country:

- ♦ Workshops and seminars arranged by agencies such as NEPA, USAID, CWIP, SDC, TPDCo
- ♦ Local and foreign exposure through publication of research.
- ♦ Environmental education is now in the official school curriculum
- ♦ Schools also have environmental clubs through which issues are discussed and guest experts are invited to speak on environmental matters..

- Educational programmes in schools and communities such as: drama, role play, literature, videos and presentations through workshops, seminars, etc.
- Community grant funded projects act as education awareness programmes for participants and the general public.

*Media and Educational Material:*

- Flyers/posters produced by R2RW, CWIP, PEPA
- Drama, competition, jingles, for example Boundbrook CDC in Portland has a jingle “From the river to the sea” as part of their public education and awareness programme.
- Radio & TV programmes, the print media and Government advertisement through JIS
- Videos

## 6.2 Who is Responsible?

### 6.2.1 Ministries and Government Departments

In discussing the roles and responsibilities of government, participants from across the island were consistent in their views on what government was doing in terms of environmental education and public awareness, what it should be doing and why. In the main it was the view that the Government’s role is to develop the legislative framework, and to enforce laws and regulations. They should lead by example, by being themselves compliant with regulations, and being accountable. Government, it is felt, has an important role in both formal and non-formal education. It should make use of its media arm, JIS.

It was the consistent view that Government should allocate resources for maintenance of the environment, ensure that infrastructure is maintained, apply a multisectoral approach to environmental matters, empower local communities and NGOs, and ensure better coordination between its ministries and departments. In the main government is a facilitator for all projects and programmes both locally and nationally.

### 6.2.2 Citizens, NGOs, the Private Sector and Other Relevant Stakeholder Groups

#### *Citizens and community Institutions*

Citizens should be compliant with government regulations, be exemplary i.e. ‘each one teach one’ and demonstrate increased levels of personal responsibility. They have a responsibility to get educated, and to educate their children about good environmental practices. They should play a part in protecting local communities, and be environmental stewards.

- Schools should promote cleanliness of one’s surroundings, and teach children about the environment and how to take care of it.
- Community organizations should carry out environmental projects and competitions, and appoint environmental watchdogs.

In the main the average citizen is aware of his/her responsibility, however is either reluctant to carry it through or ignorant of the consequences of not carrying it through.

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## *NGOs*

The NGO sector work in the environment to a large extent revolves around environmental education of the general public through work with community groups and schools. They are considered to be the watchdogs for the environment. It is, however, felt that they could benefit from better coordination and more collaboration in their work/programme activities themselves. The NGO Sector itself, however, faces a number of capacity issues and given the nature of these organizations, strengthening the NGO Sector faces many challenges.

## *Private Sector*

In general the Private Sector is contributing but should contribute more in the areas of funding, sponsorship and incentives. They should increase their engagement in best practices, encourage employees to become involved, (e.g. in the NGO sector).

Companies could be more honest with the public, compliant with regulations and they should promote environmental awareness and accountability in their organizations. Two sectors that were specifically mentioned in this regard were Bauxite companies – in the area of land reclamation and the sugar industry, which should reuse waste in their production.

In general, it was felt that the country will need to find more creative ways of involving the private sector in public education programmes.

## *Media*

Participants felt that the media should have on-going public awareness and education campaigns on environmental issues instead of its current sporadic campaigns which responds only to dramatic news events.

### **6.3 Was the Exposure to Environmental Education in these areas Useful?**

It was quite clear that persons and communities benefited from the exposure to environmental awareness and education programmes. This was shown in the level of awareness and knowledge of the programmes and projects displayed by participants. For example, the environmental education that was done in the watershed area of the the Great River Valley of Hanover/St. James was effective, as persons from those areas were quite knowledgeable about the dangers of not protecting watershed areas. They spoke of the importance of protecting the wildlife by providing sanctuaries, and not cutting down trees randomly which also prevents soil erosion, landslides and eventual deforestation. They also spoke of the danger of dumping waste in rivers, which will eventually flow to the sea and cause the contamination and pollution of both river and sea. The participants were well aware of the negative consequences to farmers, fisher folk and all who live and benefit from the areas.

In all the areas where the research was done, persons spoke of the effects of climate change and land degradation on the environment if care was not taken the need for education about good environmental practices. However, it must be noted that these areas had environmental projects and programmes operating, hence the heightened level of awareness. Participants in the research spoke of the need to have similar environmental programmes replicated in districts, villages and parishes across Jamaica, because where none existed, ignorance and the disregard for good environmental practices were in evidence.

## 6.5 What did the Findings Tell us?

The previous sections described some programmes and persons involved in the environmental processes. Description analysis showed certain gaps and constraints which to a great extent limit the impact of these projects/programmes. In many cases the work is funded through projects which have limited time and a certain focus which limits impact and creates problems with sustainability. Generally funding for public education from GOJ resources is limited, which impacts on follow up of achievements of projects..

### 6.4.1 Capacity Constraints

The main constraints identified were:

- Inadequate funding in place
- Lack of access to environmentally friendly products
- Lack of access to trees for tree planting programme (in some locations)
- Poverty, particularly among the small farmers which makes complaints to good practice difficult
- Limited capacity in NGO Sector
- Absence of sufficient resource materials
- Inadequate enforcement by the regulatory agencies

The following could be regarded as bottlenecks

- Entrenched cultural, attitudinal and behavioural practices which create high level resistance to change
- Public bureaucracy
- Politics – both organizational and party? explain
- Local good practices/projects are not getting national attention and by extension not being replicated nationally.

### 6.4.2 Capacity Gaps

Even though there is a general level of awareness in some sections of the population particularly those communities which have benefited from projects across the communities this awareness has not been transferred.. Delivery of public awareness programmes, is however limited by capacity constraints in government/agency coordination efforts and funding. Projects like CWIP and R2RW have shown that it is possible to raise awareness at the grassroots level, but this has only happened in a few targeted communities where funds have been available, The challenge is to find a way to replicate these activities in more communities across the nation and to move from pilot scale project to full scale programmes. The key link here is the need for financial resources to develop and implement programmes, develop resource materials among other things.

It is the general view that there needs to be more coordination between government departments and agencies in the way environmental programmes are delivered, particularly as they relate to the three Conventions. Different departments and ministries have different roles, yet sometimes with similar agendas. It is the view that greater synergy between these agencies would deliver the required capacity and therefore a greater level of efficiency and public good to the nation.



The findings also found that more efforts need to be made at targeting the young through school programmes. Hence it is suggested that the programmes which have been institutionalized in the schools and colleges be strengthened to make the results more effective and sustainable.

## **6.5 Lessons Learnt/Recommendations**

### *6.5.1 Priority issues*

At the end of the focus group discussions, it became clear that there were some priority issues for action. First among these was funding. There is the general view that there is insufficient funding to carry out education and public awareness programmes. All groups from across the island mentioned this as an issue that needs addressing.

A second recommendation was that government should take the lead in directing and facilitating national environmental programmes. However, while both government and the private sector should fund these programmes, the management should be left to the Non-Government Organizations (NGOs).

A third recommendation that was mentioned across all groups was the issue of environmental legislation, regulations and compliance to these regulations. It was the general view that there were shortcomings in the present level of enforcement which directly affect the ability to ensure proper monitoring and compliance. It was the opinion that government should promptly address this issue.

The findings also pointed to the fact that the private media could play a more important role in public awareness and invariably help to reduce the level of ignorance and change attitudes.

### *6.5.2 Informing the Capacity Assessment*

The field investigations also found there has been no differentiation in focus on any one particular thematic area. All three seemed integrated in terms of the public education process should also be integrated in approach. For example, although the Ridge to Reef Watershed project is focused on the preservation of watershed areas and by extension land degradation, the public awareness and education programmes impacts on all three Convention areas as persons were able to link land degradation to deforestation and deforestation to climate change both of which affect biodiversity.

### *6.5.3 Suggestions for Project Concepts*

Arising out of the beneficiary assessment were some suggestions for projects:

- Material production and teacher training support for EESD which has been infused into the school curricula from Early Childhood to Grade 9, and for programmes offered at the CSEC and CAPE levels. (Some participants were apparently not aware that the infusion has already taken place and suggested that this be done).
- Funding school projects such as solar energy as a source of alternative energies, bio-gas, organic school farms etc.

#### 6.5.4 Conclusion

The participants in this assessment represent Jamaicans from a wide cross-section of Jamaican society the island. Their views can be said to represent a snapshot of environmental awareness and concerns of Jamaicans who have been exposed to environmental education programmes. They are, therefore more aware than the average citizen, and have shown insight into the problems affecting the environment and some of the solutions.

#### 6.6 Summary

Focus group discussions were conducted with persons from across the island who had been involved in public education projects at the local or national level. Participants identified programmes related to the environment at community, parish and national levels.

In the main, government is seen as a facilitator for all projects and programmes both locally and nationally. Citizens should also play their part by taking responsibility for their own surroundings, and teaching others. NGOs are seen as watchdogs for the environment with a role to play in education of the community. In general, the Private Sector is contributing but could do more in the areas of funding, sponsorship and incentives.

Priority Issues: There is insufficient funding to carry out education and public awareness programmes. It was recommended that government should take the lead in directing and facilitating national environmental programmes. However, while both government and the private sector should fund these programmes, the management should be left to the Non-Government Organizations (NGOs). It was the view that there were shortcomings in the present level of enforcement of environmental laws which directly affect the ability to ensure proper monitoring and compliance. The findings also pointed to the fact that the private media could play a more important role in public awareness and invariably help to reduce the level of ignorance and change attitudes.

## 7. PRIORITY ISSUES AND CAPACITY GAPS

### 7.1 Priority Issues

The research undertaken in this assessment has identified the important issues related to public awareness. They are outlined below with their estimated importance for each of the Conventions.

**Table 3: Issues Prioritization Matrix**

Priority Issues	UNCBD	UNFCCC	UNCCD
Need for Institutional Stability and Support for NFPs and implementing agencies	Medium	High	Medium
Need for government agencies to be aware of Conventions	Medium	High	Medium
Conventions are not taken into account when corporate plans are being made by government agencies.	High	High	High
The general public does not make the link between their present and future well being and environmental issues.	High	High	High
Need for trained personnel to implement the Convention	High	High	Medium
Need for access to learning materials/information on the Conventions	High	High	High
Need for trained personnel to conduct courses on the Conventions	High	High	High
Need for teachers across the education system to be trained in environmental education	High	High	High

### 7.2 Capacity Constraints/Gaps

From document reviews, interviews, focus groups and questionnaires completed, the following capacity constraints, gaps and weaknesses have been identified.

#### Individual

- Media and communications practitioners need to be engaged in the process and given environmental exposure
- Environmental experts need communications/media training to help them to make better use of media and communication techniques in getting their message across
- Ignorance of environmental issues

- Entrenched cultural practices and behaviour inhibit change
- There is attitudinal resistance to change

#### **Institutional**

- Need for trainers for community learning
- Teachers in the school system need more environmental training
- Projects and incentive schemes are needed for more communities to engage in environmental activities

#### **Systemic**

- Need for clear policy initiatives for environmental education
- Learning Resources – more to be produced along with a system for accessing and sharing information
- Poor coordination and sharing of resources between government agencies with similar objectives in environmental education;
- Need for sustainable long term funding for environmental education – short programmes do not produce the behaviour change which is necessary to achieve impacts in environmental management at the community level.
- Local good practice projects are not being given national attention and are therefore not being replicated nationally – there is a focus on negative news which affects the national psyche.

These constraint gaps at the individual, institutional and systemic levels are summarized in the table below:

**Table 4: Capacity Constraints Matrix**

<b>Priority Issues</b>	<b>Individual</b>	<b>Institutional</b>	<b>Systemic</b>
<b>1. Need for Institutional Stability and Support for NFPs and implementing agencies</b>		1.1 Focal Point Institutions/NFP lack supporting personnel 1.2 Implementation of Conventions not included in corporate plans of relevant institutions	1.3 Conventions not given emphasis and support by Government Ministries and agencies
<b>2. Public Awareness</b>	2.1 Persons in and outside of Government not aware of the Conventions and their requirements. 2.2 Some persons in key agencies not aware of Conventions	2.3 Institutional instability has led to lack of focus on this and other areas of implementation 2.4 Public education programmes not incorporated in work plans 2.5 Public Education Units understaffed or non-existent 2.6 Lack of consistent funding for public education and awareness	2.6 No comprehensive coordinated approach to public awareness 2.7 Insufficient interagency collaboration and cooperation in implementing agencies on programme development and sharing resources
<b>3. Capacity Building in the Formal Education system</b>	3.1 Many teachers/ trainers not equipped to teach environmental education programmes	3.2 Environmental education and training offered in a limited way in teachers' colleges	Lack of resources to produce learning materials and train teachers
<b>4. Capacity Building in Government agencies</b>	4.1 Technical officers need improved communication skills 4.2 Personnel in agencies need skills in technical areas key to implementation	4.3 Agencies lack skills in Intellectual Property Rights, Fundraising and other areas to support implementation	
<b>5. Capacity building NGO sector</b>		5.1 NGOs have a role to play in public education but face significant capacity and sustainability challenges.	5.2 Insufficient collaboration and cooperation with the NGO sector
<b>Training</b>	6.1 Technical officers would benefit from short courses in communication	6.3 Skills needed in areas of Intellectual Property Rights, Environmental Management, Valuation of Natural Resources and Drought Management in key	6.4 Need for training plan. Absence of NAP to focus activities and clarify training needs

		agencies	
	6.2 Individuals Lack access to information on the Conventions and Jamaica's involvement		6.5 Need for development of learning materials and system of access to trainers, educators and students

### 7.3 Summary of Capacity and Sustained Constraints

#### 7.3.1 Public Education and Awareness

Lack of adequate funding for education and awareness is a significant capacity constraint. Susan Otuokon, Executive Director of JCDT, who has had many years experience in environmental education, made the point that donors need to be made aware of the fact that for education to have lasting impact, it has to be long-term.

Beyond the lack of funding, there is a lack of coordination, which does not make the best use of the relatively limited available resources.

Related to the lack of coordination, is the need for a clearinghouse of environmental education materials, with agencies and organizations being willing to share what they have created and produced, and make them available for reproduction or adaptation by others who need similar materials.

Access to information is a need – where do you go to get environmental information? The NEPA Documentation Centre, for example, is not welcoming to persons wishing to get information.

#### 7.3.2 Training

Training emerged as an important need, in many spheres for all the Conventions

- For creative, environmentally sound awareness programmes to be developed, there needs to be a cross-fertilization of skills between environmentalists and communicators, applying the range of available technology to the task.
- Need to move beyond awareness where it does exist, to training in educating for behaviour change – many people are aware, but they persist in harmful behaviour – how to make the leap to the stage of behaviour change.
- Need for technical skills in some areas, e.g. hydro-geologists, climatologists and meteorologists, was expressed. (Need for skills is more fully discussed in thematic reports).

The whole education process needs to be driven from the top – the policy level - where decisions are made, because, when endorsement comes from the very top, those further down the hierarchy and the public at large will take it more seriously.

At the same time there should be strong demand from the community level: an educated population is aware of its rights and concerned about the environment, and will then be a powerful lobby and citizens' action force.

#### **7.4 Strengths and Achievements**

Public education and awareness about the environment has been taking place in Jamaica since the early 1990s, perhaps before, but the momentum has been growing over the years, and there are significant achievements to celebrate:

- Environmental education (EE) is infused into the curriculum from the early childhood to teacher training levels;
- A significant amount of EE material has been produced through various projects;
- There is a cadre (although relatively small) of teachers and trainers who can deliver EE programmes;
- The tertiary institutions are offering some courses related to the environment;
- The NEEC is an established group charged with overseeing EE programmes;
- The NEEAPSD is a framework within which EE programmes can be developed;
- The NGO community is engaged in EE.

#### **7.5 Weaknesses and Gaps**

The achievements, however, are offset by the following gaps and weaknesses:

- Need for leadership at the policy level for environmental education in general and about the Conventions in particular
- The NEEC needs to be strengthened, and given a coordinating role from the policy level. Its proposed location within NEPA's Public Education and Outreach unit will require the strengthening of that unit in staff and resources.
- Lack of consistent, long term funding, allowing for long term, effective programmes; efforts are piecemeal, uncoordinated and reflect duplication of effort, rather than building on what has gone before.
- There is need for coordination in the production of learning resources and more need to be produced, using a wider variety of media.
- Need for more information sharing and access to information.
- There is a shortage of communications specialists with the necessary environmental background to develop and implement successful public awareness campaigns.
- Media and communications practitioners need to be engaged in the process and given environmental training, so that the media can properly support awareness initiatives, and initiate their own investigation and exposure.
- Environmental experts need communications/media training.
- Incentive schemes and assistance for communities would bring about results.
- Lack of enforcement of laws and regulations weakens the effect of awareness programmes.

- Inadequate supporting infrastructure, e.g. garbage collection, recycling opportunities and sewage disposal
- Entrenched cultural practices cause resistance to change
- Local good practice projects are not being given national attention and are therefore not being replicated nationally
- Tertiary and technical and vocational institutions are deficient in environmental programmes and courses with environmental content.

### **7.6 Need for Behaviour Change**

Public education and awareness should not be seen in a vacuum, but as part of an integrated process aimed at changing behaviour of a population to make it more environmentally responsible. The passage at the beginning of the chapter, from *Starting with Behaviour* explains the need for the process to be integrated and not piecemeal. For example, if you want to get people to recycle garbage, they need to know why – what are the benefits of recycling, and what are the dangers or disadvantages of not recycling. There also needs to be in place a system of recycling, in which they can participate. The waste management service must therefore have the technology and system set up so that it can work. To prevent people from disposing of waste improperly, they must know what the laws are, and the laws must be enforced when they are broken.

In the Jamaican context, public education and awareness programmes are important, but they will be more effective providing the information if also supported by practical programmes that can lead to behaviour change along with effective policy legal and administrative framework.

### **7.7 Summary**

*Priority issues revolve around the following needs:*

- Personnel in Government agencies need to become aware of the Conventions and their implications, and to include in their corporate planning measures related to implementation of the Conventions
- Successes in environmental education and awareness are too few and far between and have mainly been pilots. These programmes need to be mainstreamed across the nation and the education system
- The general public does not make the link between environmental issues and their present and future well-being. In some cases, the level of awareness has been raised, but it has not led to behaviour change.

*Capacity Constraints:*

- More teachers and private sector personnel need to be trained and made aware of environmental issues, including the Conventions; there is a need for more trainers in this area
- There is need for environmental materials already produced to become more available, and new ones be produced to meet educational and information needs.
- Funding for environmental education has not been sustained over long periods, but has generally been short tem and project related.



## 8. RECOMMENDATIONS

In order for a successful public education programme on the Conventions to take place, it will be necessary to strengthen the existing EE infrastructure, so as to make it more effective in delivering EE across the country and to the variety of target groups. The recommendations which follow should form the basis of a project for strengthening public awareness and education capacity, as well as delivery of education specific to the Conventions. It should also be used to strengthen the institutional base for national public education and awareness about the environment.

### 8.1 Establish Leadership at the Policy Level

It will be important to engage the highest levels of government in the process, in order to gain their support, which will lead to commitment of funds and personnel to the implementation of our obligations under the Conventions. In this process, it must be clear that the requirements of the Conventions are in keeping with our national social and economic development as well as environmental protection goals, and will provide a means of funding to help us achieve some of those goals.

### 8.2 Assign a Instrumental Home for the Public Awareness & Education

The NEEC within the framework of the NEPA Public Education Unit should be given responsibility and resources for overseeing the development of the awareness and education programme, and coordinating the efforts of various organisations and groups. It would also oversee the Resource Centre proposed in section 6.5. In a review of the NEEAPSD, Business and Management Services Ltd. propose the development of NEPA's Public Education & Outreach unit into a strengthened Education and Communications unit. 'The overall responsibility of the (PEO) Unit is Corporate Communications, Environmental Education and Public Awareness for SD. The focus of the unit would be the implementation of the Plan (NEEAPSD) and the use of communication in all its forms to create an aware society that understands and respects the environmental aspects of SD and how it relates to their livelihoods.'<sup>30</sup> This study looks at options for a home for the NEEC, and recommends a merger of the NEPA PEO unit and the NEEC. The detailed proposed organization structure for the NEPA PEO and the NEEC could form the basis of future discussions for capacity strengthening in this area.

### 8.3 Establishment of a Resource Centre for Environmental Education

A resource centre for environmental education should be established. Functions of the Centre would be:

- To be a clearinghouse for EE materials, i.e. to document and keep copies of all EE material produced locally, and relevant ones from abroad, and to distribute it to Government and public libraries .
- To be a central resource where EE information including that specific to the Conventions is collected, produced and stored. It should be tied into the Jamaica Library Service network, with environmental "corners" established and maintained in all Parish Libraries to allow access for persons across the island. It should provide materials in both printed and electronic formats.
- To negotiate for copyright clearance for reproduction and use of EE materials.

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<sup>30</sup> Business and Environment Management Services Ltd. A Proposed Institutional Framework for Environmental Education for Sustainable Development in Jamaica, p 12; NEPA 2004

- To produce or contract the production of a range of EE materials, including those specific to the Conventions
- To plan and organize training sessions on the Conventions.

#### **8.4 Identify Desirable Knowledge, Attitudes and Behaviour (KAB)**

Communications and behavioural specialists should be given the task of consulting with specialists on the Convention to identify the desirable knowledge, attitudes and behaviour among identified target groups with regards to the Conventions. Some target groups would be: youth, private sector managers, public sector officials, urban communities, rural communities, fishermen, teachers, etc.

#### **8.5 Develop System of Surveying**

The identified knowledge, attitudes and behaviour would form the basis of a baseline survey to establish what the knowledge, attitudes and behaviours are among various target groups. Surveys to measure the impact of environmental programmes must become the norm in order to better assess impact and design effective programmes.

#### **8.6 Develop an Awareness Plan**

The information from the baseline survey would be used to develop a long-term public awareness and education programme, with programmes designed for each target group. These programmes can then be projectised and presented for funding.

#### **8.7 Develop a Training Plan**

A training needs assessment should be carried out to identify training needs among persons in the agencies with responsibility for implementing the Conventions and also in the NGOs who would lead the process at the local level. This will yield information as to the type of training, and where it can be done. The second stage of the exercise is to negotiate with tertiary education and training institutions the development of suitable programmes.

In addition, MIND should be assisted technically and financially to expand their Holistic Governance SD programme to contain material related to the Conventions. This could be done in the short term, since they already have the programme in place.

CARIMAC could be asked to develop a course on environmental awareness and education for public relations and media practitioners and environmental specialists. Such a programme would benefit from the “cross-fertilisation” of media skills and environmental knowledge.

A proposal for funding the above activities should be written in the next phase of the project.

A proposed project concept for a comprehensive public education programme is found in **Appendix IV**.

#### **8.8 Summary**

The public education infrastructure in the environmental sector will need to be strengthened in order to effectively plan and implement an educational programme on the Conventions. The delivery of a successful public education programme will need leadership at the policy level, partnerships and bringing all stakeholders on board. It will be necessary to assign a home for the public awareness function.

The implementation of the public education will require the following steps:

- Identifying desirable knowledge, attitudes and behaviour (KAB)
- Developing a system of collecting reliable data about KAB and measuring the success of the programme
- Developing and implementing a multi-faceted awareness and education plan to cover all target groups
- Establishing a resource centre for EE.
- Developing a training plan to put in place the necessary skills for meeting our obligations under the Conventions.

## 9, CONCLUSIONS

*While environmental awareness is globally at an all-time high, key natural resources are being depleted at an unprecedented rate. Many people now know that they should protect and conserve water, forests, air, and other resources, but they do not necessarily act on that knowledge. Many factors, of which the lack of information is only one, influence why people do or don't carry out the many actions necessary to protect and conserve our planet's natural resources. Sustainable use of these resources will depend on three inter-related elements:*

***Improved technologies** (services, products, and practices) that provide economic alternatives and foster economic development, as well as protect the environment;*

***Enforced policies and laws** that regulate and support those technologies; and*

***Changes in the actions or behaviors** of individuals, groups and organizations in response to available technology and policy.<sup>31</sup>*

Public Education at all levels and in several sectors is necessary for the successful implementation of the Conventions. Education on the Conventions should not, however, be done in isolation, but in conjunction with a more generalized education programme geared at educating about environmental education for sustainable development.

Several initiatives in the public and NGO sectors which have been undertaken can be built on in the development and implementation of a comprehensive public education programme on the three Conventions. The strengths of previous programmes lie in the development of strategies that have made those impacted by them aware of environmental issues. The weaknesses lie in the fact that such programmes have been scattered in time and space and were not sustained. Another weakness is the lack of scientific data on the impact of these programmes. The lessons learnt from such programmes can be used to inform a more long-term, sustained educational programme based on the objectives of the Conventions on Biodiversity/Biosafety, Climate Change and Desertification.

Organizations with similar educational objectives will be more effective in their mission of environmental education if they seek opportunities for synergy and collaboration and work together in implementing a comprehensive integrated educational programme on the Conventions under the National Environmental Education Action Plan for Sustainable Development.

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<sup>31</sup> Green COM Environmental Education and Communication Project; *Starting with Behaviour – A Participatory Process for Selecting Target Behaviours in Environmental Programs*; US Agency for International Development



## APPENDICES

## **APPENDIX I- TERMS OF REFERENCEPUBLIC AWARENESS AND EDUCATION SPECIALIST – CROSS CUTTING ISSUES**

### **1.0 PURPOSE**

The purpose of the Terms of Reference is to set out the responsibilities of the Consultant over the six-month period of the consultancy for the National Capacity Self Assessment Project.

### **2.0 BACKGROUND**

Jamaica has ratified the UN Conventions on Climate Change, Combating Desertification, and on Biological Diversity. The purpose of the National Capacity Self-Assessment Project (NCSA) is to provide Jamaica the opportunity to conduct a thorough self-assessment and analysis of national capacity needs, priorities and constraints with respect to its efforts at meeting global environmental management objectives. It will facilitate stakeholder consultation in a process of stocktaking, sequencing, identifying and prioritizing capacity needs.

The project is expected to produce the following outputs:

- Build national capacity to mainstream issues related to the three Conventions into general planning and strategy formulation;
- Find ways to coordinate and harmonize overlapping activities among the three Conventions and to help to ensure effective national measures to protect the global environment;
- Prepare a comprehensive national action plan focused on capacity building that will identify follow-up projects, overall goals, specific objectives to be achieved, and courses of action; Support the transition from this enabling activity to the implementation of identified follow up measures addressing loss in biodiversity, losses in soil fertility and the effects of climate change;
- Enhance general national awareness and knowledge about the three Conventions and their inter-relationship; and strengthen dialogue, information exchange and cooperation among all relevant stakeholders including governmental, non-governmental, academic and private sectors.

### 3.0 OBJECTIVES OF THE CONSULTING WORK

The work is intended to conduct a capacity assessment of the public education and awareness issues that cut across the three thematic areas. During the development of the project proposal, public education was identified as a cross-cutting issue that impacts on the implementation of the three conventions and is of vital importance to any initiatives to protect the environment. At the end of the assignment there should be a full profile on each thematic area, which should include;

- A review of the relevant public education projects/programs within the environmental sector as a whole and their relationship to the three thematic areas;
- A review of the responsibilities of ministries, agencies and other government bodies;
- The role of NGOs, the private sector and other relevant stakeholders;
- The existence of relevant public education programmes or materials;
- Capacity development activities which have been undertaken to strengthen the area of public education including training and human resource programmes;
- Financial resources available to fund action plans; and
- Capacity constraints and priorities for action.

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### 4.0 CHARACTERISTICS

**Type of Consultancy:** Individual Consultant

Duration: Six months

**Level of effort:** 2 Months

#### **Qualifications:**

The candidate should be highly motivated and capable for working independently. Ability to work with a wide variety of people from governments, agencies, NGOs, and research institutions is essential. A good background in education, development of training materials and communication would be an asset.

Previous work in the area of environmental education would be advantageous.

In addition the consultant should:

- University degrees in Education and/or Communication;
- Previous work and experience in developing training materials or designing public education programmes;
- Experience in the preparation of reports;

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- Facilitation skills and or an openness to a fully participatory and consultative approach to project implementation;
- Familiarity with the environmental issues(s);
- Knowledge of the communication process and methodologies;
- Good working relations with both government and non-government entities;
- Strong communication skills (verbal and written); and
- Computer skills

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## 5.0 TASKS

The Consultant will under the direction of the Project Manager and in consultation with the Project Steering Committee complete a full assessment of the public education capacity issues within each thematic area.

Specifically the consultant will:

- (i) Review GEF 'Guidelines for NCSA of Country Capacity Needs for Global Environmental Management.
- (ii) Review the 'Stock Taking Report on the status of the implementation with respect to the Conventions on Biodiversity, Climate Change and Land Degradation.
- (iii) Review the GEF document entitled 'Guidelines for NCSA of Country Capacity Needs for Global Environmental Management'.
- (iv) Review all relevant environmental education programmes or activities, which have been undertaken for the three conventions or have a relationship to the work of the three conventions.
- (v) Provide to the PMU a list of and copies of the materials reviewed.
- (vi) Analyze these documents to identify established priorities, capacity constraints and needs as well as gaps in information about it.
- (vii) Identify the capacity constraints within each thematic area as it relates to public education and awareness building.
- (viii) Identify and confirm the priority issues with respect to environmental education and building awareness in all three thematic areas in consultation with the stakeholders during the relevant workshop(s).
- (ix) Assist the Project Manager in the organization of a workshop to share the findings of the thematic assessment.

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- (x) Facilitate within the workshop the identification of capacity building measures to address these constraints.
- (xi) Liaise with relevant members of the PSC and report on an as needed basis to the PSC on the progress of the work.
- (xii) Liaise with other cross cutting issues thematic assessment consultant(s).
- (xiii) Attend team meetings and the cross cutting and final national workshops
  
- (xiv) Prepare a final report on the cross cutting assessment including the results of the workshop and the prioritization of issues, which should be addressed in an action plan.

## **6.0 EXPECTED OUTPUTS**

The expected outputs are as follows:

- (i) Facilitation of the cross cutting issues workshop.
- (ii) A list of and copies of the public education materials reviewed supplied to the PMU.
- (iii) A draft report on the analysis of capacity issues within the thematic area and recommendations for their solution
- (iv) A final report on the evaluation of public education and public awareness cross cutting capacity issues including recommendations for corrective measures and priority actions.

**APPENDIX II-NCSA LIST OF DOCUMENTS REVIEWED FOR PUBLIC AWARENESS & EDUCATION**

	<b>Title</b>	<b>Author/Publisher</b>	<b>Description</b>
1.	Draft Stocktaking Report	Dr. Elaine Fisher	Review of the status of Jamaica's implementation of the Conventions
2.	A Guide for Self-Assessment of Country Capacity Needs for Global Environmental Management	GEF Secretariat/UNITAR	Guidelines for country self-assessment
3.	Thematic Report :UNCBD and the Cartagena Protocol on Biosafety	Dr. Elaine Fisher	Capacity Assessment
4.	Thematic Report: UNCCC and the Kyoto Protocol	Clifford Mahlung	Capacity Assessment
5.	Thematic Report: UNCCD	Marjorie Stair	Capacity Assessment
6.	Energy, Water and the Environment	JET, JPSCo Demand Side Management Unit	A guide for gr. 4-6 teachers for the topic Energy, Water and the Environment. Describes the effects of fossil fuel energy use and has activities e.g. Reduce, Reuse, Recycle
7.	Children & the Environment: Organic Gardening for Schools	Diana McCaulay Save the Children/JET	A handbook for establishing and maintaining gardens in schools. Describes the benefits of organic gardening
8.	Children & the Environment: Managing Garbage in Schools	Diana McCaulay Save the Children/JET	A handbook for managing garbage in schools
9.	Children & the Environment: Tree Planting for Schools	Diana McCaulay Save the Children/JET	A handbook for planting and maintaining trees in schools
10.	Guidelines for Environmental Clubs	Marcelline Collins-Figueroa & Janice HoLung Joint Board of Teacher Education NEEC, ENACT	Provides guidelines for forming environmental clubs in teacher training colleges
11.	National Environmental Action Plan for Sustainable Development	National Environmental Education Committee (NEEC)	A comprehensive reference and action plan on Environmental Education for Sustainable Development
12.	Proceedings of the National Consultation on Environmental Education for Sustainable Development	NEEC NEPA/ENACT/Jamaica Institute of Environmental Professionals/Environmental Foundation of Jamaica	Report on a consultation on the outcomes of the Action Plan (above) under the headings Teacher Professional Development, Curriculum Development & Implementation, National Public Awareness, Community Learning, Resources and Practices and

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			EESD Institutional Framework
13.	Teachers' Manual – Junior Schools & Senior Schools (2 volumes)	Jamaica Environment Trust Schools' Environment Programme/ Ministry of Education Youth & Culture	Environmental Resource and Activity books for Teachers and Students. Information and activity is based on the MOEYC curriculum for the relevant levels.
14.	The "Enviro" Kit	Ridge to Reef Watershed Project	A collection of environmental information materials (flyers, books, booklets, brochures, posters etc.) related to watershed management
15.	Environmental Guide to Green Procurement	Elizabeth Emanuel Government of Jamaica/ ENACT	A guide for government officers to buying environmentally friendly products.
16.	Holistic Governance: Sustainable Development in Action April 2004-March 2005	Management Institute for National Development Cabinet Office, Office of the Prime Minister ENACT NEPA	Description and Schedule of Courses in Sustainable Development for public service and private sector personnel
17.	Starting with Behaviour	GreenCOM USAID	A Participatory process for selecting target Behaviours in Environmental Programs
18.	National Strategy for Information Exchange, Education, Communication and Raising Awareness among Stakeholders	Ianthe Smith Environmental and Engineering Managers Ltd.	Description of a public awareness and information strategy for POPs
19.	Making Waves	CWIP2	A newsletter produced by the CWIP project giving news about project activities
20.	A Proposed Institutional Framework for Environmental Education for Sustainable Development in Jamaica	Business and Environment Management Services Ltd. /NEPA	A contribution to the review of the National Environmental Education Action Plan for Sustainable Development
21.	National Strategy and Action Plan on Biological Diversity in Jamaica	Ministry of Land & Environment, NEPA, GEF, etc.	Strategy and Action Plan for meeting Jamaica's obligations under the Convention on Biological Diversity and BioSafety Protocol.

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**APPENDIX III- QUESTIONNAIRE FOR HEADS OF ORGANISATIONS**

**NATIONAL CAPACITY SELF ASSESSMENT PROJECT  
PUBLIC AWARENESS  
QUESTIONNAIRE FOR HEADS OF ORGANISATIONS  
WHICH HAVE BEEN INVOLVED IN ENVIRONMENTAL EDUCATION**

Jamaica is a signatory to the UN Conventions on Biodiversity, Climate Change and Desertification. This study is part of a wider study aimed at assessing Jamaica's capacity to meet our obligations under these conventions. Your responses will assist in providing information re capacity in public education and awareness about the environment.

ORGANISATION .....

NAME OF RESPONDENT .....

POSITION /TITLE.....

WHAT IS THE FOCUS OF YOUR ORGANISATION? .....

.....

ARE YOU AWARE THAT JAMAICA IS A SIGNATORY TO THE UN CONVENTIONS ON BIODIVERSITY, CLIMATE CHANGE AND DESERTIFICATION AND THEIR INTENT?

.....

WHAT HAS YOUR ORGANISATION DONE/IS DOING BY WAY OF PUBLIC EDUCATION OR AWARENESS ABOUT THE ENVIRONMENT?.....

.....

WHO IS YOUR TARGET GROUP? (If not answered above) .....

.....

PLEASE TELL US SOMETHING ABOUT YOUR TARGET GROUP (SIZE OF POPULATION, AGE, DEMOGRAPHICS, ETC.)

.....

.....

CAN YOU IDENTIFY ANY PART OF YOUR PROGRAMME THAT IS RELATED TO BIO-DIVERSITY [ ] CLIMATE CHANGE [ ] OR LAND DEGRADATION [ ]

IF YES TO ANY OF THE ABOVE , PLEASE GIVE DETAILS .....

.....

.....

PLEASE NAME SOME EDUCATIONAL MATERIALS ON ENVIRONMENTAL EDUCATION THAT YOU HAVE PRODUCED AND IF POSSIBLE GIVE SAMPLES

.....

.....  
.....  
.....  
WOULD YOU BE WILLING TO INCLUDE INFORMATION ON BIODIVERSITY, CLIMATE CHANGE OR DESERTIFICATION/LAND DEGRADATION IN YOUR PROGRAMME?

.....  
IF YOU WERE ASKED TO INCLUDE SUCH INFORMATION IN YOUR PROGRAMME, WHAT, IF ANY KIND OF ASSISTANCE WOULD YOU NEED?

INFORMATION ON THE CONVENTIONS [ ] TECHNICAL INFORMATION [ ]  
INFORMATION ON JAMAICA'S PERFORMANCE RE THE CONVENTIONS [ ]  
COLLATERAL MATERIAL (TRAINING MATERIAL, POSTERS, ETC.) [ ]

.....  
.....  
.....  
HOW DO YOU RATE JAMAICA'S CAPACITY IN ENVIRONMENTAL EDUCATION?

Excellent [ ] Good [ ] Fairly Good [ ] Poor [ ]

WHAT ARE THE STRENGTHS IN THIS AREA?:

.....  
.....  
.....  
WHAT ARE THE WEAKNESSES?

.....  
.....  
.....  
WHAT RECOMMENDATIONS WOULD YOU HAVE FOR IMPROVING OUR CAPACITY TO DELIVER QUALITY ENVIRONMENTAL EDUCATION AND AWARENESS PROGRAMMES?

.....  
.....  
.....  
ANY OTHER COMMENTS .....

.....  
.....  
.....  
DATE .....

**APPENDIX IV- LIST OF PERSONS INTERVIEWED/CONSULTED FOR PUBLIC AWARENESS OR WHO COMPLETED QUESTIONNAIRES**

<b>NAME</b>	<b>POSITION</b>	<b>ORGANIZATION</b>
Ms.Gina Sangunetti	Coordinator - NEEC	NEPA
Ms. Elizabeth Emanuel	Coordinator – Greening of Government programme	NEPA
Mr. Philbert Brown	Focal Point – Land Degradation Convention	Ministry of Land and Environment
Dr. Robert Fox	Specialist	UN Convention to Combat Desertification
Ms. Yvette Strong	Manager of Biodiversity Branch,, NEPA.	NEPA
Ms. Vimin Gayle	Acting Manager – Public Education and Outreach Unit	NEPA
Mr. Mark Nolan	Chief of Party	R2RW
Ms. Sonja Harris	Community Participation Officer	R2RW
Mr. Louis Daley		CWIP
Miss Samantha Cowan	Public Awareness Officer	Friends of the Sea
Ms. Diana McCaulay	Executive Director	Jamaica Environment Trust
Ms. Carlette Falloon	Education Officer	Jamaica Environment Trust
Mrs. Susan Otuokon	Executive Director	Jamaica Conservation and Development Trust
Dr. Grace Turner	Manager – Public Education and Outreach Unit	NEPA
Mrs. Patricia Roberts	Director	Jamaica Library Service
Mr. Dale Rankine	Acting Head	Meteorological Service

**APPENDIX VIII- REGISTER OF FOCUS GROUP MEMBERS**

	<b>NAME</b>	<b>ORGANISATION</b>
<b>PORTLAND FOCUS GROUP</b>		
	Marcia Brown	Fellowship CDC
	Dorothy Allen	Boundbrook CDC
	Michelle Porteous	Boundbrook CDC
	Doreen Lawrence	Boundbrook CDC
	Paul McQuick	PEPA
	Ricardo Bryan	PEPA
	Joan Skyers	Boundbrook CDC
	Woodrow harvey	Spring Bank Citizen Ass.
	Omar Doyley	Drivers River DA
	Denise Francis	Pleasant Hill CA
	Denise Grosset	Rock Hall CDC
	Patricia Lee	Industry CDC
	Kadah Harriot	Snow Hill CDC
	Clifton Parris	CWIP
<b>KINGSTON FOCUS GROUP</b>		
	Locksley Robinson	BOJ
	Andrew Anderson	Quality Distributors
	Sylvia Milwood	Food Storage & Prevention of Infestation
	Eban Hutton	Division (FSPID)
	Migull	Marshall Automotive System
	Rodney Graham	Abel
<b>MANDEVILLE FOCUS GROUP</b>		
	Norma Lee	Church Teachers College
	Winston Ellis	Church Teachers College
	Conroy Hall	Church Teachers College
	Magilee Dalley	Church Teachers College
	Anthony Norman	Church Teachers College
	Cleveland Robinson	Church Teachers College
	Lavern napier	Church Teachers College
	Meoda McLean	Church Teachers College
	Ezra Welcome	Church Teachers College
	Dale Williams	Church Teachers College
	Rickaylia Poster	Church Teachers College
	Janise Smith	Church Teachers College
	Kerisha Hobson	Church Teachers College
	Nickesslia Walters	Church Teachers College
	Tania Brown	Church Teachers College
	Marlo Wisdom	Church Teachers College
	Monica Dempster	Church Teachers College
	D. Walker	Church Teachers College
	Agget Crosbie-Channwer	Church Teachers College



<b>MONTEGO BAY FOCUS GROUP</b>		
	Leon Hopkins	GRWMC
	Heather McFarlane	PATF
	Sadie Dixon	PMTF / GRWMC
	Cleveland Wright	GRWMC
	Carol Robinson	PATF
	E. Graham	Forestry Dept.
	Sonja Harris	R2RW
	Marline Stephenson	R2RW
<b>ST. CATHERINE FOCUS GROUP</b>		
	Rosemarie Somers	Sligoville All Age School
	Beatrice Jones	Sligoville All Age School
	Beverley Drummond	Sligoville All Age School
	Mekesha Freeman	Sligoville All Age School
	Althea Whittler-Cummings	Sligoville All Age School
	Leisa McLaughlin	Sligoville All Age School
	Subrena Martin	Sligoville All Age School
	Clovis Brown	Sligoville All Age School
	Georgia Genius	Sligoville All Age School
	Miriam Anderson	Sligoville All Age School
	+ 12 students	Sligoville All Age School

**APPENDIX IV- DEVELOPMENT OF AN EFFECTIVE COMPREHENSIVE AND INTEGRATED PUBLIC EDUCATION PROGRAMME**

<b>ACTIVITY</b>	<b>TIME FRAME</b>	<b>PARTICIPANTS</b>	<b>LEAD AGENCY</b>
1. Establish public Education Committee under the Ministry of Land & Environment. - set terms of Reference ( for Baseline Survey) - Determine an avenue of direction - Appoint Communications team/Dir/Firm	1 month 2 weeks 2 months 1 week	Ministry of Land and Environment - NEPA - NLA - Met Office - all other agencies	MLE/NEPA(NEEC)
2. Identify publics/target groups	2 months	Ministry of Agriculture and agencies	
3. Conduct a baseline survey - Setting overarching TOR - Develop Project Budget	2 months	MOEYC and agencies Cabinet Office (MIND)	
4. Design Media/ Public Education/Communication Strategy - Use existing groups/organisations and institutions - Developing appropriate marketing packages and strategies ( competition)	3 months Ongoing	MOCST) MOJ MOTW Local Government MOFP MOH Media- JIS, CPTC, Print	
5. Identify Source of Funding and confirming			
6. Implementation, Monitoring and Evaluation Programme			

## TARGET GROUPS

- All levels of Government
- MEDIA
- Private Sector (via PSOJ/JEA/.....)
- Service Clubs
- Community Groups
- NGOs
- Legal enforcement and Justice Personnel
- John Public
- Schools and Youth ( integration into school's programme (ongoing))
- Churches
- Specific Stake Holders
- Environmental Clubs

## Group Members

Aldin Bellinfantie, Penelope Budlhall, Michelle Curling Ludford, Kathlene Arnold., Andrea Dubidad, Monifa Blake-Sewell, Gervaise Mc.Leod., Natalie Morgan-Ferguson, Curline Beckford., Marcus Gordon, Ayisha Richards, Hugh Hyman

# BENEFICIARY IMPACT ASSESSMENT REPORT

**Main Question 1**  
**What is your view of ‘clean environment’ and to what extent does such an environment exists today?**

**Sub Question 1.1**      **What is your understanding of a ‘clean environment’?**

**Activity 1.1**      -      **Brain Storming Session**

Participants were given paper and pencil to give their definition and list elements of a ‘clean environment’. Each participant was then asked to explain ‘what’ and ‘why’ they have included the items on their list. This should encourage a discussion.

LOCATION	DEFINITION OF A CLEAN ENVIRONMENT
<b>Portland</b>	<ul style="list-style-type: none"> <li>• Area free from pollutants</li> <li>• Area where there is proper garbage disposal system, no burning of garbage.</li> <li>• No chemical to pollute rivers and streams.</li> <li>• No factory and car emission into the environment</li> <li>• Over population is slowed or reduced</li> <li>• No washing of vehicles in streams</li> </ul>
<b>Kingston</b>	<ul style="list-style-type: none"> <li>• Clean air</li> <li>• Clean rivers and oceans</li> <li>• Adequate waste disposal and recycling system.</li> <li>• Soil free of pollutant</li> <li>• Less deforestation</li> <li>• Creation and enforcement of environmental standards</li> <li>• Reduction in harmful radiation.</li> <li>• The participants agreed that if all these elements exists then together they will contribute to better health for plants, animals, water life and human beings.</li> </ul>
<b>Mandeville</b>	<ul style="list-style-type: none"> <li>• Fresh clean air</li> <li>• Water, land and air without pollutant</li> </ul>

	<ul style="list-style-type: none"> <li>• Conservationist and others who are considerate to the environment</li> <li>• Persons with the right attitude to create and maintain a clean environment</li> <li>• Safe disposal of solid waste</li> <li>• Balance bio-diversity / eco-system</li> </ul>
<b>St. Catherine</b>	<p><b>STUDENTS</b></p> <ul style="list-style-type: none"> <li>• No litter on the ground</li> <li>• Fresh air</li> <li>• No plastic bags in rivers or streams</li> <li>• Healthy plants, animals and people</li> <li>• You will see garbage bins</li> <li>• You will have clean yards</li> <li>• Clean community</li> <li>• No cutting down of trees</li> <li>• No animals polluting the water</li> </ul> <p><b>TEACHERS</b></p> <ul style="list-style-type: none"> <li>• Earth life thrives at its optimum</li> <li>• Free from pollutants</li> <li>• Room for play, growth and reproduction</li> <li>• Balancing atmospheric gaseous exchange</li> <li>• Proper disposal of garbage</li> <li>• Plant and animal habitat clean and functional</li> <li>• Respiratory diseases eliminated</li> </ul>
<b>Montego Bay</b>	<ul style="list-style-type: none"> <li>• Free of garbage</li> <li>• Free of pollutants</li> <li>• Access to good sanitary facilities</li> <li>• Good governance</li> <li>• Good quality air</li> <li>• Proper land practices</li> <li>• Good agricultural practices e.g. organic farming, composting etc</li> <li>• Environmentally friendly attitudes and practices</li> <li>• Enforcement of environmental laws</li> <li>• People are environmentally aware</li> </ul>

**Sub Question 1.2 to what extent does a clean environment exist today?**

**Activity 1.2**

***In small groups of 2 & 3***

Participants were asked to think of all the environmental programmes in their community, parish and Jamaica on a whole, and list them.

<b>LOCATION</b>	<b>ENVIRONMENTAL PROGRAMMES THEY KNOW</b>		
<b>Portland</b>	<b>A. COMMUNITY</b> <ul style="list-style-type: none"> <li>• Public awareness group</li> </ul>	<b>B. PARISH</b> <ul style="list-style-type: none"> <li>• Blue flag certification</li> <li>• Green globe</li> </ul>	<b>C JAMAICA.</b> <ul style="list-style-type: none"> <li>• RADA</li> <li>• NEPA</li> </ul>

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	<ul style="list-style-type: none"> <li>• Re-forestation of land – Ridge to Reef (R2RW)</li> <li>• Public awareness concert</li> <li>• Clean and green competition</li> <li>• Organic farming</li> <li>• Sewage system</li> <li>• Solid waste management agency</li> </ul>	<ul style="list-style-type: none"> <li>• PEPA</li> <li>• CWIP</li> <li>• Soil conservation</li> <li>• Bird sanctuary</li> <li>• Use of bio-degradable instead of Styrofoam materials</li> </ul>	<ul style="list-style-type: none"> <li>• NSWMA</li> <li>• USAID</li> <li>• Forestry department</li> <li>• Sewage system</li> <li>• Harbour cleaning.</li> </ul>
<b>Kingston</b>	<b>A. COMMUNITY</b> <ul style="list-style-type: none"> <li>• Garbage collection</li> <li>• Cleaning of gullies and beeches</li> <li>• Tree planting</li> <li>• Establishing parks i.e green areas</li> </ul>	<b>B. PARISH</b> <ul style="list-style-type: none"> <li>• Pest control</li> <li>• Public education at the community level</li> <li>• Tree planting in watershed areas</li> </ul>	<b>C. JAMAICA</b> <ul style="list-style-type: none"> <li>• Anti litter campaign/laws</li> <li>• Water quality advisory</li> <li>• Close season regulations for fishing</li> <li>• Close season regulations for birds</li> <li>• Signing of international conventions</li> <li>• Green globe certification for hotels</li> <li>• Blue flag certification for beeches</li> <li>• Auduban certification for golf courses</li> <li>• River training and beech reinforcement</li> </ul> <p>The collection of garbage prevents the spread of diseases</p> <p>Tree planting prevents flooding, soil erosion and gives clean air.</p>
<b>Mandeville</b>	<b>A.COMMUNITY</b> <ul style="list-style-type: none"> <li>• Solid waste dystsposalsm in place</li> <li>• Drain cleaning</li> <li>• Collection of garbage and less burning</li> <li>• Composting, recycling &amp; separation of garbage.</li> <li>• Exposition on tree planting</li> <li>• Environmental stewardship – turning off lights</li> </ul>	<b>B. PARISH</b> <ul style="list-style-type: none"> <li>• Water treatment</li> </ul>	<b>C. JAMAICA.</b> <ul style="list-style-type: none"> <li>• Noise reduction legislation</li> <li>• NSWMA</li> <li>• Public education</li> <li>• Wildlife preservation</li> <li>• Sewage treatment</li> </ul>

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<b>St. Catherine</b>	<p><b>STUDENTS</b>  <b>A.COMMUNITY</b></p> <ul style="list-style-type: none"> <li>• Schools environmental club</li> <li>• Organic farming</li> <li>• Tree planting</li> <li>• Use of pepper spray and ash in organic farming</li> </ul> <p><b>TEACHERS</b>  <b>A. COMMUNITY</b></p> <ul style="list-style-type: none"> <li>• Environmental programmes in schools</li> <li>• 4 H clubs</li> <li>• Sligoville Support Committee organic gardening project</li> <li>• Recycling of waste</li> </ul>	<p><b>STUDENTS</b>  <b>B. PARISH</b></p> <ul style="list-style-type: none"> <li>• Garbage bins</li> </ul> <p><b>TEACHERS</b>  <b>B. PARISH</b></p> <ul style="list-style-type: none"> <li>• RADA public awareness programmes</li> <li>• Garbage collection in major towns</li> <li>• Recycling</li> <li>• EFJ workshops for schools in zones resulting in infusion of environmental concepts in lessons</li> <li>• Work of public health inspectors</li> </ul>	<p><b>STUDENTS</b>  <b>D. JAMAICA.</b></p> <ul style="list-style-type: none"> <li>• JIS information</li> <li>• National Solid Waste Management Agency</li> </ul> <p><b>TEACHERS</b>  <b>C. JAMAICA</b></p> <ul style="list-style-type: none"> <li>• EFJ promotes national and international recognition of schools</li> <li>• Greening of hotels, some qualify for Green Globe awards</li> <li>• NEPA public awareness programmes</li> <li>• Schools Environment Programme</li> <li>• Cleaning of beaches</li> <li>• Awareness through the media</li> <li>• Green Expo</li> <li>• Erection of environmental signs by NEPA and NGOs</li> </ul>
<b>Montego Bay</b>	<p><b>A.COMMUNITY</b></p> <ul style="list-style-type: none"> <li>• Cleaning gullies, beeches and other waterways</li> <li>• Public education</li> <li>• Beautification</li> <li>• Green village award competition</li> <li>•</li> </ul>	<p><b>B. PARISH</b></p> <ul style="list-style-type: none"> <li>• Tree planting in watershed</li> <li>• Sanitation system involving wetlands in communities and schools</li> <li>• Water harvesting – roof catchment etc</li> <li>• Erection of skips</li> <li>• Planting fruit trees</li> <li>• Calendar of environmental activities</li> <li>• training</li> </ul>	<p><b>D. JAMAICA</b></p> <ul style="list-style-type: none"> <li>• Water quality management linkages with NSWMA</li> <li>• Fairs and exposition</li> <li>• Training in enforcement</li> <li>• Support work in terms of policy and training by M.I.N.D.</li> </ul>

**Activity 1.3**

***Whole group discussions***

How are these programmes impacting on the environment?  
How were you made aware of these programmes?  
Do these programmes help to build a better and cleaner environment and help to strengthen your understanding as outlined in question 1.1?

LOCATION	PROGRAMME IMPACT		
<b>Portland</b>	<b>A. IMPACT</b> 1. River garbage minimize 2. River cleaning development 3. More community awareness 4. More use of organic material as fertilizer and less use of chemical fertilizer and pesticides 5. Improvement in aquatic life through programmes initiated by PEPA	<b>B. AWARENESS (how?)</b> 1. Workshops – NEPA, USAID, CWIP, SDC 2. Flyers/posters – R2RW, CWIP, PEPA 3. Drama, competition, jingles 4. Boundbrook CDC has jingle “ From the river to the sea”	<b>C. Do These Programmes help?</b> All participants are helping to build a better and cleaner environment as the impact and education initiatives are getting through to all community members.
<b>Kingston</b>	<b>A. IMPACT</b> 1. More personal awareness of environmental issues	<b>B. AWARENESS</b> 1. Government media advertisement – JIS 2. Training, seminars, expo, posters and flyers by agencies such as NEPA 3. Local and foreign exposure through research.	<b>Public awareness programmes in order of their effectiveness.</b> 1. Radio – widespread 2. TV – widespread 3. Print media - widespread 4. DJ music – widespread & effective 5. School programmes – effective 6. Seminars/workshops – targeted audiences. 7. Posters/billboards – effective.
<b>Mandeville</b>	<b>A. IMPACT</b> 1. Air quality is better 2. Smoke free environment 3. Lead free gas 4. more information available on environmental issues 5. However some negative impact is the continued levels of deforestation, particularly in the bauxite sector 1. there is also reduction in some of the positive impact due to lack of funding e.g. PET bottle recycling project has been discontinued.	<b>B. AWARENESS (how?)</b> 1. Workshops & seminars 2. increased use of the electronic and printed media 3. programmes are now in the official school curriculum 4. Programme such as ENACT and Church Teachers College have STEEP	
<b>St. Catherine</b>	<b>A. IMPACT</b> 1. students are now keeping the environment cleaner. 2. because of the organic farming we know more about eating healthily	<b>B AWARENESS (how?)</b> 1. Visitors come in to speak to the students. 2. The school’s environmental club 3. Radio & TV 4. From teachers in classes	<b>C. UNDERSTANDING</b> All the students said that the programmes not only help to build a better environment but also help to educate them on how to keep the environment better.

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<b>Montego Bay</b>	<b>A. IMPACT</b>	<b>B AWARENESS (how?)</b>
	<ul style="list-style-type: none"> <li>• A change in attitudinal behaviour of individuals, communities and organizations</li> <li>• More awareness</li> <li>• Individuals are more active participants in environmental matters</li> </ul>	<ul style="list-style-type: none"> <li>• Through stakeholders meetings</li> <li>• Education programmes such as: <ul style="list-style-type: none"> <li>○ Drama</li> <li>○ Literature</li> <li>○ Videos</li> <li>○ Presentations through workshop, seminars, role play etc. Actual grant funded projects.</li> </ul> </li> <li>• Through the media</li> <li>• Posters/flyers</li> <li>• Word-of-mouth – community mobilization</li> </ul>

**Main Question 2**  
What roles are best played by citizens and what roles are best played by the state and other sectors in developing a good clean environment? What limits the playing of such roles in today’s society?

**Sub Question 2.1**      **What are the roles that are played out in today’s ‘civil environment’**

**Activity 2.1**      **Future Picture - (In groups, focus on education and public awareness issues)**

Participants should imagine that they have returned to Jamaica this year, 2004, having being away for ten (10) years. They are to write a letter to a friend abroad stating:

- (a) Making the comparison on environmental changes between the Jamaica he/she left in 1994 and the Jamaica he/she now sees. – *Vision of current roles*
- (b) What he/she thinks was done for Jamaica and its environment to be what it is today in 2004. – *(Strategic roles)*
- (c) What does he/she think were the risks and obstacles in getting there. *(limitations and constraints on today’s environment).*

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<b>LOCATION</b>	<b>PROGRAMME IMPACT</b>		
<b>Portland</b>	<b>A. Vision of current roles</b> <ul style="list-style-type: none"> <li>• High levels of deforestation</li> <li>• Land slippage even after small quantity of rainfall</li> <li>• Fish catches were netting very small fishes because of persistent use of fine nets</li> <li>• Less rainfall</li> <li>• No crabs now and which were previously in abundance</li> </ul>	<b>B. Strategic roles</b> <ul style="list-style-type: none"> <li>• Planting more trees</li> <li>• Promotion of good environmental practices</li> <li>• Government legislation to enforce environmental laws</li> <li>• Education and public awareness programmes to the citizens</li> </ul>	<b>C. Constraints</b> <ul style="list-style-type: none"> <li>• Not enough funding in place</li> <li>• Overpopulation</li> <li>• Access to material e.g. environmentally friendly lunch boxes</li> <li>• Lack of access to trees for tree planting programme</li> </ul>

	<ul style="list-style-type: none"> <li>• Building of houses in water shed areas</li> <li>• Increase use of Styrofoam boxes instead of cardboard boxes for lunches</li> <li>• Over population</li> <li>•</li> </ul>		
<b>Kingston</b>	<p><i>A. Vision of current roles</i></p> <ul style="list-style-type: none"> <li>• More citizens are participating in NGOs that are focused on environmental issues</li> <li>• Better garbage collection system which makes for a cleaner environs</li> <li>• More government policies i.e. briefing codes/regulations</li> <li>• Close seasons for bird shooting and fishing</li> <li>• Less consumption of ozone depleting substances</li> <li>• Fisher folk are themselves involved in protecting their own livelihood by not overfishing</li> <li>• Protection of the coral reefs</li> <li>• Some participants noted that there was some degree of worsening of the environment in terms of more pollutants from the increased use of non-biodegradables, use of domestic and industrial chemicals, increased use of plastics and styrofoams, etc</li> <li>• There was also increased beech and land erosion due to violation of building codes.</li> </ul>	<p><i>B. Strategic roles</i></p> <ul style="list-style-type: none"> <li>• Public education</li> <li>• Restoration of watershed areas through tree planting</li> <li>• Antilitter campaign/laws</li> <li>• Government legislations</li> </ul>	<p><i>C. Constraints</i></p> <ul style="list-style-type: none"> <li>• Insufficient funding</li> <li>• Poverty particularly among the small farmers which makes enforcement difficult</li> <li>• Ignorance among a large portion of the population</li> <li>• Lack of enforcement by the regulatory agencies.</li> </ul>

<b>Mandeville</b>	<p><b>A. Vision of current roles</b></p> <ul style="list-style-type: none"> <li>• Improved communication</li> <li>• Increased knowledge and awareness</li> <li>• But increase consumption leads to increased use of environmentally unfriendly packaging</li> <li>• Also increased deforestations</li> <li>• Also there is a reduction in the indigenous bio-diversity e.g. the iguana, butterfly, birds etc.</li> <li>• Reduction in the gene pool of certain plants and animals which increases their susceptibility to diseases</li> <li>• Increase infrastructural development causes a reduction in wide life preserves.</li> <li>• However more thought is now being given to sustainable development.</li> <li>• More lobby groups</li> <li>• Shifts in the weather pattern – more active hurricane season</li> </ul> <p><b>C. Constraints</b></p> <ul style="list-style-type: none"> <li>• Natural disasters</li> <li>• Limited financial resources</li> <li>• Attitudinal resistance to changes</li> <li>• Public bureaucracy</li> <li>• Politics – both organizational and party</li> </ul>		
<b>St. Catherine</b>	<p><b>STUDENTS</b></p> <p><b>A. Vision of current roles</b></p> <p>Some students believed that the environment is bad because:</p> <ul style="list-style-type: none"> <li>• Trees are being cut down which creates flooding in areas</li> <li>• People are dumping waste in rivers</li> </ul> <p>Other students believed that things are better because:</p> <ul style="list-style-type: none"> <li>• There is less garbage around</li> <li>• The roads are cleaner</li> <li>• People are being educated and are less ignorant to environmental issues</li> </ul>	<p><b>TEACHERS</b></p> <p><b>A. Vision of current roles</b></p> <ul style="list-style-type: none"> <li>• Towns are dirty</li> <li>• People throw garbage out of buses</li> <li>• Trees and agricultural land replaced by houses, and highways</li> <li>• Warmer climate due to cutting down of trees</li> <li>• Spanish Town market is cleaner</li> <li>• Children are learning about the environment</li> <li>• Communities are taking responsibility for cleaning up and there are beautification competitions</li> <li>• Drums are put out for garbage</li> <li>• Posters explain about what is not legal and encourage people to do the right thing</li> </ul>	<p><b>TEACHERS</b></p> <p><b>B. Strategic Roles</b></p> <ul style="list-style-type: none"> <li>• Public education</li> <li>• Local government and communities taking responsibility for cleaning up the environment.</li> </ul> <p><b>STUDENTS</b></p> <p><b>D. Constraints</b></p> <ul style="list-style-type: none"> <li>• Natural disasters</li> <li>• Limited financial resources</li> </ul> <p><b>TEACHERS</b></p> <p><b>E. Constraints</b></p> <ul style="list-style-type: none"> <li>• Lack of funding</li> <li>• Lack of enforcement of environmental laws and regulations.</li> </ul>
<b>Montego Bay</b>	<p><b>A. Vision of current role</b></p> <p>Participants in general believe that there are improvements to the extent that:</p> <ul style="list-style-type: none"> <li>• There are cleaner towns &amp; streets</li> <li>• Billboards with</li> </ul> <p><b>B. Strategic roles</b></p> <p>The strategies were suggested to be all the community, parish wide and national programmes outlined in question 1.</p> <p><b>C. Constraints.</b></p> <ul style="list-style-type: none"> <li>• Entrenched cultural practices and behaviour</li> <li>• Funding</li> <li>• Local good practices/projects are not getting national</li> </ul>		

<ul style="list-style-type: none"> <li>• Construction of building are done with environmental awareness</li> <li>• Improved water systems and quality monitoring</li> <li>• Improved air quality</li> <li>• Improved land management</li> <li>• Improved public awareness</li> <li>• More environmental NGOs</li> </ul>	<p>environmental messages</p> <p>attention and by extension not being replicated nationally.</p> <ul style="list-style-type: none"> <li>• Compliance and enforcement of laws</li> <li>• Court fines are not a deterrent.</li> </ul>
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**Activity 2.2**

**More group work**

On a prepared sheet of paper, in terms of environmental education and awareness programmes participants should list the roles and responsibilities of:

- (a) Citizens
- (b) The government
- (c) NGOs
- (d) Other sectors

Participants should on the reverse side of the same sheet of paper list:

- (a) the most appropriate sector to carry out that role
- (b) why this sector
- (c) constraints to playing that role.

LOCATION	ROLES AND RESPONSIBILITIES		
<b>Portland</b>	<p><b>a. Citizens</b></p> <ul style="list-style-type: none"> <li>• To be compliant with government regulations</li> <li>• To be exemplary i.e. 'each one teach one'</li> </ul> <p><b>b. Government</b></p> <ul style="list-style-type: none"> <li>• To implement regulations</li> <li>• To enforce these regulations</li> <li>• To provide services</li> <li>• Education using its media arm, J.I.S.</li> </ul> <p>It was also the belief that the government in addition to the above responsibilities should also be responsible for funding.</p>	<p><b>c. NGOs</b></p> <ul style="list-style-type: none"> <li>• Implementation of government's regulations</li> <li>• Educate the citizens</li> </ul> <p>The NGOs should also be responsible for funding because they are more likely to command funding from the private sector and foreign NGOs and governments.</p> <p><b>d. Media</b></p> <ul style="list-style-type: none"> <li>• Public awareness</li> </ul> <p><b>e. Private Sector</b></p> <ul style="list-style-type: none"> <li>• Funding</li> <li>• sponsorship</li> </ul>	<p>The participants were very clear that the roles and responsibilities played by each sector were appropriate for those sectors. They however believed that not enough energies were being spent by these sectors in carrying out these roles.</p>

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<b>Kingston</b>	<p><b>a. Citizens</b></p> <ul style="list-style-type: none"> <li>To be compliant with government regulations</li> </ul> <p><b>b. NGOs</b></p> <ul style="list-style-type: none"> <li>Lobbying for legislative changes</li> <li>Public education</li> </ul> <p>Funding</p>	<p><b>c. Government</b></p> <ul style="list-style-type: none"> <li>Create regulations</li> <li>To enforce these regulations</li> <li>To provide services</li> <li>Institutional Education e.g. in schools &amp; colleges</li> <li>Funding</li> <li>Facilitate programme activities</li> </ul>	<p><b>d. Private Sector</b></p> <ul style="list-style-type: none"> <li>Engaging in best practices</li> <li>Encourage employees to become involve – e.g. in the NGO sector</li> </ul>
<b>Mandeville</b>	<p><b>a. Citizens</b></p> <ul style="list-style-type: none"> <li>Increased levels of personal responsibility</li> <li>To get educated</li> <li>To be compliant with regulations</li> </ul> <p><b>b. NGOs</b></p> <ul style="list-style-type: none"> <li>Better coordination among themselves</li> <li>Have sustainable programmes</li> <li>Develop more public awareness programmes</li> </ul>	<p><b>c. Government</b></p> <ul style="list-style-type: none"> <li>Enforcing regulations</li> <li>To be themselves compliant with the regulations</li> <li>To be accountable</li> <li>Develop the legislative framework</li> <li>Funding</li> <li>Educating the citizens</li> <li>Better coordination among ministries</li> </ul>	<p><b>e. Private Sector</b></p> <ul style="list-style-type: none"> <li>Financing</li> <li>To be honest with the public</li> <li>Compliant with regulations</li> <li>To be accountable</li> </ul> <p>There is the general view that the roles are only being played out in a limited way.</p>
<b>St. Catherine</b>	<p><b>STUDENTS</b></p> <p>The students said that all environmental activities should be done by the government. These included their education and the other services such as roads and drain cleaning, tree planting et. Their responsibilities were to just keep healthy to work and not do bad things that will get them in prisons.</p> <p><b>TEACHERS</b></p> <p><b>A. Citizens</b></p> <ul style="list-style-type: none"> <li>Parents should educate their children about good environmental practices</li> <li>Schools should promote cleanliness of ones surroundings, and teach children about the environment and how to take care of it.</li> <li>watchdogs.</li> </ul>	<p><b>TEACHERS</b></p> <ul style="list-style-type: none"> <li>Community organizations should carry out environmental projects and competitions, and appoint environmental</li> </ul> <p><b>B. The Government</b></p> <ul style="list-style-type: none"> <li>Ensure that infrastructure is maintained.</li> <li>Enforce environmental laws</li> <li>Allocate resources for maintenance of the environment</li> <li>NEPA should be more involved in schools</li> </ul>	<p><b>TEACHERS</b></p> <p><b>D. Private Sector</b></p> <ul style="list-style-type: none"> <li>Promote environmental awareness in their organisations</li> <li>Bauxite companies – land reclamation</li> <li>Sugar industry should reuse waste in their production</li> </ul> <p><b>E. Media</b></p> <ul style="list-style-type: none"> <li>Should have on-going public awareness campaigns about not cutting down trees etc.</li> </ul>

<b>Montego Bay</b>	<p><b>Citizens</b></p> <ul style="list-style-type: none"> <li>• Protecting local communities</li> <li>• Taking responsibility ie be compliant</li> <li>• To be environmental stewards</li> </ul> <p><b>b. Government</b></p> <ul style="list-style-type: none"> <li>• Pass laws</li> <li>• To enforce these regulations</li> <li>• Apply a multisectoral approach to environmental matters</li> <li>• Empowering local communities and NGOs</li> </ul> <p><b>c. NGOs</b></p> <ul style="list-style-type: none"> <li>• Watch dog for the environment</li> <li>• Public awareness</li> <li>• Planning and implementation of projects</li> </ul> <p><b>d. PSOJ</b></p> <ul style="list-style-type: none"> <li>• Incentives</li> <li>• Funding</li> </ul> <p>Participants suggested that the above is not only the responsibility of government but the points made should represent the roles that the respective sectors play.</p>
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## APPENDIX VIII- PLAN FOR AN INTEGRATED, COMPREHENSIVE PUBLIC EDUCATION PROGRAMME

### 1. Definition

**Integrated:** It integrates concepts from all three Conventions.

**Comprehensive:** It includes all significant content re the Conventions, their intent, the impacts which they aim to achieve and the behaviour changes needed.

**Programme:** Not merely a campaign lasting for a few weeks, but an on-going programme to be implemented over a number of years to reach the target groups.

### 2. Target Audiences

The following target audiences need to be reached in the Public Education Programme (PEP):

- ◆ Government ministers, parliamentarians and councillors
- ◆ All levels of central and local government
- ◆ Industry and the utility providers
- ◆ The formal education system from primary to tertiary
- ◆ Communities
- ◆ Farmers
- ◆ The General Public

### 3. Approach

For such a comprehensive programme to be successful, it will be necessary to engage all interest groups in the process, and to have a strong, central driver.

- ◆ NEPA's Public Education Unit has been carrying out public education on the environment for a number of years. Although understaffed, its personnel have experience in environmental education programmes.
- ◆ The NEEC is composed of approximately 30 agencies and organizations which are engaged in or have an interest in environmental education (see Section 5.1.1). With its focus, experience, wide membership and reach, it is proposed that the NEEC should be the driver of the process.

The NEEC Secretariat will be integrated into NEPA's Public Education and Community Outreach Unit in 2005, so with this combined strength, experience and reach, we propose that NEPA and the NEEC be the driver of the process.

Partnerships will also have to be developed with educational institutions already delivering or capable of delivering environmental education programmes as well as environmental non-governmental organisations.

### 3.1 Preliminary Activities

3.1.1 The first activity would be to engage the partners in the process by having a workshop to inform them of the objectives and obtain their support. The partners would be

- Relevant government ministries and agencies
- NGOs
- Educational institutions
- Media
- Independent environmental educators
- Public relations practitioners

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3.1.2 The second activity would be to undertake a baseline survey among all target groups to establish the level of awareness on key issues and attitudes to environmental protection. The information from this survey would be used to refine and amplify the strategies described below.

## 4. Strategies for Reaching Target Audiences

The overall strategy would be to engage the highest levels of government first, to obtain their commitment to and buy-in to the process. They would be asked to make public statements in support of the Conventions and their importance to Jamaica. The operational arms of government would take a lead from this, and be prepared to cooperate in implementation, once they too have been briefed about the Conventions. A programme for the general public would then follow.

Target Audience	Strategy	Partners
Government ministers, parliamentarians and councilors	Meetings/workshops to present findings of NCSA reports and obtain support for implementation.	Cabinet Office; MLE, JALGO; JCSA; MIND
Central and local government employees	Meetings/workshops to present findings of NCSA reports; discuss implications of the Conventions for their areas. Training Courses at MIND to incorporate information on the Conventions	Ministry of Finance HR Division; MIND; JALGO; JCSA.
Farmers and landowners	Workshops, pamphlets to show the benefits of tree planting and proper cultural practices	JAS; RADA
Industry and the utility providers	Workshops to identify ways of conserving energy; using alternative energy sources	PCJ; Ministry of Mining & Energy; PSOJ; JMA
The formal education system from primary to tertiary	Development of Materials to supplement information already in the curriculum; expansion of the Schools Environment Programme	MOEYC; JET; ENGOs
Communities	Training of Community leaders; projects; development of garbage recycling system.	Social Development Commission; NSWMA; ENGOs.



The General Public	Public Awareness campaign using the media, and targeting specific behaviours such as energy conservation, tree planting etc.	
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