

GE 2211 Environmental Science and Engineering

Unit – I

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# Introduction to Environmental Studies

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- Introduction to Environmental Studies - definition, scope and importance – need for public awareness

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# Definition and Scope

- **Environmental studies** is the systematic study of human interaction with their environment.
- **Scope** - It is a broad field of study that includes the natural environment, built environments, social environments, organizational environments, and the sets of relationships between them.
- The discipline encompasses study in the basic principles of ecology and environmental sciences as well as the associated subjects such as policy, politics, law, economics, social aspects, planning, pollution control, natural resources, and the interactions of human beings and nature.

# History of the Subject

- The demand and creation of this subject as a core one for all engineering courses is associated with the growing environmental concerns of global climate change, biodiversity loss, pollution and environmental sustainability
- Earlier, Pollution control / Environmental Engineering was offered as one of the elective subjects in Chemical Engineering and Civil Engineering curriculums
- 20-July-2004: Supreme Court of India's directive to create environmental awareness among students, due to contempt petition filed by noted environmental lawyer M C Mehta complaining that no action was taken to implement its 1996 direction that environment be made as a compulsory subject at all levels of education
- An all-India directive from the Supreme Court ordered that Environmental Education (EE) be introduced as a compulsory subject starting from Std. I onwards in all schools.
- Introducing Environment Education at the school level is the right move, as attitudinal changes can be brought about more easily with young minds.
- Children present a primary target group for public awareness activities.

# Need for Public Awareness

- The main reason for this environmental deterioration is clear the lack of public awareness, and also the lack of expertise to provide national planners and policy makers with appropriate knowledge to integrate environmental considerations into planning
- There is still a considerable lack of awareness of the interrelated nature of all human activities and the environment, due to inaccurate or insufficient information. Developing countries in particular lack relevant technologies and expertise.
- Promoting environmental knowledge and enhancing public awareness seem to be the most urgent goal in environmental protection
- Environmental education implies a new way of thinking through which Man can live in harmony with nature. In such a system, values, feelings, personal and professional responsibilities, and even people's behavior patterns, which will eventually all merge in social actions, must be realized in harmony with natural processes.
- The objective is to promote broad public awareness as an essential part of a global education effort to strengthen attitudes, values and actions which are compatible with sustainable development

# Public Awareness in India

- Environmental education, both through formal and non-formal routes, is an important medium for creating awareness about climate change among children and youth
- The fortnightly magazine *Down to Earth* is having highest number of articles related to climate change of any periodical in India
- Among the mainstream English news papers, *The Hindu* carried the maximum number of climate change news and articles
- Among the financial news papers, *Business Standard* had the highest coverage



The Hindu, 29-June-2009, He Zongying Zack, Earth Studies in Focus

# World Environment Day

- 5<sup>th</sup> June
- World Environment Day was established by the United Nations General Assembly in 1972 to mark the opening of the Stockholm Conference on the Human Environment. Another resolution, adopted by the General Assembly the same day, led to the creation of UNEP (United Nations Environment Programme).
- World Environment Day, commemorated each year on 5 June, is one of the principal vehicles to stimulate worldwide awareness of the environment and enhances political attention and action.
- The World Environment Day slogan selected for 2009 is '**Your Planet Needs You! UNite to Combat Climate Change**' .

# Ozone Day

- 16<sup>th</sup> September
- Commemorating the date, in 1987 on which Montreal Protocol on Substances that Deplete the Ozone Layer was signed

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# Earth Day

- 22<sup>nd</sup> April
- Celebrated in the US on April 22, is a day designed to inspire awareness and appreciation for the Earth's environment.

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# ten things to do

Here are 10 simple things you can do and how much carbon dioxide you'll save doing them.

## **Change a light**

Replacing one regular light bulb with a compact fluorescent light bulb will save 150 pounds of carbon dioxide a year.

## **Drive less**

Walk, bike, carpool or take mass transit more often. You'll save one pound of carbon dioxide for every mile you don't drive!

## **Recycle more**

You can save 2,400 pounds of carbon dioxide per year by recycling just half of your household waste.

## **Check your tires**

Keeping your tires inflated properly can improve gas mileage by more than 3%.

Every gallon of gasoline saved keeps 20 pounds of carbon dioxide out of the atmosphere!

## **Use less hot water**

It takes a lot of energy to heat water. Use less hot water by installing a low flow showerhead (350 pounds of CO<sub>2</sub> saved per year) and washing your clothes in cold or warm water (500 pounds saved per year).

## **Avoid products with a lot of packaging**

You can save 1,200 pounds of carbon dioxide if you cut down your garbage by 10%.

## **Adjust your thermostat**

Moving your thermostat just 2 degrees in winter and up 2 degrees in summer

You could save about 2,000 pounds of carbon dioxide a year with this simple adjustment.

## **Plant a tree**

A single tree will absorb one ton of carbon dioxide over its lifetime.

## **Turn off electronic devices**

Simply turning off your television, DVD player, stereo, and computer when you're not using them will save you thousands of pounds of carbon dioxide a year.

Source: <http://www.pakistan.gov.pk/ministries/environment-ministry/images/Ten-Things.jpg>