# BHARATHIDASAN UNIVERSITY

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## Programme: M.P.Ed., Physical Education

**Course Title : Value and Environmental Education**
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## Unit – III
## Environmental Education


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# Environmental Education

Environmental education enables learners to develop a structure of knowledge about the world and seek knowledge that they can use and develop throughout their lives.

Environmental education empowers learners by enabling them to participate in a sustainable future. Thus the foundation for a lifelong learning is laid by environmental education.

# SCOPE OF ENVIRONMENTAL EDUCATION

1.The study creates awareness among the people to know about various renewable and nonrenewable resources of the region. The endowment or potential, patterns of utilization and the balance of various resources available for future use in the state of a country are analysed in the study.

2. It provides the knowledge about ecological systems and cause and effect relationships.

3. It provides necessary information about biodiversity richness and the potential dangers to the species of plants, animals and microorganisms in the environment.

4. The study enables one to understand the causes and consequences due to natural and induced disasters (flood, earthquake, landslide, cyclones etc.,) and pollutions and measures to minimize the effects.

5. It enables one to evaluate alternative responses to environmental issues before deciding an alternative course of action.

# SCOPE OF ENVIRONMENTAL EDUCATION

6. The study enables environmentally literate citizens (by knowing the environmental acts, rights, rules, legislations, etc.) to make appropriate judgments and decisions for the protection and improvement of the earth.

7. The study exposes the problems of over population, health, hygiene, etc. and the role of arts, science and technology in eliminating/ minimizing the evils from the society.

8. The study tries to identify and develop appropriate and indigenous eco-friendly skills and technologies to various environmental issues.

9. It teaches the citizens the need for sustainable utilization of resources as these resources are inherited from our ancestors to the younger generation without deteriorating their quality.

10. The study enables theoretical knowledge into practice and the multiple uses of environment.

# IMPORTANCE OF ENVIRONMENTAL EDUCATION

1. World population is increasing at an alarming rate especially in developing countries.

2. The natural resources endowment in the earth is limited.

3. The methods and techniques of exploiting natural resources are advanced.

4. The resources are over-exploited and there is no foresight of leaving the resources to the future generations.

5. The unplanned exploitation of natural resources lead to pollution of all types and at all levels.

# IMPORTANCE OF ENVIRONMENTAL EDUCATION

6. The pollution and degraded environment seriously affect the health of all living things on earth, including man.

7. The people should take a combined responsibility for the deteriorating environment and begin to take appropriate actions to save the earth.

8. Education and training are needed to save the biodiversity and species extinction.

9. The urban area, coupled with industries, is major sources of pollution.

10. The number and area extinct under protected area should be increased so that the wild life is protected at least in these sites.

# IMPORTANCE OF ENVIRONMENTAL EDUCATION

11. The study enables the people to understand the complexities of the environment and need for the people to adapt appropriate activities and pursue sustainable development, which are harmonious with the environment.

12. The study motivates students to get involved in community action, and to participate in various environment and management projects.

13. It is a high time to reorient educational systems and curricula towards these needs.

14. Environmental education takes a multidisciplinary approach to the study of human interactions with the natural environment.

15. Environmental study is a key instrument for bringing about the changes in the knowledge, values, behaviors and lifestyles required to achieve sustainability and stability within and among countries.

# NEED FOR ENVIRONMENTAL EDUCATION

- Environment is the basis of all life and therefore deserves proper care and management.
- If the environment is threatened on a continuous basis, numerous problems which would constitute a danger to human existence could arise.
- The environment is part of our cultural heritage which should be handed down to prosperity.
- Some resources of the environment are not easily replaceable and should be managed on a sustainable basis, to prevent the extinction of certain components of the environment such as plants and animals.
- There is need to enhance the sanity and aesthetic quality of our environment in order to promote healthy living.
- The environment is part of nature and needs to be preserved for its own sake.

# IMPORTANCE OF ENVIRONMENTAL EDUCATION

Manufacturing processes create solid waste byproducts that are discarded, as well as chemicals that flow out as liquid waste and pollute water, and gases that pollute the air. Increasing amounts of waste cannot be managed by natural processes.

These accumulate in our environment, leading to a variety of diseases and other adverse environmental impacts now seriously affecting all our lives.

Air pollution leads to respiratory diseases, water pollution to gastro-intestinal diseases, and many pollutants are known to cause cancer. Improving this situation will only happen if each of us begins to take actions in our daily lives that will help preserve our environmental resources.

We cannot expect Governments alone to manage the safeguarding of the environment, nor can we expect other people to prevent environmental damage. We need to do it ourselves. It is a responsibility that each of us must take on as ones own

# CONCEPT OF ENVIRONMENTAL EDUCATION

Environmental education is a multidisciplinary field that aims to teach people how to live sustainably in the natural world. It involves:

**Raising awareness**

**Developing skills**

**Taking action**

**Developing values**

**Making informed decisions**

# History of Environmental Education

. • The roots of environmental education can be traced back as early as the 18th century when Jean-Jacques Rousseau stressed the importance of an education that focuses on the environment in Emile: or, On Education.

• Several decades later, Louis Agassiz, a Swiss-born naturalist, echoed Rousseau's philosophy as he encouraged students to "Study nature, not books."

• These two influential scholars helped lay the foundation for a concrete environmental education program, known as nature study, which took place in the late 19th century and early 20th century

# History of Environmental Education

• The modern environmental education movement, which gained significant momentum in the late 1960s and early 1970s, stems from Nature Study and Conservation Education.

• Environmental education was born of the realization that solving complex local and global problems cannot be accomplished by politicians and experts alone, but requires "the support and active participation of an informed public in their various roles as consumers, voters, employers, and business and community leaders“

• Ultimately, the first Earth Day on April 22, 1970 – a national teach-in about environmental problems – paved the way for the modern environmental education movement.

# History of Environmental Education

Internationally, environmental education gained recognition when the UN Conference on the Human Environment held in Stockholm, Sweden, in 1972, declared environmental education must be used as a tool to address global environmental problems.

The United Nations Education Scientific and Cultural Organization (UNESCO) and United Nations Environment Program (UNEP) created three major declarations that have guided the course of environmental education.

# History of Environmental Education

**Stockholm Declaration**

- Capital of Sweden - June 5–16, 1972 - The Declaration of the United Nations Conference on the Human Environment.

**Belgrade Charter**

- October 13–22, 1975 - The Belgrade Charter was the outcome of the International Workshop on Environmental Education held in Belgrade, Jugoslavia (now Serbia).

**Tbilisi Declaration**

- A city of Georgia - October 14–26, 1977 - The Tbilisi Declaration "noted the unanimous accord in the important role of environmental education in the preservation and improvement of the world's environment, as well as in the sound and balanced development of the world's communities.“

# Celebration of Environmental Dates in India

- 24 JANUARY: INTERNATIONAL DAY OF EDUCATION
- 2 FEBRUARY: WORLD WETLANDS DAY
- 27 FEBRUARY: INTERNATIONAL POLAR BEAR DAY
- 3 MARCH: WORLD WILDLIFE DAY
- 14 MARCH: INTERNATIONAL DAY OF ACTION FOR RIVERS
- 18 MARCH: GLOBAL RECYCLING DAY
- 21 MARCH: INTERNATIONAL DAY OF FORESTS
- 22 MARCH: WORLD WATER DAY
- 23 MARCH: WORLD METEOROLOGICAL DAY
- 26 MARCH: ANNIVERSARY OF THE CHIPKO ANDOLAN
- 7 APRIL: WORLD HEALTH DAY
- 21 APRIL: WORLD FISH MIGRATION DAY
- 22 APRIL: INTERNATIONAL MOTHER EARTH DAY
- 26 APRIL: INTERNATIONAL CHERNOBYL DISASTER REMEMBRANCE DAY
- 28 APRIL: WORLD DAY FOR SAFETY AND HEALTH AT WORK

# Celebration of Environmental Dates in India

- 2ND SATURDAY OF MAY (AND OCTOBER): WORLD MIGRATORY BIRD DAY
- 20 MAY: WORLD BEE DAY
- 21 MAY: WORLD DAY FOR CULTURAL DIVERSITY FOR DIALOGUE AND DEVELOPMENT
- 22 MAY: INTERNATIONAL DAY FOR BIOLOGICAL DIVERSITY
- 31 MAY: WORLD NO-TOBACCO DAY
- 3 JUNE: WORLD BICYCLE DAY
- 5 JUNE: WORLD ENVIRONMENT DAY
- 5 JUNE: INTERNATIONAL DAY FOR THE FIGHT AGAINST ILLEGAL, UNREPORTED & UNREGULATED FISHING
- 7 JUNE: WORLD FOOD SAFETY DAY 8 JUNE: WORLD OCEANS DAY
- 15 JUNE: GLOBAL WIND DAY
- 17 JUNE: WORLD DAY TO COMBAT DESERTIFICATION AND DROUGHT
- 18 JUNE: SUSTAINABLE GASTRONOMY DAY
- 21 JUNE: INTERNATIONAL DAY OF YOGA
- 29 JUNE: INTERNATIONAL DAY OF THE TROPICS
- 1ST WEEK OF JULY: VAN MAHOTSAV (FOREST FESTIVAL)
- 11 JULY: WORLD POPULATION DAY
- 26 JULY: INTERNATIONAL DAY FOR THE CONSERVATION OF THE MANGROVE ECOSYSTEM
- 29 JULY: INTERNATIONAL TIGER DAY
- 9 AUGUST: INTERNATIONAL DAY OF THE WORLD'S INDIGENOUS PEOPLE
- 12 AUGUST: WORLD ELEPHANT DAY
- 29 AUGUST: INTERNATIONAL DAY AGAINST NUCLEAR TESTS

# Celebration of Environmental Dates in India

- 7 SEPTEMBER: INTERNATIONAL DAY OF CLEAN AIR FOR BLUE SKIES
- 16 SEPTEMBER: INTERNATIONAL DAY FOR THE PRESERVATION OF THE OZONE LAYER
- 22 SEPTEMBER: WORLD RHINO DAY
- 27 SEPTEMBER: WORLD TOURISM DAY
- 29 SEPTEMBER: INTERNATIONAL DAY OF AWARENESS OF FOOD LOSS AND WASTE
- 1ST MONDAY OF OCTOBER: WORLD HABITAT DAY
- 2ND SATURDAY OF OCTOBER (AND MAY): WORLD MIGRATORY BIRD DAY
- 13 OCTOBER: INTERNATIONAL DAY FOR DISASTER REDUCTION
- 23 OCTOBER: INTERNATIONAL SNOW LEOPARD DAY
- 24 OCTOBER: INTERNATIONAL DAY OF CLIMATE ACTION
- 24 OCTOBER: UNITED NATIONS DAY 31 OCTOBER: WORLD CITIES DAY
- 5 NOVEMBER: WORLD TSUNAMI AWARENESS DAY
- 6 NOVEMBER: INT. DAY FOR PREVENTING EXPLOITATION OF ENVIRONMENT IN WAR & ARMED CONFLICT
- 19 NOVEMBER WORLD TOILET DAY
- 2 DECEMBER: NATIONAL POLLUTION PREVENTION DAY
- 5 DECEMBER: WORLD SOIL DAY
- 11 DECEMBER INTERNATIONAL MOUNTAIN DAY

# Plastic Recycling

Plastic products have become an integral part of our daily life as a result of which the polymer is produced at a massive scale worldwide. On an average, production of plastic globally crosses 150 Million tonnes per year. Its broad range of application is in packaging films, wrapping materials, shopping and garbage bags, fluid containers, clothing, toys, household and industrial products, and building materials.

Once plastic is discarded after its utility is over, it is known as plastic waste. It is a fact that plastic waste never degrades, and remain on landscape for several years. Mostly, plastic waste is recyclable but recycled products are more harmful to the environment as this contains additives and colors

The recycling of a virgin plastic material can be done 2-3 times only, because after every recycling, the plastic material deteriorates due to thermal pressure and its life span is reduced. Hence recycling is not a safe and permanent solution for plastic waste disposal. It has been observed that disposal of plastic waste is a serious concern due to improper collection and segregation system.

# Plastic Recycling

## Harmful Effects of Plastics

Plastic is versatile, lightweight, flexible, moisture resistant, strong, and relatively inexpensive.

Those are the attractive qualities that lead us, around the world, to such a voracious appetite and overconsumption of plastic goods.

However, durable and very slow to degrade, plastic materials that are used in the production of so many products, ultimately, become waste.

Our tremendous attraction to plastic, coupled with an undeniable behavioral propensity of increasingly over-consuming, discarding, littering and thus polluting, has become a combination of lethal nature.

## Groundwater and soil pollution

Plastic is a material made to last forever, and due to the same chemical composition, plastic cannot biodegrade; it breaks down into smaller and smaller pieces.

When buried in a landfill, plastic lies untreated for years. In the process, toxic chemicals from plastics drain out and seep into groundwater, flowing downstream into lakes and rivers.

The seeping of plastic also causes soil pollution and have now started resulting in presence of micro plastics in soil.

# Plastic Recycling

## Pollution in Oceans

The increased presence of plastic on the ocean surface has resulted in more serious problems.

Since most of the plastic debris that reaches the ocean remains floating for years as it does not decompose quickly, it leads to the dropping of oxygen level in the water, severely affecting the survival of marine species. Materials like plastic are non-degradable which means they will not be absorbed and recycled. When oceanic creatures and even birds consume plastic inadvertently, they choke on it which causes a steady decline in their population.

## Dangerous for human life

Burning of plastic results into formation of a class of flame retardants called as Halogens.

Collectively, these harmful chemicals are known to cause the following severe health problems: cancer, endometriosis, neurological damage, endocrine disruption, birth defects and child developmental disorders, reproductive damage, immune damage, asthma, and multiple organ damage.

# Plastic Waste Management

## Types of Plastics

The Society of the Plastics Industry, Inc. (SPI) introduced its resin identification coding system in 1988 at the urging of recyclers around the country.

The seven types of plastic include:

1. Polyethylene Terephthalate (PETE or PET)
2. High-Density Polyethylene (HDPE)
3. Polyvinyl Chloride (PVC)
4. Low-Density Polyethylene (LDPE)
5. Polypropylene (PP)
6. Polystyrene or Styrofoam (PS)
7. Miscellaneous plastics (includes: polycarbonate, polylactide, acrylic, acrylonitrile butadiene, styrene, fiberglass, and nylon)

# Plastic Waste Management

**Reduce, Reuse, Recycle, and Recovery**

Plastic bags are popular with consumers and retailers as they are a functional, lightweight, strong, cheap, and hygienic way to transport food and other products.

Most of these go to landfill and garbage heaps after they are used, and some are recycled.

Once littered, plastic bags can find their way on to our streets, parks and into our waterways.

Although plastic bags make up only a small percentage of all litter, the impact of these bags is nevertheless significant.

Plastic bags create visual pollution problems and can have harmful effects on aquatic and terrestrial animals.

Plastic bags are particularly noticeable components of the litter stream due to their size and can take a long time to fully break down.

# Plastic Waste Management

**Reduce, Reuse, Recycle, and Recovery**

Many carry bags end up as unsightly litter in trees, streets, parks and gardens which, besides being ugly, can kill birds, small mammals and other creatures.

Bags that make it to the ocean may be eaten by sea turtles and marine mammals, who mistake them for jellyfish, with disastrous consequences. In developed countries billion bags are thrown away every year, most of which are used only once before disposal.

The biggest problem with plastic bags is that they do not readily break down in the environment. It has been found that, the average plastic carrier bag is used for five minutes, but takes 500 years to decompose.

# Plastic Waste Management

## Reduce, Reuse, Recycle, and Recovery

### Reduce

Plastic, of course, is uniquely problematic because it's non-biodegradable and therefore sticks around for a lot longer than the other forms of waste. Few small steps in day to day life would help to keep plastics a possible out of the waste stream. Some of these steps may include:

### Reuse

Reuse is a step up from recycling. It diverts plastic and takes pressure off the recycling services. In fact, reuse is the middle-man between reduce and recycle, and some would be surprised at how many opportunities for reuse there really are.

### Recycle

Recycling and re-utilization of waste plastics have several advantages. It leads to a reduction of the use of virgin materials and of the use of energy, thus also a reduction of carbon dioxide emissions.

# ROLE OF SCHOOL IN ENVIRONMENT CONSERVATION AND SUSTAINABLE DEVELOPMENT

Schools can play a vital role in environmental conservation and sustainable development by:

- **Teaching environmental awareness**
- **Encouraging sustainable practices**
- **Providing hands-on learning experiences**

# ROLE OF SCHOOL IN ENVIRONMENT CONSERVATION AND SUSTAINABLE DEVELOPMENT

- **Developing critical thinking and problem-solving skills**
- **Integrating sustainability concepts into the curriculum**
- **Creating a platform for community involvement**

Education for Sustainable Development (ESD) views education as a key to unlocking progress in global development