



## Introduction

The conservation and promotion of a healthy environment requires knowledge, skills, and attitudes, which stem from enhanced understanding and sensitivity to the environment and its many dimensions. Environmental education plays an important role in developing students' commitment to act decisively to protect and improve the environment for both present and future generations.

Responsible governments worldwide have recognised the impact of solid waste on the environment and have developed appropriate legislation, policies and programmes to help to effectively manage this growing threat. Responding to the challenge, the Government of Barbados entered into an agreement with the Inter-American Development Bank to undertake an Integrated Solid Waste Management Programme (ISWMP). Integrated waste management refers to the complementary use of a variety of practices to safely and effectively handle municipal solid waste. The Integrated Solid Waste Management Programme is therefore an infrastructural project critical to the social and economic development of Barbados.

Even though the solid waste issue is often viewed at the macro or country level, it actually has its roots at the individual level. For example, it is estimated that each person in Barbados generates approximately 0.9 kg (approx. 2 pounds) of solid waste per day. This translates into an estimated 450 tonnes per day or 163,880 tonnes of solid waste per year. As a result, Barbados is very concerned for the potential threats that this large amount of waste may pose to its environment. Citizens of all ages therefore need to be aware of the problem, but more importantly, they need to be empowered to act as individuals or collectively to help to alleviate it.

## Instructional Goals

The main objective of this Guide is to develop environmentally literate citizens who are knowledgeable about solid waste management issues, and solutions, and who exhibit environmentally responsible behaviour. This objective is achieved through five primary instructional goals:

1. To help students achieve a simple, factual awareness of the main issues concerning solid waste management;
2. To promote an understanding of, and interest in, the importance of a healthy environment;
3. To collect, analyse, and interpret how economics, laws, politics, technology and other factors contribute to solid waste generation and the process of dealing with it;
4. To develop skills to improve and enhance the quality of the environment; and
5. To instil a willingness to work as an individual or together with others, to preserve the environment.

Throughout, special emphasis is placed on the ISWMP in Barbados. Examples are however taken from across the globe.

## How to Use This Guide

This Guide comprises an integrated suite of tools that teachers can use in the delivery of Solid Waste Management education in and out of the classroom. The Guide is divided into three parts:

- Part 1 – Curriculum Guide
- Part 2 – Teacher Guide
- Part 3 – Resource Guide

The suite includes a comprehensive set of Background Information and Case Studies contained in the **Teacher Guide**; as well as, Lesson Plans, Handouts, Fact Sheets and Useful Links, Contacts and Resources, in the **Resource Guide**. Throughout, the Guide focuses on the most important solid waste issues in a simple, straightforward style.

The **Curriculum Guide** also provides scope and sequence, attainment targets and specific objectives for the delivery of Solid Waste Management Education.

The **Teacher Guide** is divided further into 5 interrelated modules:

- Module 1 - Primer on Solid Waste
- Module 2 - Government Involvement in Solid Waste
- Module 3 - Integrated Solid Waste Management
- Module 4 - Investigating Solid Waste Issues
- Module 5 - Making a Difference

Each module is hands-on and interactive and supported by ready-to-use lesson plans and supplemental handouts that teachers can use to engage their students in Solid Waste Management Education. The various materials are grouped by age level and linked to local and regional syllabuses and attainment targets.



### Case Studies

Throughout this Guide are a series of case studies drawn from across the world aimed at introducing students to Solid Waste Management issues from a global perspective. The aims of these case studies are to:

1. introduce students to waste issues in different communities throughout the world;
2. provide knowledge and understanding of traditional and modern waste management practices in other cultures and communities;
3. encourage students to reflect on their own values, attitudes and behaviours towards waste; and
4. provide opportunities for students to formulate socially and environmentally responsible actions.



### Lesson Plans

The lesson plans were designed to illustrate a variety of solid waste concepts for both primary and secondary aged students. Each lesson plan is marked for its intended grade level. Many of them can be completed in one class period, but some require two class periods or portions of several classes over a specified period of time. The number of class periods required for each lesson was determined based on an average class period of 45 minutes – 1 hour. These are estimates and are provided only as a guide. The actual time required will depend on the grade level and the skill level of the students in the class.

Several lessons begin with homework assignments to prepare students for the exercise. Most units call for explanations or presentations by

teachers, but several also involve presentations from students and facilitated discussions led by teachers.



### **Fact Sheets**

The Fact Sheets provide the foundation of information on which the Activities are built. The Fact Sheets stand alone, but can be used to supplement lessons in a number of ways.



### **Handouts and Student Activities**

The Handouts and Student Activities focus on developing and understanding some basic concepts related to solid waste. Classroom educators can present these exercises in series or as preparation for related activities.