Country Report - Maldives

Green Curriculum
Country Report Maldives

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The Maldives attaches great importance to the protection of our environment. From climate change, to sustainable development, to natural disasters such as the 2004 tsunami, environmental factors have a significant impact on the fortunes of the Maldives. To the impacts of climate change alone, the Maldives is most vulnerable, challenging the very existence of itself.

The importance of introducing environment education (EE) within the formal education system is well recognized and there has been a concerted effort put across the world to reorient or develop curricula for environment education especially in schools.

In the context of the Decade of Education for Sustainable Development (DESD), announced for 2005-2014, the efforts in environment education that are already in place in many countries becomes a strengthening factor to develop further linkages for a holistic approach to achieving sustainable development.

In Maldives, National policies on Environment and Education recognize “protection of environment” as a value which must form an integral part of the curriculum. These emphasize life skills based approach to education and activity based learning. The policies recognize “Education for All”, equitable access across caste, religion, class, gender, and preserving of heritage as a value.

The need is to have education for locale specificity, issue of multiple languages and varied cultural contexts make it a complex endeavor. Capacity building for teachers through training in the methods and approaches required for EE, and making available relevant resources and materials are key areas for a large scale effort.

Dr. Mohamed Shareef
Deputy Minister, Environment
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Maldives
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The Republic of Maldives is located southwest of the Indian subcontinent. The archipelago is made up of a chain of 1192 small coral islands, which form 26 natural atolls. These atolls are grouped into 20 administrative regions. The islands vary in size from 0.5 km², to around 5.0 km² and in shape from small sand-bands to elongated strips. 99 of the 1192 islands are inhabited.

The dominant natural environment of the Maldives is marine. The archipelago includes several ecosystems—coral reefs, islands, sea grass, swamps and mangroves. The coral reefs of the Maldives spreading across an area of 8,920 km² are the seventh largest in the world (State of the Environment, South Asia, UNEP, 2001). These harbour a very rich marine diversity. This is also a significant resource base for the country as the main generator of food, livelihoods and shelter. The reefs provide a protective barrier against ocean currents, waves and tides.

The total population of the Maldives is approximately 250,000, which is distributed unevenly across the different islands. Over 25 per cent of the population is concentrated in the capital, Malé. Hulhumalé is a manmade island developed to accommodate and settle people from overcrowded Malé (See appendix 4)
Environmental concerns

The Ministry of Environment, Energy and Water (MEEW) of the Government of Maldives, regularly publishes a State of the Environment (SOE) report to assess the issues of concern to the country’s environment and its protection.

The environment of the Maldives is extremely fragile and vulnerable to a number of domestic and external threats. The major issues faced by the Maldives in the area of environmental protection and preservation, which have been described in the report of State of the Environment Maldives, 2002 include climate change and sea level rise, coastal zone management, biological diversity conservation, integrated reef resources management, integrated water resources management, management of solid waste and sewage, air pollution, management of hazardous waste, sustainable tourism development, land resources management and sustainable agriculture, and human settlement and urbanization.

An example of some issues and responses to these is described in appendix-4.

Some key concerns related to these issues are briefly discussed here.

1. Climate Change and sea level rise

About three-quarters of the land area of the Maldives is no higher than about 1.5 metres above mean sea level. Being a low-lying, small islands state, the Maldives is one of the most vulnerable countries to climate change and sea level rise. The coastal setting of the
Maldives make it vulnerable to natural disasters associated with sea level rise and the changes in temperatures and rainfall patterns. These will have widespread impact such as land loss and beach erosion, infrastructure damage, damage to coral reefs and impact on the economy, food security, water resources, and human health.

2. Biodiversity conservation
Coral reefs are increasingly threatened primarily due to the needs of the growing population. Corals are mined to provide material for housing. The increasing destruction of corals has increased the vulnerability of the islands to the forces of wind and water that not only erodes the coastline and washes away the beach sand, but also allows sea water to intrude further into the islands, damaging vegetation and affecting freshwater aquifers.

As population continues to grow in crowded islands, the available land area is no longer sufficient to meet the demand for housing. This has led to reclamation of shallow reefs adjacent to the islands. Land reclamation activities have numerous negative implications including destruction of shallow lagoons, sea grass and reef flat...
communities, and adversely affects nearby coral reef communities through suspended sediments. This in turn has an impact on the residential reef fish colonies and other living organisms, loss of bait fish that are important for the local tuna fishery.

3. Fresh water resources
The water resources of the islands comprise mainly of groundwater lying in shallow underground aquifers formed by percolation of rainwater through the porous sand and coral. Nearly 90 per cent of the water demand mostly for washing, bathing, sanitation, etc. is fulfilled by this groundwater. Rainwater when available is generally used for drinking and cooking. The two main concerns in this area are of quantity and quality of fresh water available.

Increased extraction exceeding natural recharge through rainfall has dramatically depleted the fresh water catchment areas in Malé and other densely populated islands. In some of the islands, the salinity of the groundwater, which is caused due to over abstraction, has limited the groundwater availability to meet the demand.

4. Solid waste and sewage
Solid waste disposal is now one of the most critical environmental issues in the Maldives. The amount and the rate of solid waste generated varies throughout the country and there is a significant difference between the amount of waste generated in Malé and that in the atolls. Solid wastes generated in the atolls are disposed using various methods. Organic wastes are composted at home in the backyard in most of the islands. Non-biodegradable waste such as plastics are dumped near the beach in many islands or are buried in some places. Burning of combustible waste in designated areas on the islands is also widely practised in many places.
With increasing population, the large quantity of waste generated as a by-product of domestic and industrial activities coupled with limited land area and technology makes the disposal of waste a challenge for the country. Current waste disposal practices adversely affect the environment through habitat destruction and pollution. Often, wetland areas such as swamps and mangroves are considered as “useless” areas and therefore dumping of solid waste in such areas is acceptable practice and reclamation of such areas to increase land space often takes place. Dumping of solid waste near beaches also has adverse effects on the reefs and lagoons around the islands.

**Public Perceptions on Environment**

The Environmental Research Centre undertook a survey on Public Perceptions on Environment, in 2006.

A questionnaire was administered to 16,000 people across the islands with an aim to understand how people perceive environmental issues. Initial compilation revealed that Waste and Waste Management was being perceived as the most critical issue. Coastal erosion, loss of biodiversity and loss of groundwater resources were also high on the list of concerns.
5. Sanitation and sewage

Different methods of sanitation are used throughout the Maldives. Most commonly are on-site sanitation systems using locally constructed septic tanks with soak pits. Usually these septic tanks are constructed poorly and not maintained well, thus contributing to pollution of ground water. Open defecation on the beach or bush also occurs. In many places, shallow pits are very close to well sites for the convenience of access to water for washing. When there have been cholera outbreaks in the past, the government has used radio to educate people against defecation near the well. Untreated sewage and waste water effluent is discharged into the sea. The pollution load from these discharges exceeds the dilution capacity of the receiving end.

Response and policy

The environmental protection policy for the Maldives is articulated in the National Environment Action Plans (NEAP). The first NEAP was developed in 1989, and the second in 1999. The NEAPs addresses the environmental planning and management needs for the Maldives with an aim to “protect and preserve the environment of the Maldives, and to sustainably manage its resources for the collective benefit and enjoyment of present and future generations”.

The regulatory and institutional framework for environmental protection has been further strengthened through the enactment of the Environment Protection and Preservation Act in April 1993.

Environmental policy in the Maldives has gradually moved from a sector-based approach to one which is more integrated. All relevant Government Ministries today have an environment unit. The environmental impacts of every major developmental project are assessed carefully.
“The Government of Maldives recognises the special vulnerability of the country and places a high priority on mainstreaming environmental sustainability and environmental protection into the national development planning process (i.e. through Vision 2020 and the 6th National Development Plan). The Maldives has also developed a set of dedicated National Environment Action Plans (NEAP), the first of which (NEAP I) was formulated in 1989 and the second (NEAP II) in 1999. Through these efforts, the Maldives has become a world leader in environmental sustainability and ecosystem protection.”

Excerpts from Address by His Excellency, Mr. Maumoon Abdul Gayoom, President of the Republic of Maldives, at the Asia-Pacific Ministers’ Conference on Tourism and Environment, Malé, 16 February 1997.
Educational System

The Maldives has a high literacy rate (over 98 per cent). Student enrolment in educational institutions is also high, and continues to increase. Schooling is free and the costs involved in sending children to school are relatively low. Parents seem to value formal education. Texts given to school children are often read with interest even by parents and elders in the community.

The medium of instruction at primary level used to be Dhivehi, while English as a subject was taught from the early classes. However in recent times, there has been increasing pressure from parents to start English medium education from the beginning. This is because otherwise students find it difficult to switch to English medium in the 8th grade, and then proceed to do O levels and A levels. Thus now, the medium of instruction from primary school is English. But as the standard of English language is weak, understanding of scientific concepts becomes very difficult.

The system of education prevailing in the Maldives today has its roots in a traditional system of schooling that has existed for hundreds of years. These traditional schools, known as edhuruge, makthab or madhrasa, are privately owned or operated by the island communities and are usually self-financed. The present system of education is the result of a merger between the traditional system of schooling and a western style of schooling introduced since 1960.

The western style of schooling was introduced in English-medium schools in the capital Malé as part of a conscious effort to prepare individuals for training that they would receive overseas in order to meet the increasing developmental needs of the country. Thus, the beginning of a public school system was patterned after the British system in terms of organization of curriculum and methods of instruction.

Since 1978, the country has a unified national education system. Under this system, schooling in the Maldives is structured on a 5-2-3-2 cycle—five years of primary schooling leading to two years at the middle school level, followed by three years of junior secondary school studies and two years of senior secondary school studies. At the end of the 3-year junior secondary cycle and the 2-year junior secondary cycle; students sit the London EDEXCEL GCE Ordinary-level and Advanced-level examinations respectively.
Education at pre-school level is not free. Non-government institutions provide pre-school education with some government support. Government policy ensures that all islands offer primary education up to Grade 7, and education is free from Grade 1-7. Secondary schools are government supported or privately run.

The National Curriculum in Maldives covers the primary and middle school cycles in all subject areas. The secondary curriculum content is designed around the O-level and A-level examinations offered by EDEXCEL. However, in the case of Islamic studies, the Dhivehi language and fisheries science, the curricula are designed locally—even for the secondary levels.

The National Curriculum offers seven subjects namely: Mathematics, English, Dhivehi, Islam, Environmental Studies, Practical Arts and Physical Education at the primary level. At middle-school level, Environmental Studies is replaced by Social Studies and General Science.

The National Curriculum is based on fundamental principles within an Islamic framework. Based on these fundamental principles, the Ministry of Education, in consultation with the National Education Council (NEC), produces national objectives.
for the education sector. The responsibility for translating these national objectives into curriculum statements after appropriate consultations rests with the Educational Development Centre (EDC).

EDC draws up the national frameworks for individual subject areas, the syllabi, textbooks, teacher’s guides and other relevant resources. Subject panels, consisting of practising teachers and subject specialists from various sectors, including the Department of Public Examinations and the Institute of Teacher Education, help the EDC in the process.

As of 1999, EDC is also responsible for specifying the curriculum materials for the secondary levels. The centre develops teaching materials and resources for Islamic Studies, Dhivehi and Fisheries Science.

Table 1 (page 11) shows in detail the interrelationships between the various bodies involved in the adaptation of curricula in the Maldives.

**Tertiary Education**

Tertiary level education is provided by Maldives College of Higher Education and some private institutions which offer certificates and diplomas or degrees in courses in a range of disciplines.

The College of Higher Education set up in 1998 has currently 8 faculties. These are faculties of:

- Health Sciences
- Engineering and Technology
- Hospitality and Tourism Studies
- Management and Computing
- Centre of Maritime Studies
- Shariat Law
- Centre for Open Learning (Distance Education)
- Dhivehi language (BA degree)

**Teachers**

There is a great demand for trained teachers at all levels, especially at the secondary level. Currently a lot of this demand is met by expatriate teachers, especially for
### TABLE 1: The curriculum: who makes which choices?

<table>
<thead>
<tr>
<th>CENTRAL LEVEL</th>
<th>REGIONAL/PROVINCIAL</th>
<th>SCHOOL LEVEL</th>
</tr>
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<tbody>
<tr>
<td><strong>CURRICULUM PLAN</strong></td>
<td>Writes national syllabus and allocates appropriate syllabus for secondary level (EDC, P). Decides time allocations (EDC/MOE). Trains teachers for the implementation of the national curriculum (ITE). Ensures achievement of curriculum objectives (MOE).</td>
<td>Teaches according to national syllabus (ACP, APS). Timetable as recommended (ACP, APS). Recommends community participation (IO, AEC, APS).</td>
</tr>
<tr>
<td><strong>METHODS &amp; APPROACHES TO TEACHING</strong></td>
<td>Prepare teachers’ guides which recommend teaching methodology (EDC, P). Moderate teaching methodology through supervision (MOE). Train teachers in the use of certain methodology (ITE).</td>
<td>Conduct workshops for teachers on teaching methodology (ACP, APS). Facilitate in conducting field trips and other field work (AO, IO).</td>
</tr>
<tr>
<td><strong>MATERIALS</strong></td>
<td>Commissions to write textbooks for the national syllabus (EDC, P). Choose textbooks for secondary schools. Produces or commissions to produce audio-visual materials for the national syllabus (EDC).</td>
<td>Choose educational resources for school use (ACP, APS). Initiate locally relevant resource materials (ACP, APS).</td>
</tr>
<tr>
<td><strong>EVALUATION &amp; EXAMINATION</strong></td>
<td>Set central examinations and expected standards (DPE). Train teachers in assessment and evaluation (ITE).</td>
<td>Conduct regional workshops for teachers on assessment and evaluation (ACP, APS).</td>
</tr>
</tbody>
</table>

Source: Maldives: Education policies, curriculum design and implementation at the level of upper primary and general secondary education, *Abdul Muhsin Mohamed and Maryam Azra Ahmed*
subjects like English, Science and Social Studies. Teachers are specially required on small islands. Due to lack of options, even those who have passed O levels start to teach.

The government’s policy is to focus on teacher education to meet the need for trained local teachers. The Faculty of Education offers a two-year Diploma of teaching at
Primary Level, and at Middle Level. About 100 teachers pass out each year from this course.

It has also initiated a B. Ed. course for primary teachers. This is a 4-year programme for pre-service teachers and 3-years for in-service teachers who already have taken teaching certificates after O levels. In-service teachers get paid leave to take the course.

The teacher training is in English medium.

An outline summary of the social study unit is available on page 26.

A one-year teacher training programme is also being offered through the distance mode by the Centre for Open Learning.

The Educational Development Centre does primary level in-service teacher training. The emphasis is on basic teaching methodologies and skills, as well as content upgradation for those who have not done O levels.

**Environmental Education**

Environmental education is a process aimed at developing a world population that is aware of and concerned about the total environment and its associated problems and which has the knowledge, attitudes, commitments and skills to work individually and collectively towards the solution of current problems and prevention of new ones.—*Tbilisi Conference 1977*

The responsibilities of environmental education have been delegated by the government to a range of agencies. Some of these are listed here.

**Ministry of Education, Maldives**

The Vision of the Ministry of Education, Maldives is, “Every Maldivian will have access to quality primary and secondary education with widening opportunities for higher education and training. The education provided will promote maximum realization of individual potential while at the same time instill religious and cultural values that will foster social unity and harmony, and, love and pride in the nation. Maldivians will be endowed with the necessary
knowledge and skills to be productive, able and active participants both in the national and international arena.”

The professional hub of the Ministry of Education is the Educational Development Centre (EDC), Maldives. EDC came into being as the result of the expansion of the Educational Project Office formed on 6th October 1979. EDC is involved in the whole spectrum of educational development work including curriculum development, educational material production, teacher training, non-formal community education, educational broadcasting and school construction and upgrading. EDC has developed a Teacher Resource website to support teachers across the Maldives.

The Government of Maldives has also included “Increase relevance of education to the local environment” as one of its policies.

The Ministry of Environment, Energy and Water (MEEW)

The MEEW has a unit directly responsible for awareness for topics such as: Waste Management, Environmental Impact Assessments, Environmental Regulations, Protected Areas, Biodiversity and the Maldives ‘Greening Program’. This is done through school environment clubs and the production of environment awareness raising materials: leaflets, posters, banners, calendars and an environment day celebration.

The mandate of the MEEW includes formulating and monitoring the implementation of policy and law on environment protection and explores and carries out research on ways and means to strengthen fields related to environment protection. The mandate also includes planning and implementing public environmental awareness programmes and disseminating information about the environment. It plans, implements and monitors the activities to be carried out by the Maldives under its obligations to the international conventions ratified by the Maldives. It also identifies and maintains areas and species that need to be designated as protected ones.

MEEW also undertake all matters related to the planning of activities required for the protection of the national environment and take necessary steps regarding such matters.

Research and analysis for the mandatory activities of the MEEW, is conducted by the Environment Research Centre (ERC), established as a unit in 1990 and upgraded to a centre in 1998. The centre is also mandated to establish, manage a knowledge base and adopt information dissemination mechanism.
The Marine Research Centre
The Marine Research Centre was set up in 1984 with a mandate to “create awareness among people and the government on fisheries and utilization of other marine resources”. The Centre has a small educational and awareness unit to disseminate its research findings, and activities. This is mainly done through the library and museum both of which are popular with school students. The museum has recently opened and will be open to school groups along with a guided tour.

The Centre’s faculty provides ad hoc advise to the curriculum development group, especially for the fisheries courses. They also give talks on different marine themes, on request from schools. At a national level, 10th December which marks the start of the North East monsoon is celebrated as Fisherman’s Day, and continued through the week as fisherman’s week celebrations on different islands of the Maldives.

The Non-Formal Education Centre
The Non-Formal Education Centre is mandated with the responsibility to “conduct courses to increase awareness and teach skills for youth and adults, and produce newspapers, magazines, posters and other such material to increase awareness.

The most notable government expression of environmental education is through nationally and internationally recognized days such as World Environment Day, International Biodiversity Day, World Ozone Day etc. As an example, World Environment Day is conducted every year in the Maldives. In 2004, a special focus was placed on the theme, ‘Wanted! Seas & Oceans – Dead or Alive?’ This theme promotes awareness of the state of the oceans and places importance on people’s choices. Activities included a special supplement in the newspaper, tree planting, clean-ups, quizzes, special assemblies and even a special environment song. There were also awareness programs on radio and shown on TV. The government also celebrates World Food Day annually.
Environmental Studies is a core subject from classes 1-5. Thus at the primary level the subjects are English, Maths, Dhivehi, Islam, Practical Arts (PA), Physical Education (PE), and Environmental Studies (ES).

In classes VI and VIII this is covered through Social Studies and General Sciences.

The ES syllabus of the National Curriculum for Primary and Middle school was introduced in 1984. It was revised in 1990 to make it more activity-based. The syllabus for ES is based on the guidelines of the National Curriculum. Based on this, the student and teacher material is developed by the Educational Development Centre.
In grades 1-5 there is an ES Pupil’s Book which is in the form of a textbook-cum-workbook. There is accompanying teacher’s guide for the book for each grade. These guides provide additional information, ideas and practical suggestions for teachers to use in their classrooms which will fully involve students in the process of education in the environment about the environment and for the environment.

The ES curriculum is currently under revision with the help of a consultant from Cambridge University. The process is ongoing, of revision of the ES textbooks towards making them more student-friendly, and including more opportunities for involving students directly in the learning process.

Revised student and teacher books for classes 1, 2 and 3 are in use. The process for revision of classes 4 and 5 has been initiated.

English is the medium of instruction for Environmental Studies from grade 1 onwards. This is due to the pressure from parents who want that children should start early with English medium so as to be better prepared by the time they reach O level.

**The Syllabus**

The earlier ES syllabus was to a large extent, content focused. The revised one is more objective driven and emphasizes skills and attitudes, along with content. (See appendix 5)

The revised ES syllabus has been developed through a process which included a one-week workshop. The participants included teachers from all the atolls, island heads, representatives of the Environment Ministry, and an overseas consultant.

A Steering Committee with representatives of Environment Ministry, Fisheries Department, NGOs, schools provide guidance and inputs to this process, and also review the drafts of the textbooks. The textbook itself is written by one person.

Textbook writing is a three-year graduated process. During the first year, textbooks are written for grade 1, which are tried out in sample schools during the following year and during the third year, these are introduced in all the schools. Simultaneously, during the second year, textbooks are written for grade 2 and during third year grade 2 new text books are tried out in some selected schools and the process follows for other grades. In 2006, textbooks for grade 3 will be introduced in all classes and next year in grade 4. These new text books are based on the new syllabus for ES.
**Objectives of EE**

The first Intergovernmental Conference on Environmental Education held at Tbilisi in 1977 established the objectives of EE. These are to develop the following qualities in individuals and social groups:

a) an awareness of the environment and its problems;
b) basic knowledge and understanding of the environment and its inter-relationship with man;
c) social values and attitudes which are in harmony with environmental quality;
d) skills to solve environmental problems;
e) ability to evaluate environmental measures and education programmes;
f) a sense of responsibility and urgency towards the environment so as to ensure appropriate actions to solve environmental problems.

**EE in the Textbooks**

A review of the ES books from grades 1-5 reveals that there is an effort at making the pupil as well as teacher books more participatory.

The books for grades 4 and 5, which have been based on the 1990 revised curriculum, cover five main units. Each unit is sub-divided into a number of related topics designed to teach through student-based activities (diagram on page-19). Most of the topics covered are universal science concepts, and are presented as such. The ‘activities’ generally require students to fill in tables, or carry out simple experiments.

In most of the lessons there are no examples from Maldives to illustrate concepts. In some cases e.g. climate, there is an additional chapter on Climate of Maldives (Book 5, lesson 12).

In both grades 4 and 5, it is in the last unit titled “Interdependence” that topics specific to the Maldives are covered. These cover Fishing and Agriculture, Tourism, Trade, and aid. This section gives local (Maldives-related) information and data.

The Teachers’ Guide includes suggested teaching method for each lesson. The ideas include taking students out to different sites related to the lessons e.g. TV Station, agricultural field, and ideas for projects that students can undertake.
The books for grades 1, 2 and 3 have been more recently developed (2003-2006). The Pupil’s Books are in the form of “children-friendly” textbook-cum-workbook. They are colourful and profusely illustrated. The format of the lessons includes a mix of elements to involve children in “learning-by-doing”. There are questions based on observation of the visuals, activity ideas which include simple experiments, collection and compilation of information, sorting and presently information in tables and charts, as well as writing and drawing.

The ES content for grades 1, 2, 3 is organized under 5 units: The People, The Earth, Living Things, Changing World, Interdependence.
**ENERGY**

Activity 2.1
List all the activities you do in one day that require energy (directly or indirectly).

1.
2.
3.
4.
5.

(Pair Work or Group Work)
Choose three activities from the above list, refer to the questions given below, and make notes:
1. What type of energy is used for each activity?
2. Where does the energy come from?
3. How does it get from its source to where it is now?
4. What are the environmental consequences of using the energy for that particular activity?
5. Is there a better way to use the energy more efficiently?

<table>
<thead>
<tr>
<th>Activity No. 1</th>
<th>Activity No. 2</th>
<th>Activity No. 3</th>
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**WATER**

Activity 7.1
Write the different purposes water is used for and ways you can cut down on the usage of water.

<table>
<thead>
<tr>
<th>Daily water use</th>
<th>No. of times</th>
<th>Can cut down on water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toilet</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flushing the toilet</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taking a shower</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Washing clothes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brashing teeth</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Washing the face</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Washing hands</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Washing the toilet</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kitchen</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Washing dishes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Washing hands</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water used for cooking</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Watering the garden</td>
<td></td>
<td></td>
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<tr>
<td>Watering the road</td>
<td></td>
<td></td>
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<tr>
<td>Washing the bicycler etc.</td>
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<td></td>
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</tbody>
</table>

Discuss the importance of conserving water.

**Did you know?**
Five or more geographic names for places where water is found.
- River, lake, ocean, river, sea, stream.

**AIR**

Activity 5.1
Testing air particles.

Exp. 1:
You will need:
- Flashlight
What you do:
In a darkened room, turn on the flashlight.
What do you see? Where do they come from?

Exp. 2:
You will need:
- Two 8" x 11" pieces of white paper
- Petroleum jelly
- Magnifying glass

What you do:
1. Smear two clean, white notebook-size pieces of paper with petroleum jelly.
2. Hang one sheet outdoors in a place protected from rain.
3. Hang the second sheet indoors away from open windows.
4. Compare the two sheets at the end of one day, one week, and two weeks.
   Also compare with a clean white sheet of paper.
5. Look at the particles with a magnifying glass.
6. How dirty is the air outside compared with the air inside? Where do you think the particles come from?
As in grades 4 and 5, it is in the last Unit “Interdependence” that Maldives specific information is provided. This is under the lessons on Fishing, Tourism, Trade, Aid, Communication. Here there are exercises that are designed to help the student link to his/her immediate local environment and also the Maldives as a whole.

The Teachers’ Guides for these 3 books provide additional information, as well as guidelines to the teachers on how to transact every lesson, so as to encourage student participation.

Teachers are encouraged to link textbook topics with their immediate environment, and to involve students in “learning by doing” with respect to the textbook concepts. The Teachers’ Guides emphasize that the assessment of students should include not only information and knowledge but also development of skills and attitudes. The Guides provide teachers with guidelines on how to transact each lesson with attention to these objectives.

Detailed information is given on each skill, concept and attitude. A table of the skills, concepts and attitudes that need to be assessed through each lesson is provided on page 23-25.

An unmarked assessment sheet is also provided. Teachers are advised to photocopy these and maintain a record of the same for each child.
My atoll is special

The Maldives has twenty atolls. People live in different atolls. What is your atoll? Where is your atoll located? Your atoll is very special, because your island is in your atoll.

Activity 4a

What you need

- Map of the Maldives

What you do

1. Locate your island from the map.
2. How many inhabited islands are there in your atoll?
3. Which island is the closest to your island?
4. Can you find the number of uninhabited islands in your atoll?

Discuss

- Did you go to another island in your atoll?
- Compare it with your own island. Think about the size, types of trees, and population.
- Share your experience with your friend.
- Do you have friends in another island?
- Draw the map of your atoll in your notebook.
- Mark your island on it.

Activity 2a

What you need

- A pencil
- A colouring pen
- A drawing paper

What you do

1. Name some of the tourist attractions or important places in your island.

We know that tourists come to the Maldives to see our beautiful beaches, sea and important places.

Discuss

- What do you think will happen if these places are not looked after well?
- Do you think it is important to keep these places clean and tidy? Why?
- How can we keep these places clean and tidy?
- What do we get from tourists? Why is it important?
<table>
<thead>
<tr>
<th>Lessons taught</th>
<th>Skills</th>
<th>Comments</th>
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<tbody>
<tr>
<td>5. My special place</td>
<td>Observing</td>
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<tr>
<td>4. Special places</td>
<td>Communicating Questioning Discussing</td>
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<td>3. Tourists</td>
<td>Classifying</td>
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<td>2. Food plants</td>
<td>Comparing</td>
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<td>1. Our main food</td>
<td>Measuring</td>
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<td>13. Tools and Machines</td>
<td>Infering</td>
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<td>11. My favourite</td>
<td>Predicting</td>
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<tr>
<td>10. On the road</td>
<td>Planning Investigations</td>
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<tr>
<td>9. On the move now</td>
<td>Doing Investigations</td>
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<tr>
<td>6. My special place</td>
<td>Controlling Variables</td>
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<td>9. On the move now</td>
<td>Recording results</td>
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(Unit 4 The changing world)
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<th>Lessons taught</th>
<th>Concepts</th>
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<td>Change</td>
<td>Interaction</td>
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<td>Interaction</td>
<td>Cause &amp; Effect</td>
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<td>Cause &amp; Effect</td>
<td>Variety &amp; Commonality</td>
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<tr>
<td>Variety &amp; Commonality</td>
<td>Interdependence</td>
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<td>Interdependence</td>
<td>Continuity</td>
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<td>Continuity</td>
<td>Conservation</td>
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<td>8. Tourists</td>
<td>3. Tourists</td>
<td>11. My favourite</td>
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<td>Unit 1 The people</td>
<td>Skills</td>
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<tr>
<td>1. Myself</td>
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<td>2. My Family</td>
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<td>3. Parts of the body</td>
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<td>4. Looking after our body</td>
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<td>5. People who help us</td>
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<td>6. I Cane</td>
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<td>7. Choosing good health</td>
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<td>8. Food groups</td>
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<tr>
<td>9. Iruvai and Hulhangu season</td>
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<td>10. Soil</td>
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<td>11. Air</td>
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<td>12. Soil</td>
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<th>Unit 2 The Earth</th>
<th>Skills</th>
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<td>1. Soil</td>
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<td>2. Air</td>
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<td>3. Soil</td>
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<td>4. Water</td>
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<td>5. Water</td>
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<td>6. Air</td>
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<td>8. Soil</td>
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<td>9. Air</td>
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<td>10. Soil</td>
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Skills:
- Observing
- Communicating
- Questioning
- Discussing
- Classifying
- Measuring
- Predicting
- Planning investigations
- Recording results
- Controlling variables
- Doing investigations
- Interpreting
- Comparing
- Classifying
- Discussing
Teacher Training

Most of the teachers at primary level have completed O levels and have a Teaching Certificate (one-year course) from the Faculty of Education. There is no special training or orientation to the content and teaching-learning methodologies for ES as well as the revised textbooks which emphasize development of skills and attitudes, along with information.

Since 2005, some teacher training is being done for grades 1, 2, 3 under a UNICEF programme which includes a school health project as well as creating a child-friendly learning environment. The training team includes 1 UNICEF representative and 5 members of the Professional Development Unit of Education Development Centre who have been trained by UNICEF.

The programme involves a two-weeks training for teachers covering 105 schools across Maldives. The atolls have been divided into 5 zones, and training is conducted zone-wise.

The Education Development Centre conducts some in-service teacher training for primary level, but focuses mainly on basic teaching skills for the untrained teachers and content upgrading for those who have not done O levels. In some of the remote islands, some teachers have only passed grade 7 or 8.

An outline summary of the Social Studies Unit taught at the Faculty of Education

The Social Studies 2 course focuses on the concepts of latitudes, longitudes, importance of prime meridian, weather and climate classification and climate change. This unit also develops the student teachers’ knowledge and understanding of physical geographical characteristics of each region in the world with reference to locations, climate, natural resources, the relationship between physical environmental conditions, and physical problems resulting from human actions and also the geography of Maldives, including physical, cultural, and economic characteristics of different atolls. Major focus is on resources, land utilization, population characteristics and distributions as they relate to economic problems.
Aim and rationale: The aim of the course is to enable student teachers to develop a knowledge of the basic concepts, and of terminology, processes and patterns of generalization used in geography in order to prepare to teach Social Studies in Maldives.

The curriculum content focuses on bringing about student teachers' awareness of the physical and human geography of Maldives and to make them better prepared for understanding global issues, and Maldives' place in the world and its relations with its immediate neighbours.

The main components comprising the content of the module are—The Earth, The Lithosphere and the Soil, The Major land forms of the world, Hydrosphere, The Atmosphere, Weather and climate, Natural hazards, Physical Geography of Maldives, Economic activities and the money, Economic activities in the Maldives, Exploitation and Conservation and pollution, Population in general and with specific reference to Maldives, Types of maps and their interpretation. Each content component section provides the student teacher information on the topic being dealt with, method of teaching it in class, outcomes and recommended reading. Lectures are the main method being suggested. Some of the content areas have a tutorial section which provides scope for student activity through individual and group work, research, individual presentations and discussion, viewing video programmes and field visits to institutions.

Assessment: The module details out methodology and criterial for assessment. Three main components are used for assessment. These are:

- Individual presentation - 20 per cent
- Major essay - 20 per cent
- Examination - 60 per cent

While the modules focus on understanding of concepts and linkages with larger sustainable development issues while bringing focus on the situation in Maldives, there is no specific emphasis on skill development for the student teacher at least in this module. The way the module is structured could include some more activities and a hands-on learning approach.)
EE in Schools: Some Examples

Fareediyya School, Hulhumalé Island (Visited on 2/12/2006)

- The only school on the island. Started on 24 April 2004 when the first group of people moved to live on the island.
  The school started with 107 students. The following year, the number of students increased greatly with the increase in the island population, due to more people moving into new housing.

- In December 2006, total number of students stands at 700.
  It is a co-educational school. It is also unique in that the building houses 3 school levels - pre-school, primary school and secondary school. In Malé, usually schools are single sex. Also the three levels are in different physical locations or buildings and under different Managers.

- No specific admission criteria. As of now, whoever lives on the island has a right to come to the school and the school cannot refuse admission.

- The medium of instruction is English from nursery to class 10. Dhivehi and Islam are compulsory subjects and are taught in Dhivehi language.

- The school building was designed by a local woman architect, educated in the UK. Meant to be of exposed concrete inside, but now some walls are painted. Features include slanting and rounded walls, open bright and airy classrooms. The courtyard in centre is planted with a different kind of “imported” grass. There was a plan to have a fountain in the centre of courtyard, but instead the school has now planted a tree relocated from another part of the island. The school still needs equipment for their laboratories. The teachers and the staff rooms are decorated with sayings and marine life cut outs. There are done up by children and senior staff and is an annual practice in the school. There is availability of computers, and access to internet.

- School timing
  Standard VI to X from 7 am to 12.45 pm
  Standard I to V from 1 pm to 5.45 pm
  Nursery 2 hours, Lower Kindergarten and Upper Kindergarten 2½ hours.
School academic year is the same across the country, which is from 14 January till Mid-November. There are 3 terms and exams at end of each term. Between two terms there is a one-week break. But during the break, extra and co-curricular activities go on. The school does not close during Ramzaan period, but working hours are shorter.

Teachers: The school has 90 teachers. Of these 20-25 are expatriates (mainly from Sri Lanka, India and Pakistan).

Expatriates are recruited by the Department of Human Resources in the Ministry of Education. They are given a one-year contract and posted by the Ministry to different schools, according to the requirements. The salary for local and expatriate teachers is the same, but expatriates get rent and food allowance as well as dependence allowance. There are several cases of couples working as teachers in the Maldives.

The school has a different kind of culture, thinking and way of doing things. The rules and systems reflect the school motto “Perceive and Achieve”.

Activities in the school are conducted through four houses. The names, Raannaa, Kaannaa, Dhaannaa, Fennaa, are those of designations given to ancient kings.

The School also has a number of clubs. English Association, Art Club, Health Club (this is the national host for UNICEF’s 3H Initiative). Business Chamber of Fareediyya (is a club of commerce students. It publishes an annual magazine.

The school has an Environment Club called Fareediyya Association for Care of the
Environment (FACE). The club has 350-400 students. Students from class 6-10 can be members of the club. Membership is based on student’s interest. There is a teacher designated as Supervisor in charge of the club. There is also a group of teachers who help with the club’s activities.

The students are the main do-ers. The club has a student executive committee with representatives from each grade/class and led by a President and Secretary. The annual calendar of the club’s activities is planned by the Executive Committee. This is in keeping with the overall school calendar. Club students have undertaken a lot of plantation on the island.
Jamulludin School, Male’ (Visited on 29/11/06)

Jamulludin School, Male has various associations- Dhivehi, English and Environment Association. The environment association is called Environs. School observes environment day every year.

Association’s activities are conducted every weekend. Trees in the school have signages with Dhivehi, English and Scientific names. These are being done by eco-club members. Also, they plant trees, water them and conduct other after-care operations.

In Environment club, 5 students go for nature trips in which expenses are shared with all participating students during the trip. After the trip, presentations are done by the students for the remaining students.

Environs also organized a “Reuse programme” during which emphasis was on reusing materials used by the students.

In schools, for environment lessons, there are identified resource persons from Government Departments/ institutions such as Fisheries Department, ERC, MRC and Agricultural Ministry. For example, recently a session on green house effect was conducted.

For Environment topics in class 1-5, available resource materials such as handbooks, research work books/ papers are being used. Information on local resources is still a major concern.

The school every year works on a theme. For example, in 2003, the theme was birds. During environment day, names of birds with other information about them were disseminated. For all purposes, birds names were used for example- class names were given as names of commonly found birds. All major functions in school such as prize distribution ceremony, etc were done through bird masks, etc. Theme for 2004 was “Butterflies”. 2005 theme was “Our Earth”. During this, a song on earth was made and played throughout the year. Also, half a film was played during which some part of a film on theme was shown and asked students to write on what may have happen later. Theme for 2006 was shells. Theme for 2007 was yet to be decided.
Some Non-formal Efforts

Various national and international NGOs and international agencies have been working in Maldives towards strengthening Environment Education in Schools. Some of the teacher and teacher educators have been trained by CEE. Other NGOs include Live and Learn, Bluepeace, ECO CARE and Butterflies. International agencies such as UNEP, UNDP, UNICEF and UNFPA have initiated several initiatives.

Live and Learn is an international NGO. It works with the Government of the Maldives and the Asian Development Bank in promoting sound environmental management in the aftermath of the tsunami disaster in Maldives. This is being done through environmental education and awareness and capacity building in devolving water management to island communities.

The goal of the project is to improve environmental sustainability in the Maldives, helping achieve the desired Millennium Development Goals (MDG) targets. Its immediate outcome is to develop and test an environmental management program in tsunami-affected islands, which focuses predominantly, but not solely, on environmental health and risk awareness.

Live and Learn has been involved in developing a rapid assessment of perceptions into the environmental management in the Maldives and developing toolkits on environmental education and community mobilization program.

Bluepeace, an NGO in Maldives was set up some 20 years ago. It is the Maldives National Focal Point for the South Asia Youth Environment Network, supported by UNEP, Asia and the Pacific. Around 8 years ago, Bluepeace published a book “Environment and Our Way of Life”. Already into its second edition, the book discusses how traditional Maldivian way of life was eco-friendly. Bluepeace have also developed a list of about 150 commonly birds found in Maldives with their local names. The organisation as well has carried out an in-depth studies on birds in Maldives. Bluepeace facilitates eco-club activities in some of the schools through youth associated with them. Bluepeace participated in a public campaign to stall a Municipality project for reclamation of lagoons without an Environment Impact Assessment. Presently, the organisation is also involved in documenting case examples related to post-tsunami rehabilitation activities, a project facilitated through the SAYEN Secretariat, at CEE and supported by Oxfam America.
Strengthening EE at Primary Level: Felt Needs

These reflect the observations and suggestions from a wide range of stakeholders, as well as the critical review of textbooks, personal observations, visits and interactions of the CEE team to different departments of the government, schools, NGOs and individuals (see appendix - 3 for list).

Syllabus and Teaching-Learning Material

Textbooks do not adequately reflect the local content, culture, concerns and issues.

- While there is one unit in each grade textbook which brings in Maldives-specific information, the remaining lessons could also integrate suitable local examples and illustrations.
- Even where local examples are given, they are not linked with different aspects of life or environment e.g. lesson on Climate mentions the two monsoon seasons, but could also be linked with seasonal festivals, fishermen’s calendars, tourism etc.
- Overall there is much scope for linking different topics and lessons, rather than treating each as a discrete entity.
- Ultimately, environmental education is about interrelationships and linkages, and every opportunity needs to be used to introduce and highlight these.
- As per the revised syllabus, there is greater emphasis on the “activity approach”. However, it is still generally observed that students do not fully engage in the activities. This could have been due to several reasons:
  - The overall system is still exam-driven, and rests on rote learning. Parents and schools tend to put pressure for high academic performance with the objective of being able to tackle the external examinations at end of year 10 (O levels) and year 12 (A levels).
  - It is not common to take students outside the classroom for “outdoor” activities.
  - Teachers themselves are not suitably oriented to the “hands-on” approaches and not capacity built to carry out activity-based teaching.
  - Teachers’ Handbooks are not used by all teachers, either due to problem of
access (They have to be bought from the Ministry or downloaded), or because of lack of interest.

- Teachers’ Guides suggest activities which may not be suitable for islands other than Malé (e.g. traffic-related issues). There is a need for more activities which could be carried out on the different islands. Alternately, a system by which islands could include their local content and issues within a common framework needs to be worked out.

- There is no other supporting or supplementary resource material that could be used to illustrate, or enrich the textbooks, and classroom teaching-learning experiences.

- A database of local resource persons, organizations, institutions, available materials etc. could be very useful for schools. These could be called upon or used to enrich information and activities for programmes.

**Teacher Training**

- Training for ES requires not only an orientation to content, but more critically capacity-building for the effective use of participatory and hands-on teaching-learning methodologies. There are not sufficient/suitable resources (people and material) available to train teachers in these areas for ES.

- There is an overall shortage of qualified teachers for all subjects especially on the smaller islands. There is a large percentage of expatriate teachers who may not be well-informed about the local environment in its different dimensions.

- There is need for orientation and training programmes, as well as workshops for teachers, both pre- and in-service. These need to be ongoing and periodic rather than one-time in order to facilitate content and skill upgrading, as well as experience sharing and confidence building.
While a process to rework the ES syllabus and revise the textbooks is already on, some gaps remain and these need to be addressed. Some steps and measures to support the ongoing process and strengthen the base and pace of EE in the Maldives are suggested.

### Teaching-Learning Resources

**Teachers’ Handbooks**

Teachers’ manuals covering a variety of themes can help to supplement the existing material and provide teachers with a wider menu of activities and approaches for environmental education. These could be of several types:

- Activity and project ideas linked to concepts and topics in the textbooks.
- Activity and project ideas based on locations (site-specific e.g. beach, school playground, classroom, coral reefs, etc.)
- Thematic information and activity books e.g. fishes, corals, oceans, islands, waste, water, energy, etc. These would be in the form of one-book libraries which could help meet the need for sufficient and reliable information on local resources and issues (See Box for note on NatureScope, a similar publication series by CEE).
- Adaptations of relevant material developed by agencies in other countries, to suit the local context

NatureScope-India is a creative education series inspired by a prize-winning American teachers’ magazine called NatureScope, and adapted for use in schools in India. Each richly illustrated issue deals with a single theme and includes comprehensive background information and suggests ways of effectively teaching concepts related to that theme through a range of activities. Additional information with specific reference to the Indian context is also provided.
The series offers an easy-to-apply One-Book Library on each theme. The series is developed and produced by CEE-India.

**Exhibition Material**

Textbook concepts and lessons can be enriched and supplemented by posters, maps, and charts. These could be planned as per the felt needs.

**ACT NOW**

This is a set of nine posters aimed at an urban audience in India. Each poster deals with one issue—Water, Electricity, Transport, Waste, etc. The format is largely visual with supporting text that describes the environmental impact of each issue, related facts and data, and most important simple tips on how every individual can adopt these as a personal measure for improving the immediate environment and towards a more sustainable lifestyle.

An accompanying booklet provides guidelines on how the posters can be used as a framework to set up a full fledged exhibition including models, exhibits, and other interactive opportunities.
Eco-chart to Explore Diu

The objectives of the project was to develop useful class room material in the form of eco-chart for the island of Diu, a union territory in India. The target group for the chart was middle school students (Grade: 6 to 8).

The eco chart contains the map of the region with information highlighting natural and cultural sites and natural resources, information on eco-threats, information on national parks, wildlife sanctuaries and Ramsar sites (where applicable). Remote sensing image of the place with an accompanying write-up on Remote Sensing is also included.

The process for developing the eco-chart started with a teacher’s workshop organized to discuss the content. Based on this, information was collected through primary and secondary research. The draft chart developed was pre-tested in another teacher’s workshop and was finalized based on the inputs received.

For example, a set of posters on how individual actions can help conserve resources or protect environment can be developed.

Another possibility is developing “Eco Maps” for some of the islands/atolls. These are more than just maps, as they provide information about the geographical features as well as highlight spots of environmental or ecological significance, both natural and man-made (e.g. sea grass bed, mangroves, water treatment plant, waste segregation site, etc. The map also indicates the “hotspots” e.g. beach erosion, coral bleaching,
waste dumping, etc. Such maps can provide an excellent reference as well as starting point for “island specific” activities. Projects can grow around them as students continue to add on data and observations from their own investigations.

**Development Process for Resources:** The material would be developed through a process which involves subject experts to provide facts and data and verify information obtained; experts in education and pedagogy; NGOs active in EE programmes; and practicing teachers.

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### Adaptation: The CEE Philosophy and Process

**What is adaptation?**
Adaptation is the process of modifying/changing the information content, the visuals, the presentation style, etc. of an already developed product, through addition, deletion and/or substitution of relevant material. Through the process, existing material is made relevant to a new context in terms of its content, language, visuals, as well as use. However, the original philosophy and purpose of the product is retained.

**Why Adapt?**
Adaptation is a way in which a ready-made product becomes a tailor-made one and thus more useful for a specific situation/context or use. This helps make a product more useful and relevant to the specific audience/user/context. It helps prevent duplication of effort especially the basic research and design process of the product being translated and adapted. It is not a re-conceptualization process and thus must be done so as to maximize the efforts already made.

**The Process**
CEE works closely with the identified local agency in planning and implementing all the stages in the process:

- In case of translation, get a rough translation of the text done and laid out.
- Get together a workshop of subject experts, educators, and potential users teachers, forest officers, NGOs, representatives from relevant ministries, subject expert/researchers, etc.
  - This is a 3-day workshop, where the original in English distributed, and where required, the local language distributed. It starts with a session on the purpose to which the publication will be put and a session on what is adaptation. This is done by the persons who have developed the materials. A session by an eminent subject expert provide state of the art information on issues.
  - All possible reference books, papers in are made available the workshop.
  - Later in the workshop, participants break into groups, take one chapter each and go through it thoroughly, suggesting changes in text, information, illustrations, activities, examples/cases/action projects, etc. Give as much of the specific information as possible, and where information is not readily available at least suggest the source/person/institution from where the information may be sought.
  - Participants also go through the language version to see if the spirit is captured or another approach is needed.
In case of adaptation of materials from elsewhere, a similar process would be followed, but starting with the original material already developed. In case the material is to be developed in a language other than the original, the process followed is towards a trans-adaptation.

**Dissemination:** The handbooks could be disseminated as part of the teacher training programmes, as well as become part of the materials used for pre-service teacher training.

In case of the exhibit material, in case adequate sets/copies cannot be made available to individual schools, these can be kept at a convenient central location (e.g. a Teacher Resource Centre) from which schools could borrow and display the material.

**EE Resource Centre:** A small facility on every island/atoll can serve as an EE Resource Centre. This could be housed in a school, or any other public/community spaces. The centre can serve as a repository of EE resource materials—posters, maps, handbooks, reference books, etc.

Under an ongoing UNICEF-UNFPA project, Teachers’ Resource Centre (TRCs) are planned to be set up in all the atolls. This facility can also serve as an EERC.

**Capacity Building:** Strengthening the EE component in both in-service and pre-service teacher training programmes.

- **In-Service:** A module focusing on the What, Why and How of EE may become an integral part of all courses for primary teachers (see section on eco-clubs).

- **Pre-Service:** A similar module on EE could become a part of the syllabus offered by the Faculty of Education. A special training module can be developed for master trainers who would be the faculty for teacher training in the faculty. Relevant resource material for the same would need to be developed.
**EE in Teacher Education**

In collaboration with the National Council for Teacher Education (NCTE India), CEE has undertaken the responsibility of developing four Environmental Education (EE) Resource Books for use by various levels of teacher educators across the country. The project, titled ‘EE in Teacher Education’ is aimed to provide relevant teacher education material towards strengthening of EE in pre-service teacher training. The Resource Books are based on the EE syllabus of teacher education published by the NCTE. They are being written and developed at the four identified levels at which the teacher pupil (prospective teachers) would deal with—level 1 is for teachers of grades 1 to 5; level 2 for grades 6-8; level 3 for grades 9 and 10 and level 4 for grades 11 and 12.

It is proposed to field test the Resource Books with teacher educators and agencies such as District Institutes for Education and Training; Colleges of Education. It is further proposed to conduct, based on the Resource Books, orientation programmes in EE for selected master trainers working as teacher educators within the pre-service teacher training system across different regions of India.

- **Distance Education**: A strong EE component can be infused into the existing programme being offered by the Centre for Open Learning. In addition, a special diploma in EE can be offered to in-services teachers which would equip them to teach ES in addition to other subjects (See note on Green Teacher programme being offered by CEE).

These programmes could be introduced with necessary adaptations through collaboration with local partners.
Green Teacher: In-service teacher training through open and distance learning

The Green Teacher Diploma in Environmental Education is a distance-learning course designed by Centre for Environment Education, India, in partnership with and support from the Commonwealth of Learning, Vancouver, Canada. The Course offers practicing teachers and environmental educators an opportunity to empower themselves with the requisite knowledge and skills to effectively transact EE. Besides strengthening practicing teachers’ skills in EE, the course also provides the much required opportunity to teachers for sharing their experiences with each other. Green Teacher has relevance to not only practicing teachers in India, but also for teachers from the neighbouring countries. In the last two years, a few teachers from outside India have also expressed interest in joining the Programme. With this feedback, the Green Teacher is now being developed as an on-line training-learning programme, Green Teacher online.

Experiential Learning for Students

- Eco-clubs:

An eco-club is a voluntary association of students which promotes their participation in action projects on environmental issues and thereby helps them to learn about and improve their immediate environment.

Within the formal educational system, eco-clubs can help:

- Create awareness and sensitivity among individuals to the total environment and its allied problems.
- Impart knowledge to help individuals gain a variety of experiences in, and acquire a basic understanding of the environment and its associated problems.
- Build attitudes and to help individuals acquire a set of values and feelings of concern for the environment, and the motivation to actively participate in environmental improvement and protection.
- Teach skills to help individuals identify and solve environmental problems.
- And, lead the students towards action to help solve these problems and take corrective measures.
In Maldives, the eco clubs initiative at a preliminary stage. While the Ministry of Environment, Energy and Water promotes setting up eco-club in schools to involve students in environment related activities, but there are no formal guidelines yet for those wishing to have eco-clubs in worth.

Two schools visited in Maldives had an eco-club. Details are on page 28-31.

**National Green Corps: Eco-clubs initiative in India**

Ministry of Environment and Forests, Government of India has initiated the National Green Corps (NGC) programme to motivate schools to form eco-clubs. Every district in the country has formed at least 150 eco-clubs in urban and rural areas. The programme is facilitated through the District Education Office. A State Nodal Agency implements the programme in the schools. A support of Rs. 2500 per school per year is provided to schools to conduct eco-club activities.

An eco-club is a non-formal activity conducted with participation of 30-50 members, guided by a teacher in-charge. The activity calendar is linked to the annual school year programme. In keeping with this, each year at the start of the school year, teachers new to NGC go through training programme on EE approaches and planning for eco-club activities. (see appendix 6 - eco-club teachers workshop schedule and appendix 7 feedback form)

Eco-club schools are encouraged to undertake action projects on environmental issues of concern in their immediate neighbourhood. Activities to be conducted are decided based on the concepts focused in the curriculum. Resource agencies are contacted to ensure resource material support to the eco-club schools. At the end of the year, an inter-eco-club experience sharing event is organized.

- **Camping:** Some initiatives for camps have already proved popular (See Eco Care Camp on Ba atoll). The need is to be able to offer this opportunity to many more students. Every island can identify a suitable “camp site” and develop a 2-days module that would provide students with exposure to and experience of the different aspects of their immediate/local natural environment – especially the sea, coastline, marine life, birds, and vegetation. A common camping manual with generic basic information and menu of on site activities can be developed.
Inputs from specialist organizations like the Marine Research Centre, Environment Research Centre, as well as NGOs like Bluepeace can help compile the relevant and accurate information. Camps could be set up in collaboration with or by taking support from island resorts. It would be necessary to orient and train the camp organizers as well as educators. One potential cadre for this is youth who have completed A levels. They could undergo a certificate course and take up this role, either during the vacations, or on a regular basis. Alternately, the eco-club teachers could also undergo a special ‘camp facilitators’ programme.

**Eco Care Camp on Ba atoll**
Ba atoll Camp is organized by an NGO called ECO CARE. This is a one-week camp organized during school holidays, with about 100 children taking part in one camp. Usually there are two such camps every year—in April, and August.

For selection of students, ECO CARE sends flyers to all schools, inviting children who are actively involved in environmental activities. The school makes the final selection. Usually students from classes 6 and 7 are selected. Two parents and one teacher from each of the participating schools are also part of the camp. The Ministry of Education sends one person to participate.

The participants do not pay for the camp. The camp is held at a resort on the Ba atoll Island. The resort supports the stay and food for the participants, from part of the revenue generated through tourism. In actual terms, the cost for the camp works out to USD 30,000 to 40,000.

The camp objective is to expose and sensitize children to the natural environment. This is especially important for children from Malé who have less opportunity to do this. The experience of the traditional way of life in Maldives is provided to the participants in all aspects.

The children travel by *dhoani* (traditional fishing boats) to Ba atoll. This trip takes more than half a day, and often the sea is rough. From Ba atoll which is used as the base camp, children are also taken to other islands, some of them with small local population or uninhabited. They live in tents, travel in traditional boats, eat the local food prepared by the islanders, bathe in the traditional way by using *dhani* and drawing water from wells. All the waste/garbage produced by them is taken back with them.
This one week of experiencing nature has a profound and long lasting effect on children according to the camp organizers. Mr. Mohamad Zahir, Director of Eco Care relates how many young people who are today on the staff of the Ministry of Education and Ministry of Environment, as well as students in secondary schools who are leaders of school environment clubs, attribute the starting point of their interest in environment to their participation in one of the Ba atoll camps.

The Ba atoll programme is now recognized by the government, and has received the President’s Green Leaf Award, the highest award for environment in the Maldives. The Sunerva Fushi Resort, which supports the camp has received a Green Resort Award.

**Camping: CEE Experiences**

Sundarvan, a Nature Discovery Centre of CEE, conducts nature camps to promote environment education through field activities and expose people to the therapeutic influences of outdoor living. The camps are excellent tools for introducing many school concepts that are normally taught using textbooks. One of the marine camps organized by Sundarvan is at Beyt Dwarka, Gujarat, India.

Dwarka is situated off the Okha Port in the Gulf of Kachchch in Gujarat. The sea surrounding the campsite has rich algal beds. The marine life that can be spotted during the camp include sponges, jelly fish, sea feathers, sea anemones, bristle worms, corals, mollusks, barnacles, crabs, starfish, sea cucumbers, marine turtles, sea snakes and dolphins. Winter brings migratory birds to the sea.

A typical marine camp is of 3 nights and 4 days duration. The camp commences with a welcome of participants at the campsite and introduction to the camp staff. Outdoor etiquette is explained before assigning shelters for lodging. After dinner, the objectives of the camp are discussed.

The next day begins with a sunrise dip in the sea. After breakfast, follows a talk on the marine environment. Participants explore the seashore before grouping for bathing in the sea. After lunch and rest, nature games and learning some skills on knotty matters concerning the use of ropes are conducted. After an early dinner, campers engage in star gazing.

The third day opens with the usual dip in the sea. Depending on the tide, breakfast is either served or packed and carried to be eaten during a visit to the coral reef. The group returns to
the campsite for sea bathing, a late lunch and rest. During evening, after tea, some nature games are played. A final round of discussion is followed by a sunset watch. Feedback from the participants is gathered and the camp concludes with a post-dinner cultural programme. Next morning after breakfast, participants depart.

These camps provide practical experience in living in natural surroundings and instill basic values that promote harmonious interactions with elemental nature.

The Vision 2020, as declared by His Excellency, the President of Republic of Maldives, has components under the three pillars of Sustainable Development—economic, social and environmental. Following this, a number of strategies for implementation of the various programmes under the Vision 2020 were initiated. These included National Population and Development Consolidation Strategy, Regional Development Plan and The Tourism Development Plan.

In the context, an important initiative would be reviewing and reorienting education so as to infuse the environmental and sustainable development dimensions. This report has attempted to undertake such a review with the objective of greening the curriculum. There are a number of Government Departments/ agencies who are facilitating a variety of environmental education activities in schools in Maldives. These include Ministry of Environment, Energy and Water; Ministry of Education and

The Way Forward
their departments such as Education Development Centre, Curriculum Development Centre and Professional Development units; Ministry of Agriculture; Fisheries Department; Environment Resource Centre, Marine Research Centre, Non-formal Education Department, UNICEF, UNIFPA and NGOs such as Bluepeace, Live and Learn, Eco-care and Butterflies.

Many of these efforts are in isolation and there are not enough mechanisms to consolidate such efforts. There is a need from schools for resources and each of these has several such resource materials. Schools, depending upon the availability of time and contacts, get in touch with relevant agencies and obtain resources. Need is expressed by the schools to have a list of such agencies, experts and their area of expertise and resources available, so that the same could be used by the schools to strengthen EE.

Upon discussions, each of the agencies has expressed a need for a platform where each of the agencies could share their ideas and resources and work together. A country level network is a key towards this.

Maldives is rich in marine resources. Marine camps could be a good resource to impart EE. It is necessary to set up modules which could be used by young entrepreneurs to run nature education camps. Training programmes for the same could also be initiated.

Eco-clubs is an excellent effort of the MEEW. The model needs to be streamlined and processes and mechanism put in place to motivate students and schools to conduct activities. Scaling up of the activity into a national movement will help create a strong and vibrant cadre of young environment activists.

There is a growing need for appropriate resource materials, activity kits and reference materials by schools. CEE has developed several activity kits and reference materials which could be very well adapted to Maldives (adaptation process explained in the report). Again, since most of these materials are in English, they can easily be adapted.

Therefore, some important steps towards greening curriculum in Maldives include:
1. Better interaction with and within Government departments and agencies working on EE in Maldives for optimization of resources and expertise
2. Development and dissemination of appropriate resource materials
3. Training and capacity building of EE facilitators at all levels
4. Strengthening networking within the country and with international agencies.
About the Project

Centre for Environment Education (CEE) with UNEP, Asia and the Pacific is working on a project “Environment Education (EE) in Schools”. Reports developed as part of this project are expected to feed into UNEP’s regional strategies specifically in one of the goals on establishing and hosting a Regional Environment Knowledge Hub. This Hub will support environment educators through information on relevant issues, research projects etc. The present project is an initiative towards this goal.

As part of the project, following activities are being undertaken:

1. Analysis of existing EE initiatives in primary schools in South Asia and developing recommendations to strengthen EE in the sub-region.

2. Based on the above, developing a suggestive guidelines (step-wise procedure) on how to green curriculum.

3. Developing a report on Youth to Schools in the sub-region.

A team of experts from CEE visited Maldives and met key stakeholders involved in EE in primary schools. Based on this, an analytical report along with recommendations has been developed on strengthening EE in Schools in Maldives.

Methodology

The project used a Case study approach wherein the status of EE in Maldives was studied in detail through a review of secondary sources, personal interviews with a cross-section of key respondents and primary data collection and observations through field visits.
Background information on Maldives, its environmental issues in general was gathered through a study of documents from the UNEP, such as the State of Environment in South Asia, and from information available on the internet. Baseline information was gathered on the status of EE in Schools through a curriculum and syllabus review. These and other relevant data on the initiatives by various organisations in this sector were obtained through secondary sources such as project reports and documents.

Based on the baseline information available, a research brief was developed which included the critical research areas (see appendix – 2) and key respondents (see appendix – 3). At the local level in Maldives, the study was facilitated by South Asia Youth Environment Network (SAYEN) member, Bluepeace. Mr. Mohamed Shujau, a senior member of Bluepeace, worked with the team on planning the study and at the local level, in the organizing of interviews and field visits. SAYEN, as the name suggests is a network of youth organisations and youth in South Asia working towards achieving the goal of sustainable development. This network is supported by the UNEP and facilitated through a Secretariat hosted by CEE.

A team of three persons, Ms. Mamata Pandya, Ms. Madhavi Joshi and Mr. Gopal Jain from CEE visited Maldives to carry out the study. The team held interviews with a range of key respondents involved in EE in the country. All relevant documents were collected and studied to further understand the status of EE in Maldives. Field visits to two schools and meetings with the staff helped gain better understanding of the implementation of EE at the school level. Visits to two islands – one man-made and another, a resort, and to facilities for waste management and power generation, helped gain better perspective about the environmental challenges to Maldives.
APPENDIX 2

Research areas

1. Text books-
   a. Content and activities with respect to expected knowledge, skills and attitudes (leading to practice) to be learnt (also level)
   b. Content and activities with respect to locale specificity, accuracy, appropriateness, comprehensiveness, consistency, bias - gender, rich vs. poor, regional, caste, etc and action link
   c. Infusion of overall educational curriculum with environmental concerns, whether text books reflect this orientation through different subjects and at different levels.

2. NGOs - (Those involved in EE in Schools; Youth groups working on Youth to Schools)
   a. Whether they are involved in curriculum development also?
   b. Do they run eco-clubs/ organise camping/ nature visits/ bird watching/ other related activities?
   c. Whether involved in providing resources for schools to support projects?
   d. Whether involved in developing supplementary material?
   e. Any other relevant activity
   f. Suggestions, if any, on Greening Curriculum

3. Schools-
   a. Infrastructure/ other facilities/ opportunities for EE
   b. Time, space and resources available
   c. Curricular/ co-curricula activities related to EE
   d. School time table - spaces for EE
   e. Involvement of local resource agencies/ communities groups/resources for EE
   f. EE projects/ activities linked to curricula
   g. Question papers - whether EE oriented evaluation?
   h. Teachers- their orientation; processes and mechanisms undertaken by them for EE; initiatives undertaken by them for infusion; approaches use for teaching whether focusing on “learning by doing”?
   i. Students - freedom to ask questions
      - students’ interest in asking questions; initiatives - info to action; creativity?
j. School Management - level of support in terms of time and resources for EE
k. Parents - whether supportive attitude for EE?

4. Pre-service teacher training
   a. Orientation to EE approaches (lecturers and students)
   b. Inclusion in curriculum

5. In-service
   a. Refresher course to ensure efforts by teachers

6. Education Department
   a. Initiatives towards providing opportunities for EE in schools-
      curricular/ co-curricular/ extra curricular
   b. Any supplementary materials for EE
   c. Accreditation system for EE - inspection; EE Programmes in form of eco-clubs, camps

7. Resource Institution
   a. Are there any existing orientation programmes on EE in resource institutions such as zoos, nature parks, sanctuaries and green spaces

APPENDIX 3

List of People meet with, and Organizations visited in the Maldives

1. Mr. Mohamed Zaheer
   Director, Biological Diversity, Ministry of Environment, Energy and Water
   Government of Maldives
   (Also contact person for Eco Care)

2. Mr. Ahmed Saleem
   Deputy Director, Environmental Resource Centre
   Ministry of Environment, Energy and Water
   Government of Maldives

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3. Ms. Naashia Mohamed (curriculum development) and  
Ms. Nahid Shakir (curriculum development and teacher training)  
Professional Development Centre, Educational Development Centre,  
Ministry of Education

4. Dr. Naseer  
Department of Fisheries  
Ministry of Environment, Energy and Water  
Government of Maldives

5. Mr. Shiham Adam  
Executive Director, Marine Research Centre,  
Ministry of Fisheries, Agriculture & Marine Resources,  
M. White Waves, Moonlight Higun, Male 20025; Republic of Maldives.

6. Mr. Christian Nielsen  
Regional Director, Live & Learn Environmental Education  
Private Mail Bag: 2, Denison Road, Fiji Islands

7. Mr. Jady Smith  
Regional Environmental Education Adviser  
Live & Learn Environmental Education  
Ministry of Environment, Energy and Water  
Government of Maldives

8. Mr. Ali Rilwan and Mr. Mohamed Shujau  
Bluepeace, Maldives

9. Amjad Abdulla  
Director, Strategic Policy  
Ministry of Environment, Energy and Water  
Government of Maldives

10. Ms. Gulfishan  
Curriculum Development Centre  
Ministry of Education  
Maldives
Hulhumalé is a manmade island developed to accommodate and settle people from overcrowded Malé with its population of over 1,00,000 on an area of less than two square km. The reclamation of the reef to create the island started in 1997. The first inhabitants moved to the new island in 2004. The area is about 2 square km almost the same as Malé.

At the end of 2006, the island has between 5000 to 6000 inhabitants. Most people inhabiting Hulhumale still work in Malé, and take the ferry back and forth - a 20 minute ride one-way. So, some people are on the island only for the night. Some are there for weekends. Thus, population figures vary.

The island falls under the administration of the Malé Development Corporation. As part of future expansion plans for the island, it is planned that a nearby natural resort island will also become part of Hulhumalé when the water and reef area between the two will be reclaimed to make it a continuous land stretch in about seven years. The Hulhumalé Island is soon to be connected to the airport by a road.

Infrastructure

Hulhumale island is self-contained in terms of basic services and facilities. The buildings are constructed by the government. In housing blocks, flats are given to individuals who have to pay approximately Rufiya 3,500 per month, for 30 years. Most of the island is being developed by the government. Recently, some of sea front lots were auctioned and sold for private building. In one part of the island which will have the industrial zone, plots for setting up industries will be given on a 25 year lease to interested parties. The structure for a fish processing plant is nearing completion.

One of the first areas to be reclaimed on this island is at the moment being used as a storage area for empty containers of ship cargo from Malé Port. These are stacked and kept till the ships take them back.

In terms of other facilities there is a hospital, also a new mosque built from donation given by Emir of Qatar.

The islanders can buy their daily necessities from shops located in a commercial area. There are bids for getting space to open shops. Some small shops also operate from homes. All products sold from the shops come from Malé.
The island has its own power plant. Power generation is diesel-based. The diesel is brought to the island from outside. As for drinking water and its use for other purposes, there is a water desalination plant.

All houses have electric and water metres. There are different charges for different categories of water use. For domestic use, it is Rufiya 25 per metre cube. Beyond a certain limit, there is a higher rate. Also a different rate is charged for commercial use.

The telecommunication centre on the island is run by Wataniya, an Arab company.

There is also a greenhouse for a nursery which raises saplings of plants to be planted on the island.

Roads are very broad and made of concrete. One particular long straight road is used by people from Male for fast motor bike riding.

The island has some temporary shelters built in the Tsunami Rehabilitation Centre where people from nearby Tsunami affected islands were housed. Some people still continue to be there.

The Hulhumalé island sides are reinforced by steel piping putting sheets of steel and concrete deep into the coastline along the edges into the sea.

**Waste:** The sewage is pumped directly into the deep sea, over the ridge, by pipes. Littering of the beach strip by day tourists from Malé is also a problem. Household waste is thrown in a common garbage dump. The unsegregated waste is collected (usually once a day) by the Municipality and transported in bags, by boat, to the Thilafushi garbage island. Several nearby islands, including Malé, dump garbage at Thilafushi.

A new dumpsite is being allocated for construction waste on Hulhumale.

**Natural Components**

The water around the island is calm and the area acts as a natural harbour where many private boats including local, yachts and cruise boats and anchored.

While the entire island is “created”, now a natural beach is developing. Remains of dead corals lie around in the white sand. The water nearby has small coral patches and patches of sea grasses.

There is some natural vegetation on the beach. Some creepers grow and spread on the sand such as *Kuredi*, a shrub with small thick leaves. The leaves are salty and edible and used in salads.

Another bush/small tree plant with light green leaves has been planted all over the island. This attracts lots of yellow butterflies.

The plantation has been part of the two million tree programme initiated by the President of the Maldives.
Some of the plants planted under this though, were washed away when Tsunami hit the island. The eastern part of the island was affected by the Tsunami, during which a small building was destroyed and no casualties were reported.

There are a few cows given to the islanders which are temporarily housed on the island. These are a popular attraction for locals, who have no traditional link to these foreign species, and therefore treated like “zoo animals”.

Hulhumalé Island is set for a big expansion and further development in the next five years as more people move and settle here. This is showcased as an innovative and practical approach to tackling the issue of population pressure on Malé island.

The President has got a lot of credit for the project for a development initiative that centralizes people and is planned for more effective resource utilization.

As the island inhabitants proudly say “The Future is Here!”
Environment Studies Syllabus

What is “Environmental Studies?”
Environmental studies is not only teaching about the environment. It is also about the people and the effect of their life on the environment.

Environmental education emphasizes the exploration of attitudes and values, and the development of the knowledge and skills so that people will actively participate in decision making in the world around them.

Environmental Studies or rather environmental education need not be a subject specific content area. It should be an educational process of the five important elements:

Awareness, Knowledge, Attitude, Skills and Participation
The acquisition of these objectives would undoubtedly foster sustainable development of the environment.

Aims of Environmental Studies

• To help students develop the skills necessary of the investigation and sustainable development of the total environment and for identifying and solving environmental problems.
• To help students acquire cultural and social values and strong feelings of concern for the environment.
• To help students acquire an awareness of and sensitivity to the total environment.
• To help students develop a basic understanding of the total environment and the inter-relationships and help them acquire the motivation for active participation in environmental improvement and protection.
• To help students identify alternative approaches and make informed decisions about the environment, based on ecological, political, economic, social and aesthetic features.
• To provide students with opportunities to be actively involved at all levels in working towards the resolution of environmental problems.
**Objectives of Environmental Studies**

Environmental Education is an educational process made up of five elements.

**Awareness**

Environmental education seeks to build awareness. It builds not only a sensory awareness of the world around us, but also an awareness of social and cultural issues and problem-solving strategies. It helps students to become aware that there are choices they can make as consumers, and that there are many implications to the choices they make.

**Knowledge**

Increased awareness encourages students to improve their knowledge and understanding of natural, social, political and economic processes. Stories could connect past and future. Environmental problems in our own country could be related to similar incidents around the globe. This could illustrate “the interconnectedness of the world.”

**Attitudes**

Students’ attitudes may change or mature as they develop a deeper appreciation of and respect for the natural world and for individual people and cultures. When they realize that their actions make a difference, they feel a greater responsibility to the environment and would begin to pursue other environmental endeavors.

**Skills**

The development of process skills involves teaching students “how to think, not what to think.” This enables them to become more effective decision makers. Decision making skills include: critical thinking and communication, analysis and observation, negotiation and conflict resolution and the ability to identify and clarify values. Environmental education is a way to teach students analytic and provide opportunities to investigate real issues that affect them personally.

**Participation**

Ultimately, the goal of environmental education is to encourage students to apply their knowledge, skills and commitment outside the classroom, in every aspect of their life; and for students to participate in decisions. Participation can mean personal behavior, or involving oneself in decisions affecting the school, neighbourhood or community.
Environmental education is a way of “helping students know that they can make a difference.”

Environmental education (studies) is distinct from previous educational strategies. It stresses the combination of values, exploration, knowledge, and skill development, sustainable development and a commitment to be an active participant. By including both the natural and human built environment, and by encouraging people to develop a sense of responsibility for their total environment.

Environmental education (studies) addresses the heart of the environmental problems and solutions that is, human behaviour.

**The structure of the learning area**

Environmental Studies is a diverse part of the National Curriculum. To assist schools to plan the teaching / learning activities effectively, this syllabus is divided into five units.

- Unit 1 : The People
- Unit 2 : The Earth
- Unit 3 : Living Things
- Unit 4 : The Changing World
- Unit 5 : Interdependence

These units are sub divided into various topics which include student centered activities. The activities are designed in such a way that the students will play a very active role in collecting information, analyzing, presenting and in some cases even in self evaluating.

We recommend that teachers should only guide the students, and hope that teachers will not over-assist them. Skill development and real experience, which is at the center of activities in the syllabus should be emphasized.

It is hoped that students will develop basic skills and information required to protect, sustain and improve quality of the environment. Positive thinking and action in this regard should be achieved through the syllabus.

These five units are described and the main objectives of the units are as follows:

**Approaches to teaching and learning in environmental studies**

The lessons and activities suggested in Environmental Studies teaching / learning materials is based in the inquiry method of learning. This syllabus encourages students
to ask questions and to actively search for their answers. This method also enables teachers to design an extensive range of teaching strategies to address the needs of the students in the classroom.

Inquiry-based method of learning is based on the following activities:

**Investigation**
This develops students’ skills in researching, processing and interpreting data. It is the foundation for predicting possible solutions to problems, constructing hypotheses, considering different approaches, and designing methods for gathering, organizing and processing information.

**Communication**
This develops students’ skills in using all forms of communication—spoken, written, graphic and statistical. Students learn to collect, process, analyse and present information using a range of formats and a variety of media.

**Participation**
This develops students’ skills and confidence in collaborative work and decision-making. Students are encouraged to value the relevance of these skills to their own lives and futures.

Application of the inquiry method should include:
- teacher assistance from dependence to independence
- progressive development of students’ skills.
- use of a range of scales
- increasing complexity of materials and product.
### Summary of Inquiry Strategies

<table>
<thead>
<tr>
<th>Grade</th>
<th>Investigate</th>
<th>Communicate</th>
<th>Participate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Gather and record information from direct experiences.</td>
<td>Prepare information for an audience by describing, drawing and role-playing.</td>
<td>Join in a group activity.</td>
</tr>
<tr>
<td>2</td>
<td>Identify, compare and categories data. Relevant information.</td>
<td>Express a personal view on the meaning.</td>
<td>Contribute to a class activity</td>
</tr>
<tr>
<td>3</td>
<td>Ask questions and use a variety of sources of information.</td>
<td>Present information to examine a key idea.</td>
<td>Assume responsibility</td>
</tr>
<tr>
<td>4</td>
<td>Use different types of data to gain information.</td>
<td>Translate information from one form to another; for example, explain in speech and writing information from a graph.</td>
<td>Apply suitable strategies to a purpose.</td>
</tr>
<tr>
<td>5</td>
<td>Recognise significant issues in an area of investigation.</td>
<td>Use supporting evidence to acknowledge different view points.</td>
<td>Work cooperatively to achieve a common goal.</td>
</tr>
</tbody>
</table>
## Developing Annual Action Plan on Energy Education for Eco-clubs

A 3-day Eco-club Teachers Workshop
Programme Schedule

### Day 1

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>9.30</td>
<td>Registration</td>
</tr>
<tr>
<td>10.00</td>
<td>Welcome &amp; About the Workshop</td>
</tr>
<tr>
<td>10.30</td>
<td>Programmes &amp; Projects of CEE</td>
</tr>
<tr>
<td>10.45</td>
<td>Introduction &amp; Expectation of Participants</td>
</tr>
<tr>
<td>11.00</td>
<td>Tea</td>
</tr>
<tr>
<td>11.15</td>
<td>Ice-Breakers</td>
</tr>
<tr>
<td>12.00</td>
<td>What is EE? Approaches to EE</td>
</tr>
<tr>
<td>13.00</td>
<td>Lunch</td>
</tr>
<tr>
<td>14.00</td>
<td>Learning through Games</td>
</tr>
<tr>
<td>15.00</td>
<td>Tea</td>
</tr>
<tr>
<td>15.10</td>
<td>&quot;Act Now&quot; - An Interactive Exhibition</td>
</tr>
<tr>
<td>16.10</td>
<td>EE through Role play</td>
</tr>
<tr>
<td>17.00</td>
<td>EE through Live Animals: A visit to Zoo</td>
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</tbody>
</table>

### Day 2

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<th>Time</th>
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</thead>
<tbody>
<tr>
<td>10.00</td>
<td>Eco-clubs and Energy - Nature and Sources of Energy</td>
</tr>
<tr>
<td>11.15</td>
<td>Tea</td>
</tr>
<tr>
<td>11.30</td>
<td>Eco-clubs - What, Why, How?</td>
</tr>
</tbody>
</table>
12.45    Programmes and Activities on Energy
   The Eco-club Experience
13.00    Lunch
14.00    Visit to Power Plant
   - The Power Scenario in India
   - Simple Conservation Measures

Day 3

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.00</td>
<td>Identification of themes for the Action Projects</td>
</tr>
<tr>
<td>11.15</td>
<td>Tea</td>
</tr>
<tr>
<td>11.30</td>
<td>Action Plan Development</td>
</tr>
<tr>
<td>16.00</td>
<td>Presentation of Action Plan and Valedictory Function</td>
</tr>
</tbody>
</table>
Developing Annual Action Plan on Energy Education for Eco-clubs

A 3-day Eco-club Teachers Workshop
Eco clubs Workshop Feedback Form (Sample)

We would like you to answer the following questions, which will help us in knowing how effective and useful the workshop has been to you. This will help us in evaluating and improving ourselves.

Name of the Workshop:
Date
Name and address of the Participant:
(Optional)

1. What did you expect to achieve through this workshop? Were your expectations met? If yes, how well? If not, what was missing?

2. In what way would you be able to use this experience in your work?

3. What are your overall impressions about this workshop?

4. How satisfied are you with the following?
   * Venue          * Time allotted for sessions
   * Accommodation  * Organisation of the programme
   * Food           * Resource Material

5. What did you like most in this workshop? What did you not like about the workshop?

6. What are your suggestions to improve such workshops in future?