

**AN INTEGRATED EDUCATION FOR MAINTENANCE OF SUSTAINABLE
DEVELOPMENT WITH REGARD TO ENVIRONMENTAL ISSUES**

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“ABSTRACT”

The promise of sustainable development to meet the rising needs of current and future generations fails with the emergence of several environmental issues. Sustainable development is aimed at the attainment of a healthy non toxic environment, which ultimately creates an ecosystem with basic amenities necessary for its social, political and economic growth. The attainment of sustainability has to overcome innumerable hurdles like illiteracy, poverty, unemployment and the improper and misuse of natural resources. The concept of sustainable development is hindered owing to many factors like depletion in biodiversity, soil degradation, pollution (air, water, land, noise and radioactive) and improper waste management. Industrialization, urbanization, modern civilization, scientific revolution and population explosion are some additional factors that deter the attainment of sustainable development paving the way for the creation of a number of environmental issues. Proper conservation and protection is the crying need of the hour to protect our natural resources. Education thus plays an eminent role towards the achievement of the ultimate goal of a sustainable development. To meet this end and overcome the challenges of sustainable development an integrated holistic approach to education is of paramount importance.

Key words :Integrated, holistic ,Education, Sustainable development, environment issues, depletion, conversation.

INTRODUCTION

Ourenvironment, which etymologically means our surroundings, is the most precious gift of GOD to mankind. Our limitless great land, has the greatest treasure and is the physical base of biomass production for life supporting systems.

Brundland Commission defined sustainable development as the development with sustainability which fulfills the needs of today's generation and also promises the later generations to access their requirements. The ultimate goal of sustainable development is to maintain a harmonious relation between the environment, economy and politics. Hence the achievement of sustainability is of utmost importance in order to have a healthy environment comprising of clean and efficient natural resources.

Environment is the sum of all social, biophysical, biochemical and economical factors which constitute the basic needs in which an organism lives such as air, water, sunlight etc. Our environment consists of both biotic and abiotic elements. Environment of a place has never been static but keeps on changing sometimes gradually and at times drastically. However, It has got the capacity to maintain its homeostasis. Since, the beginning of human civilization, man started interfering and controlling nature in a number of hilarious ways leading to the devastation of forests, soil erosion, extinction of several species of flora and fauna, massive industrialization, urbanization, and pollution. The scientific and industrial revolution along with population explosion took it to the highest peak.

The inborn self cleansing property of the environment maintained it for sometime, but the senseless and greedy actions by human beings disturbed the ecological balance of the earth's ecosystem as a whole. Hence the concept of sustainable development collapsed on account of rising environmental issues, leaving no future for the human race. The current paper throws light on how education can help to achieve sustainable development in the midst of a large number of environmental issues.

Aims and objectives of Sustainable development.

Sustainable development aims to achieve the following perspectives in order to have a peaceful and sustainable world.

1. Healthy and clean environment
2. Proper arrangements of basic needs

3. Propelling economic growth
4. Enhancing living standards
5. Laws against exploitation of nature and natural resources

Hurdles in the attainment of sustainable development

Globally, the concept of sustainable development is facing a number of hurdles in its path like

1. Illiteracy
2. Poverty
3. Unemployment
4. Lack of proper institutions
5. Improper and misuse of natural resources

Sustainable Development and Biodiversity

A rich biodiversity is an indicator of a healthy habitat. Sustainable development can be achieved only when the environment is conserved and further improved for the overall well being, by the judicious use of all environmental availabilities. Mining activities in the rich forests which are an eminent source of minerals have depleted its thick canopy and biodiversity. Illegal trade of wild life, poaching of animals, arresting them in zoo's etc is descending the biodiversity. Inadequate disposal of waste materials causes many health problems affecting both the birth and mortality rate.

Sustainable development and deforestation

Forests are natural assets having immense value. They constitute an important source of food, fodder, timber and medicines as well. They help to reduce the Green House Effect and Global Warming. Unfortunately deforestation is being carried out at an alarming rate for the last several years to serve the purpose of forest dwellers, forest based industries, increased live stock population etc. Deforestation leads to heavy loss of green wealth and massive extinction of birds and animal species. Consequently the diverse habitats of the world and the ecological balance gets disturbed hazardously.

Sustainable Development and Soil Degradation.

Soil is one of the most significant ecological factor transformed by the weathering of rocks. Soil is a nation's private heritage and the capital of mankind. It is a dynamic natural body comprising of organic and inorganic minerals in which plants, animals and microbes make their home. But today soil is being eroded due to water logging, soil erosion, sanitization, alkalinization, landslides, forest fires etc. Modern agricultural practices introduce pesticides, herbicides and insecticides, which contaminate the land. Microbes and pathogens deteriorate the quality of soil. Soil also gets polluted chemically and biologically due to the addition of several chemical, metallic and radioactive pollutants. Floods, overgrazing, deforestation, wind erosion and eutrophication destroy the soil qualitatively and quantitatively.

Sustainable Development and Pollution

Personal, occupational and community air pollutants contaminate the air by adding dust, smog, smoke, mist and odour in the atmosphere. Means of transportation, thermal and nuclear power plants add innumerable polluting agents like lead, carbon monoxide, carbon dioxide, argon and chlorofluorocarbons into the atmosphere. Coal and Petroleum industries make the air poisonous. This leads to the Green House Effect and Global Warming because of the increased concentration of carbon dioxide in the air. The hole in the ozone layer increases the penetration of Ultra Violet rays and causes many skin problems and eye ailments.

Water bodies like rivers, lakes and oceans are being polluted by the influx of industrial biodegradable and non-biodegradable organic and inorganic pollutants. The waste from soap factories, paper mills, creameries, canneries, slaughter houses and from domestic activities destroy the purity of water. As a result, reduction in the quantity of dissolved oxygen and light penetration occurs in a wide range of water bodies. Use of this water by human beings leads to many diseases like dysentery, diphtheria, cholera, typhoid etc. A large number of radioactive elements discharged into the water bodies destroy the aquatic flora and fauna. Noise pollution also leads to hypertension, fluctuations in blood pressure, sleeping disorders and many other psychosomatic ailments. This exploits sustainability.

Sustainability and Waste Management

With rapid industrialization, intense urbanization and population explosion the municipal solid and domestic waste become a serious threat for sustainable development.

Sustainability and Conservation of natural resources

Conservation encompasses the maintenance of the original characteristics of our natural resources with their proper usage, preservation and protection from destructive agents. Conservation aims towards the maintenance of the ecological balance, biodiversity and sustainable utilization.

Projects like “Chipko Movement” of Tehri-Garhwal Region and “Silent Valley Project” in Kerala has helped conserve forests. The scientists belonging to The Central Arid Zone Research Institute (CAZRI) have designed “Jaltripiti” for greening the deserts. Strict laws are enacted and implemented to carry out forest administration and to prevent forest fires, deforestation and hunting. Afforestation is also being promoted. Wild life is being conserved through the implementation of “Project Tiger” “Project Elephant” , “Project Gir Lion”, “Project Crocodile” and many others. Several national parks and sanctuaries like Kanchenjunga National Park, Nangkhyliam wild life sanctuary etc are made to preserve germplasm.

Waste management technologies should focus on the use of scientifically sound and eco-friendly methods. The disposal of solid waste should be done by sanitary land filling, incinerations and composting. Open defecation should be banned, as it releases **furans and deoxins**. Segregation and pre-treatment of waste should be initiated. Recycling is an absolutely eco-friendly technology. Biotechnology and genetic engineering also helps to manage waste disposal.

Role of education in sustainable development.

On account of all the above our educational system has a pivotal role to play towards the conservation of the environment. The awareness disseminated by the educational system among the young minds will provide the necessary knowledge and skills for attaining sustainable development.

1) The school and college curriculum should ensure that adequate coverage is given to several environmental issues. Along with the theory component various skill based practicum

components linked to environment should also be introduced. Students could be given hands on training in various techniques like making paper bags for wet garbage, organic compost preparation at home, organic colour production for Holi, soil pH testing at farms etc.

2) The approach towards the subject “Environmental Science” should not be merely academic in nature, but rather dynamic wherein the students get involved whole heartedly. To meet this end more weightage should be given to the practicum component.

3) World Environment Day should be celebrated with concrete goals to be achieved for every student. For example each child can be encouraged to plant a sapling and nurture it for a lifetime. Van Mahotsav should be celebrated at all the level and streams of education.

4) Cleanliness drives could be conducted to instil environmental responsibility among the students.

5) Field visits could be carried out to waste management plants to give the students a first hand experience regarding the need to segregate the waste before its disposal. Field visits could also be carried out to animal husbandry, wild life sanctuaries, State Pollution Control Boards etc.

6) Movies and documentaries depicting the dangers of environment exploitation could be screened in the educational institutions.

7) Eminent resource persons could be invited to orient the students regarding the importance of environmental protection.

8) Workshops and seminars could be organized for the students.

9) Students at the school could be encouraged to have a small plant nursery at their home.

10) At the school level a subject like gardening could be introduced as a vocational component in the curriculum.

11) The subject of environmental science should be taught by a regular full time teacher possessing the necessary qualification and skill.

12) Projects could be undertaken by the educational institutions to educate the public.

13) Knowledge regarding the laws for the protection of Wild Life should be disseminated to all. Phone numbers/contact numbers of animal rescue centers could be shared with the student community. Students could be made to realize the harm caused to the environment and encourage them to care for stray animals, use vegan cosmetics, minimize the use of plastic etc.

14) Students could be encouraged to participate in various competitions regarding environmental issues. Several awards could be earmarked to acknowledge student contribution

for innovative ideas and projects undertaken for the protection and conservation of the environment .

16) Proper counseling, lectures, rallies, classes could be arranged for the general public as well. The public should be made aware that several of the life threatening conditions are linked to man made environmental determinants. According to WHO Eighty percent of cancer cases are related to environmental issues.

17) Several tragedies like The Union Carbide Gas Tragedy at Bhopal, (1984), Jaipur Oil Depot Fire (2009), Mayapuri Radiological Accident (2010), Bhilai Steel Plant Pipeline Blast (2018) and the latest being the tragic chemical gas leak in LG Polymers plant at Vizag (2020) have made us realize that we should be aware of disaster management skills and the necessary knowledge about the same could be disseminated at the educational institutions. Mock drills could also be conducted regarding the same.

18) There are certain education programs like Development Education (DE), Global citizenship education (GCED) etc which work to fulfill the objectives of global justice and sustainability issues. So, there must be a global effort made through education to highlight and put forth new education policies and practices for sustainable development.

These global efforts result into increasing multicultural nature of societies and the work of internal developmental organizations (O' Flaherty et al., 2017). UNESCO has also set certain parameters for the same.

According to Noddings (1997) "the moral aim of education should be to encourage growth of competent, caring and loving people. Educating humans for sustainable life styles, human rights and duties, gender equality, non violence, appreciation for cultural diversity is the easiest way to reach the ultimate goal." Evidences have been reported that critical thinking and analytical skills for positive social and political change, attitudes, ethics and actions play a vital role in attaining success.

Conclusion:

Industrialization, urbanization, population explosion, modern civilization, illiteracy, poverty and scientific revolutions are the major hurdles which stand in the way in the achievement of the objectives and goals of sustainable development. Deforestation, soil degradation, pollution and improper waste management hinders the secure supply of fresh

and clear air, water and land along with other renewable sources of energy for future generations. Global warming deteriorates the air quality and leads to many life threatening diseases.

Hence education is the only solution to preserve, protect and conserve our natural resources. It makes sure that there is proper usage and avoidance of misuse through the proper dissemination of knowledge. Although several projects and laws are enacted by the Government, an integrated holistic approach encouraging critical and analytical thinking can realize the goals of sustainable development in relation to environmental causes.

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