



ROLE OF EDUCATION FOR SUSTAINABLE DEVELOPMENT

Nabanita Dutta

RESEARCH ARTICLE



Author Details:

Assistant Professor,
Department of Education,
Panskura Banamali College
(Autonomous), Panskura,
Purba Medinipur, West Bengal, India

Corresponding Author:

Nabanita Dutta

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Abstract

Sustainable development has become a much popular concept today. Education is a powerful weapon for creating sustainability around the world. Education for sustainable development has become a motto of the modern era. Sustainable development is the development that meets the needs of the present without compromising the ability of future generations to meet their own needs. Sustainable development implies a balance between the social, economic, and natural resources. ESD stands on the principles that emphasize sustainability such as gender equity, poverty reduction, social tolerance, and environmental conservation and protection. Education for sustainable development is the process of providing students with outstanding knowledge, effective skills, abilities, and potentialities to fulfill the various requirements and creates an awareness of universal harmony. Today's youth must understand the concept of- Education for Sustainable Development (ESD) and what they need to do to attain a sustainable future. Every citizen must be sensitized towards sustainability including future education, population education, citizenship education, health education, education for sustainable consumption, gender equality, education for a culture of peace, education for human rights and education for preserving natural resources. This paper emphasizes on the concept of sustainable development, objectives and goals of sustainable development and role of education in ensuring effective sustainable development.

Keywords: *Sustainable Development, Education, Environment, Education for Sustainable Development (ESD), Natural Resources*

Introduction

Education is an effective tool through which sustainability of environment can be attained. Without education sustainable development is impossible. The growing environmental awareness led to the appearance of a new model of development known as 'sustainable development.' The sudden growth in population, capitalism, industrialism and socio-ecological disbalance has raised serious problems about the long-term eligibility and sustainability of the ecosphere (Banerjee & Das, 2018). Human needs cannot be fulfilled without solving these issues. The purpose of sustainable development is not only to preserve our physical environment but also to maintain a balance between physical, social, political, cultural, and economical condition (Ansary & Behera, 2017). Education is the only way through which ecological stability can be achieved. Political management, financial control and technical improvements cannot help in the development of sustainability alone, human being must change their way of thinking and acting which requires efficient education and learning so that sustainable development can be achieved at all stages and from all social angles without any obstacles.

Objectives

The present study has the following objectives

1. To know the concept of sustainable development
2. To know the objectives and goals of sustainable development.
3. To know the role of education in ensuring effective sustainable development.

Methodology of the Study

The present study is qualitative in nature. The researcher has collected data from secondary sources such as books, journals, articles, periodicals, websites, internet.

Need for the study

Today modern technology has largely replaced nature. Natural environment is losing its value in the midst of material world. With inventions of machines in industry and agriculture and other modern technologies natural world is getting polluted causing

serious damage to our environment. Discharge of smoke and gases from industrial vehicles have resulted increase of toxic elements in the biosphere. Effluents from urban areas such as industry and mining are impurifying the water bodies and devastating the land. Excessive amount of fertilizer contaminating lakes and other water bodies. Modern agricultural mechanism has led desertification which in turn reduces genetic diversity. Water and air pollution creating harmful effect on the health of the human being living in the environment. Emissions of waste from coastal areas affecting the marine and aquatic life of the Ecosystem. All these unhygienic activities of humans resulted in degradation of the environment. The impacts of environmental degradation causing unsustainability of the human population.

Thus, education for sustainable development is the need of the hour. For this it is necessary to include the principles of sustainable development in every sphere of human life. Therefore, there is an urgent need for evaluating the existing educational system with emphasis on achieving ESD which can develop knowledge, efficient skills, and value issues towards achieving sustainable development. Modern curriculum must consider ESD from pre-primary to higher education. Students should be encouraged to carry out more research on Education for Sustainable Development (ESD) in order to attain a sustainable environment for future generations.

Limitations

This study is only limited to some secondary sources like books, journals websites, etc. No field study has been conducted by the researcher.

Discussion

i. To know the concept of sustainable development

The term “Education for Sustainable development” constitutes two parts, namely education and sustainable development. World Commission on Environment and Development defines sustainable development as “development that meets the needs of present without compromising the ability of future generations to meet their own needs.”

The term “sustainable development” became popular after the Rio Earth Summit in 1992 which emphasized global environmental discussions and improved upon the initial framework introduced at the United Nations Conference on the Human Environment, Stockholm in 1972. The resulting Rio Declaration on Environment and Development, however, advocated the role of education in preventing ecological degradation.

Definition of Sustainable Development

Ashford (1995) and The World Commission on Environment and Development (1987). In the Commission’s words: “... sustainable development is ... a process of change in which the exploitation of resources, the direction of investments, the orientation of technological development, and institutional change are made consistent with the future as well as present needs.”

There are some characteristics of education for sustainable development. These are:

Sustainable development mainly has three components- Environment, society, and economy.

- a) It builds on the principles and values that emphasize sustainable development.
- b) Develops life-long learning.
- c) Locally relevant and culturally appropriate.
- d) Encourages formal, informal, and non-formal education.
- e) Encompasses the evolving nature of the concept of sustainability.
- f) Not a single discipline but ESD is a combination of all disciplines.
- g) Uses different kinds of noble techniques that develops collaborative learning and high thinking skills.

Five dimensions of sustainable development

The five dimensions of sustainable development are

- a) **Ecological Sustainability**
Ecological sustainability indicates preservation of ecological capital on which human life and economic production of the country largely depend.
- b) **Economic sustainability**
Economic Sustainability indicates preserving economic wealth and resources of the country in a balanced way without creating any negative impacts upon the environment.
- c) **Social Sustainability**
To attain social sustainability people’s basic needs must be fulfilled so that inequalities can be minimized, social conflict can be resolved and people may develop social justice.
- d) **Cultural Sustainability**
Cultural sustainability can be attained through providing appropriate cultural knowledge and fostering cultural diversity among people living in the society.
- e) **Personal Sustainability**
Personal sustainability can be developed by maintaining a balance between a person’s physical and mental health as a sound mind rests in a sound body.

ii. To know the objectives and goals of sustainable development

The Brundtland Report, (1987) sustainable development can be inter-linked with three categories of objectives. These are:

a) Objectives of the Economic System

Expanding the amount of goods and services produced in the techno sphere, increasing the adequate use of mineral resource flows, biological, energy and information flows; assistive technologies mineral resources and recycling products.

b) Objectives of the Social System

Equitable distribution of goods and services at local, national and global level among social contract partners; effective training in socio-economic process of all people living in the society; creating and developing permanent structures and mechanisms of various institutional, political and information management systems that promotes flexibility and maintenance of economic and social; correlation systems adaptation environmental, economic and social; promoting cultural diversity for supporting rapid adaptation of change.

c) Objectives of the Ecological System

Preserving biodiversity in support of the possibility of adjusting the scheme area condition or geo biosphere; compliance mechanisms of self-control and the normal cycle times in the biosphere.

Burlington Sustainable Development Committee (1987), has specified some objectives of Sustainable Development, these are-

- i. Preservation of Natural Resources- Accessible green spaces, shorelines, natural water flow for future use should be conserved and expanded.
- ii. Afforestation of the City- Management and Plantation of vegetation should be made within the urban areas on public and private property.
- iii. Involvement of public in decision related to development- Public should participate in all planning decisions. Developments from all perspectives- Economic, social, and environmental should be taken into consideration.
- iv. Actively Build Sustainable Development- Changes need to be made both at the Senior Levels of Government and Private Sector to move towards sustainability.
- v. Make the effective use of land- To ensure environmental sustainability, land should be utilized in an efficient way, fertile soil for agriculture must be cultivated throughout the rural areas.
- vi. Management of Natural Storm Water- Water Courses in their natural state should be preserved and protected.
- vii. Balanced Development System- Balance should be made between urban development and environmental surroundings.
- viii. Effective Urban Design- In urban community there must be an increase in the efficacy of land use in terms of time and energy. The policies should be adopted for this purpose must be diversified and intensified in nature.
- ix. Reducing discharge of toxic chemicals and toxic pesticides- The toxic pesticides and chemical that may create harmful effects upon the environment should be eliminated.
- x. Accessible Community Development Work- A Community should be formed in such a way so that all community goods and other facilities such as education, employment, shopping, and recreation are accessible within the walking distance of all people living in the local area.
- xi. Conservation of Natural Resources- Natural resources should be conserved and for this various educational program should be built up.
- xii. Increase in Green Space- There should be enough increase in green space and other natural things within the environment.
- xiii. Conservation of Energy- Energy should be preserved through effective use of land.
- xiv. Balanced System of Transportation- Balanced transportation system need to be adopted. Roads should be made easily so that vehicles, goods, and people can move freely.
- xv. Evaluation of Development- Continuous evaluation and monitoring in terms of development should be made without bringing any harmful effects on the country's financial condition and environment.

Goals of Sustainable Development

The 2030 Agenda for Sustainable Development Goals are the following:

- Goal 1. Eradication of poverty from everywhere.
- Goal 2. Eradication of hunger, creating food security, developed nutrition and build sustainable agricultural environment.
- Goal 3. Assurance of healthy living and creating well-being for people of all ages.
- Goal 4. Creating Inclusive and profitable education and providing opportunities for everyone for Life-Long Learning.
- Goal 5. Attaining gender equality and empower all girls and women.
- Goal 6. Providing availability and management of sustainable sanitation and water for all.
- Goal 7. Provide access to modern, reliable, sustainable, and affordable energy for all humans.
- Goal 8. Promote efficient employment and sustainable economic development and adequate work-efficacy for all.
- Goal 9. Develop flexible infrastructure, provide sustainable and effective industrialization and creation of innovation.
- Goal 10. Reducing disparity and inequality within and among all the countries.
- Goal 11. Make human settlements everywhere safe and sustainable.
- Goal 12. Assure sustainable consumption and effective production.
- Goal 13. Take immediate steps to resist climatic change and its impacts upon the environment.

Goal 14. Conserve and use the seas, oceans and marine resources sustainably for effective sustainable development.

Goal 15. Protect and restore sustainable use of terrestrial ecosystems, management of forest sustainably, remove desertification and resist land degradation and loss of biodiversity.

Goal 16. Provide inclusive societies and peaceful environment for sustainable development, promote access to equality and justice for all people and made inclusive, effective, and accountable institutions everywhere.

Goal 17. Strengthen the pattern of implementation and re-generate the global partnership for creating sustainable development.

iii. To know the role of education in ensuring effective sustainable development. The role of Education for Sustainable Development is

a) Poverty Eradication

Poverty and de-graded environment are inter-related as people's livelihood today depends on natural resource of the environment. Problem of mal-nutrition and hunger persist everywhere. Poor people are not getting equal amount of food comparable to the rich ones. Education is the only weapon that eradicate poverty at all levels and sustain it for future.

b) Empowerment of Women and Sustainable Development

Women play a most important role in management and development of environment. Thus, to attain sustainability their active involvement is required. Education plays a vital role in enlighten the women. Empowerment of women contributes to sustainable development (UNESCO, Source Book, 2012).

c) Improving the efficiency and learning quality

Today children in school are not receiving enough learning. There are drop-outs at every level of education. Even people with high degree are derived from acquiring good job in the markets due to lack of training skills. It is only through equitable and good quality education children may develop effective skills for learning. This may lead to the increase of employment in the society.

d) Assure inclusive and equitable quality learning

Education and life-long learning play an important role in achieving sustainable development. There is disparity and inequality in access to education at all levels in rural areas specially between boys and girls. These are the main reason for absence of good quality of equitable and opportunities for life-long learning. We strongly say that education can help create a more sustainable, equitable and peaceful world (UNESCO, 2014).

e) Formal Education

Formal Education which helps in promoting functional literacy, different livelihood skills, knowledge of the environment and values of dutiful citizenship is a prerequisite for sustainable development. Every child must have this type of education as their fundamental right without any distinction based on class, caste, creed, region, and culture.

f) Increasement of efficiency

There must be increase efficiency of work among individuals

g) Sustainable Production of Economic Condition

It is only through education a knowledge-based society can be build-up. Today knowledge is influenced by new technologies. Not only the production rate is highly increased and there is expansion in the volume of information, but information is less gained through text and more through media such as audio, graphics, and other visual media. The exponential growth in the volume of information and its changing nature are questioning the very notions of the authority of traditional bodies of knowledge controlled by legitimate educational institutions. (UNESCO, Source Book, 2012).

h) Growth of Economy

The growth in economy is necessary for reduction of poverty. Good quality of education is necessary for economic development. Only school education is not sufficient, children need quality learning. Some analysts have suggested that a proof of the economic effect of education would require measures of quality and learning outcomes. Countries need to monitor their students' learning over a sufficiently long period to assess the effects of education and quality on economic growth (UNESCO, 2014).

i) Sustainable Infrastructure

Infrastructure and technology need to be developed. Evaluation is necessary so that more developed decision can be taken which in turn can structurally built a sustainable environment. There are some technologies through which reduction for resources consumption can be made. Before using these technologies people need to identify, introduce and evaluate in an effective way. For this public awareness and education is necessary.

j) Removal of Desertification

Harmful effects of desertification need to be eliminated from the environment. Children who are basically interested in exploring nature can participate in this programme. So nowadays UNESCO and UNCCD have jointly made educational materials for desertification. The Education Kit on Combating Desertification contains a teacher's guide, illustrations, and case studies from different regions around the world. Featuring cartoons, games and stories that bring sustainable development issues to life for children (UNESCO, (2014).

k) Managing Natural Resources

Education helps in managing the agricultural economy including water and land management and conserving our ecosystem for sustainability of environment and production of agriculture. Education ensures the sustainability of the natural resource base, the recognition of all stakeholders in it and their roles on its protection and management are essential (UNESCO, Source Book, 2012).

l) Sustainable Water Management

Today we all are much familiar with the proverb, "Water is Life." Therefore, water management is necessary in a sustainable manner for future generation. Preserving water in an efficient way by water governance bodies protect our ecosystems and maintain healthy livelihoods. Education can create awareness among the people to preserve the water and utilize it effectively.

m) Human Health and Sustainable Development

Health of a human being- physical, spiritual, and mental dependent largely on a healthy environment. Safe drinking water facilities including a healthy environment is a fundamental right of every people. Education plays the major role in providing a healthy environment and prepare the way for a sustainable future. (UNESCO, SOURCE BOOK, 2012).

n) Assure access to Reliable, Affordable, Sustainable, and pure Energy for all

Everyone in the society is aware about renewable and non-renewable energy resources and their specific advantages and disadvantages. There are also harmful effects of unsustainable energy generation. We also know about harmful impacts of unsustainable energy production; understands how renewable energy technologies can help to drive sustainable development and understands the need for new and innovative technologies and especially technology transfer in collaborations between countries. And in this context, we can say that education will only one tool that disseminates awareness among (UNESCO, 2014).

Conclusion

Education for sustainable development is a dynamic concept. It has given a new shape to education that inspires people living in the society to create a sustainable future. Although sustainable development became popular after the Rio Earth Summit in 1992, but people became much aware about it from 1970-80 A.D. Sustainable development is one of the important goals of environmental education. As conservation and protection is the need of the hour education for sustainable development is necessary at all levels of education. ESD paves the important path for every citizen by providing an environment which will help to fulfil their various basic needs by striking a balance between the environment and the economy. Otherwise, the results would be quite disastrous. As the Indian Economist and Scholar, Amartya Sen points out, "a fouled environment in which future generations are denied the presence of fresh air will remain foul even if future generations are so very rich."

Education for sustainable development (ESD) make various ways of providing quality education. ESD emphasized on the practice of teaching for sustainability. Today ESD affects every aspect of education from top to bottom. The aim of ESD is to inspire every citizen of the country to approach towards positive social and environmental change. Thus, from the above discussion we may say that Education is a powerful key to attain sustainability which may lead the people living in the world toward a more sustainable way of living.

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