

CHAPTER 10

EDUCATION, PUBLIC AWARENESS AND TRAINING

The impacts of climate will affect socio-economic development. Responses may not be appreciated or understood by those who shall be affected. This will not allow for political stability at a time when all must cooperate to effect responses to vulnerable regions or sectors. Education, public awareness and training will be essential tools for avoiding future chaos.

10.1 THE NEED FOR EDUCATION AND PUBLIC AWARENESS

For environmental conservation to succeed, the public must understand their role and be given the relevant skills so that they can effectively participate. In fact, it was agreed at United Nations Conference on Environment and Development that education is critical to promoting sustainable development and for improving the capacity of the population to address and deal with environment and development issues (UNCED, 1992).

In Guyana, it has been acknowledged that environmental awareness of the Guyanese public is low, and hence fosters environmental degradation. Although there are environmental awareness programmes offered by a number of institutions, these are not done in a coordinated form (National Environmental Education and Public Awareness Strategy, 1999).

The Environmental Protection Act of 1996 gives the Environmental Protection Agency of Guyana (EPA) an environmental awareness mandate. As such, in 1999, after a period of consultations, the EPA drafted a National Environmental Education and Public Awareness Strategy (NEEPAS, 1999). The goal of the strategy is to enhance the public consciousness with respect to the environment, and to encourage behavioural changes conducive to environmental management and protection. (NEEPAS, 1999).

Hence, for the adaptation and mitigation measures with respect to climate variability to be effectively implemented in Guyana, education and public awareness must play a critical role. This education and public awareness must be aimed at the different target groups in all of the relevant sectors, as well as the general public.

10.2 RELEVANT SECTORS

The relevant sectors to be targeted are those which have to implement mitigation measures, and those which have to adapt to climate change. These are:

- Energy
- Industry
- Agriculture
- Waste Management
- Forestry and Land Use
- Fisheries
- Human Settlements
- Human Health
- Water Resources
- Tourism
- Animal Health (including the health of wildlife)

Hence, for each sector, education and public awareness must be interwoven with the adaptation and mitigation measures. In fact, throughout this document, in the mitigation sections, there are clear outlines of the education and public awareness issues, which need to be addressed for the mitigation and adaptation measures to be enforceable.

10.3 TRAINING NEEDS

Knowledge of data collection, manipulation and interpretation are essential to the understanding of climate change and its implications for Guyana. In addition, training is imperative to the successful implementation of the adaptation and mitigation measures in Guyana. Specific areas in which training is required are:-

- Monitoring of climate change and its implications, e.g. erosion, health changes, forest loss, alteration and conversion of land uses.

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- Use, interpretation and application of predictive computer models for climate change.
- Assessment of the vulnerability of various resources to climate change.
- Use of GIS in data analysis and presentation
- Information technology
- Data Management
- Use and maintenance of alternative sources of energy, such as solar power.
- Cultivation and harvesting practices in the use of hybrids of crops able to withstand the predicted climate changes.
- Construction and management of managed sanitary landfills.
- IPCC methodology for calculations and estimations of greenhouse gas emissions.
- Establishment of emissions baselines for each sector.
- Development of emission factors.

10.4 STRATEGY FOR IMPLEMENTING EDUCATION, PUBLIC AWARENESS AND TRAINING

Implementation of this strategy for education, public awareness and training with respect to climate change will seek:

- to enhance the public awareness of climate change and its associated implications for Guyana
- to encourage active participation in mitigation and adaptation measures
- to encourage integration of climate change issues into future developmental projects/actions/decisions
- to strengthen the capacity of agencies to monitor and evaluate climate change and its impacts.

10.4.1 The NEEPAS (1999) Strategy

In summary, the NEEPAS (1999) identifies the target groups and the major environmental issues to be addressed; the aims and activities associated with providing environmental education and public awareness for the various groups; and the time frames for implementation of the strategy.

The major target groups to be addressed by the NEEPAS (1999) are:

- Children and youth
- Teachers and Teacher's Unions
- Policy and Decision makers
- Elderly and the Disabled
- Consumers
- Religious Organisations
- Private Sector
- Resource Users
- Media
- General Public
- Scientific and Academic Community
- Religious Organizations

The major environmental issues to be addressed by the programmes within the NEEPAS (1999) are:

- Solid and Liquid Waste Management
- Water, Land and Air Pollution
- The Physical Environment and Human Health
- Consumerism
- Human Settlements
- Coastal Zone Management
- National Parks, Protected areas

- Forestry and Biodiversity

10.4.2 NEEPAS and Climate Change

Although climate change is not clearly identified as one of the major environmental education issues to be addressed by the NEEPAS (1999), it is likely to be partially addressed since it is related to all of the other environmental issues identified (in the NEEPAS). In addition, the target group for the Climate Change strategy is the same as indicated for the NEEPAS (1999). Hence, in order to reduce duplication, to promote coordination and to effectively utilise the human resources, **the EPA should include climate change as one of the major environmental issues to be addressed by the NEEPAS (1999).** However, there are a number of aspects to include:

- Climate education issues should be included when undertaking the curriculum audit at the primary and secondary school levels
- Climate courses must be available to all the degree programmes on the University of Guyana campus and on the Berbice campus, which is in operation.
- Fishermen should be included under the farmers/miners/loggers target group
- Tradesmen/ technicians should be included as a target group
- Under the scientific and academic community, the health community must be included. In addition, another aim should be to encourage them to undertake research in order to better understand climate change and its implications
- Target groups in the relevant sectors mentioned earlier, i.e. energy, industry, agri-culture, etc., should be subjected to education and public awareness, as well as involved in facilitating education and public awareness programmes with respect to climate change
- NCC members should be involved in facilitating education and public awareness programmes with respect to climate variability

Upon infusion of climate education into the NEEPAS (1999), as indicated above, it will be addressed by use of:

- the school system, both formal and non-formal
- in- and pre-service professional and occupational training
- community and non-formal education
- the mass media
- workshops, conferences and round table discussions

There is a proposal to establish a Climate Unit in the EPA. Upon the establishment of the Climate Unit, it is recommended for membership of the National Environmental Education Advisory Committee to advise on issues/programmes/plans related to climate. In addition, the Climate Unit should be facilitator in education and public awareness programmes for the various target groups. However, co-ordination of the climate education and public awareness programmes is expected to be the task of the Education, Information and Training Division of the EPA.

It may be considered ideal to use the 'train-the-trainers' approach in order to propagate the knowledge and skills (obtained from the training) in Guyana. Workshops, with the inclusion of practical or 'hands on' sessions, are an effective method for providing the training required.

The Climate Unit should be primarily exposed to the training identified earlier, specifically the first five (5) areas. With regards to the last four (4) areas, the various agencies with the relevant sectors should be targeted. The Climate Unit must be primarily responsible for co-ordination of all training identified.

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In Guyana, there are difficulties with efficient collection, organisation, co-ordination and dissemination of data and information. In an effort to address this, there should be:

- The establishment of a section under the Climate Unit that will function as a National Climate Information Centre.
- The establishment of a network and networking between the relevant sectors and organisations for climate data collection, sharing, use and dissemination.

10.5 CONCLUSION

Education and Public Awareness are basic necessities for ensuring that response measures are understood and appreciated. This will allow for the public's support whenever responses are being implemented. It will require that the education system and the media agencies be capable of playing a fundamental role of sensitizing Guyanese to the vulnerability of the country and the need for particular response measures in the various regions and localities.