

Education for sustainable development: Challenges and barriers

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Abstract

Since 1992 Rio Earth Summit the term sustainable development became globally popular and Education has been viewed as one of the major tool for achieving the goal of sustainability. Education for sustainable development means, "Development that meets the needs of the present without compromising the ability of the future generation's to meet their own needs" (world commission on environment and development). Because to protect our Earth Education is a main vehicle to ensure that people can learn, accept and live according to the sustainable principle of living with harmony with human being and nature as per the first principle of Rio declaration i.e. Human beings is the pivot for sustainable development. Education for Sustainable Development allows every human being to acquire the knowledge, skills, attitudes and values necessary to shape a sustainable future.

Keywords: Education, Challenges and barriers.

Introduction

The term 'Sustainable Development' was brought into common use by World Commission on Environment and Development (Brundtland Commission) in its report, 'Our common Future' (WCEP, 1987). According to Brundtland Commission "Sustainable development is the development that meets needs of present without compromising ability of future generations to meet their own needs." In other words present generation should try to conserve and utilize resources wisely and judiciously so that they can be used even by future generations. Sustainable development is the development that lasts for even future generation.

A specific concern in this concept is that those who enjoy the fruits of economic development today may be making future generations worse off by over exploiting the earth's resources, degrading and polluting the environment. Sustainable development contains two key concepts. The concept of 'needs' in particular the essential needs of world's poor to which emphasis should be given and the 'idea of limitations' imposed by state of technology. Sustainable development requires that adverse impacts on quality of air water, soil should be minimized so as to maintain ecosystem's overall integrity and prevent degradation of our environment. In the process of Sustainable development we have to check the balance between exploitation of resources and degradation of the environment and we will have to shift our strategy from using non renewable sources to renewable sources of energy.

Education for Sustainable Development means incorporating the chief issues of sustainable development into teaching and learning like global warming, depletion of ozone layer, disaster risk reduction, biodiversity, poverty reduction, and sustainable consumption. This requires modification in our curriculum and teaching learning methods that will encourage our learners to change their behaviour and consequently make plans and take actions to achieve sustainable development. Education for Sustainable Development will therefore promote competencies like critical thinking, reasoning, imagining and taking decisions

to solve the problems in a collaborative manner. Education for Sustainable Development requires far-reaching changes in the manner education is practised today.

UNESCO is the chief agency for the UN to declare 2005 to 2015 as the decade of Education for Sustainable Development. The UN "Earth Summit" in Rio (1992) ^[10] referred to social development, economic development, and environmental protection, as the three; inter dependent and mutually reinforcing pillars" of sustainable development. The challenge for educational practitioners and policy makers is therefore to develop such curriculum, attitudes and behaviour among the future citizens that promote sustainable actions with respect to each of these three pillars.

The three pillars of sustainable development

Education for Sustainable Development enables us to have a vision of education that strives to achieve balance between human and economic development with cultural traditions and at the same time keeping respect for the environment and maintaining ecological balance between development and environment. It is therefore important to recognise that sustainable development supported by these three pillars acting together will result in development that will last for a long period of time and that any practices and policies developed without taking each into account are likely to fail. Man has been interfering with nature since dawn of civilization. However his impact was not felt because the population of man was quite less. With the advent of modern agriculture equipment's and advances in science and technology population of man started increasing tremendously. This increase in population is now becoming a major obstacle in path of development in developing countries like India. The increasing population is resulting in overexploitation of our country's resources and depletion of nonrenewable resources at an alarming rate. Hence this increase in population needs to be regulated. The main idea behind human population regulation is to achieve a balance between population and available

resources of a country so as to achieve sustainable development, which otherwise will be difficult to achieve.

Industrialization has always been and continues to be the prime cause of economic development all over the world. But without the protection of environment the fruits of economic development will become insignificant. Greater industrialization means greater extraction of resources and therefore greater disposal of wastes and consequently it will result in the pollution of the environment. As a result we will not be able to achieve the goal of sustainable development.

In general industries and operations should be encouraged that use better technology, are more efficient in terms of resource, use generate less wastes and are based on use of renewable resources and that which minimize irreversible impacts on the human health and environment. Industrial units should be encouraged to set up effluent treatment plants so that hazardous wastes can be properly treated before being discharged into the river. We will have to shift from the non-renewable energy resources to the renewable energy resources otherwise nonrenewable energy resources will be depleted in a very short period of time.

A substantial amount of research and development efforts should be made to tap non-conventional energy resources if we want to achieve the goal of sustainable development. With our efforts we can save the nonrenewable energy resources for our future generations also. Sustainable development is not a task for the government alone but each member of the society has his share to contribute in the form of refined and sustainable habits e.g. to use public transport, to switch off the lights etc.

To achieve sustainable development, greater changes must be brought in thinking and lifestyle of the people. People should understand that Earth has limited supply of non-renewable sources and therefore we should conserve them, and protect our Earth from getting polluted. The development must not come at the expense of future generations or threaten other species survival. Therefore we will have to adopt a way of living which recognizes that earth has a limited supply of resources that human beings are a part of nature and they are not superior to the Mother Nature. Earth provides enough to satisfy every man's need but not any man's greed, so to fulfill our responsibility towards future generation, there is a need to present the challenge of sustainable development to the people as an opportunity to be taken and not as a threat to be avoided.

The depletion of natural resources, increased greenhouse gas emissions, improper landfill practices and polluted air and water sources are a few of the examples which illustrate how we have exploited the resources of the Mother earth at the expense of future generations. A lot of damage to our planet has already been done, and much of the damage is beyond our repair. As educational practitioners it is our duty to provide children with experiences and in supporting them in understanding of the environment as it relates to our society. At an early age children can begin to develop the critical thinking skills required to take decisions that will affect the quality of not only their own lives but also improve the lives of future generations too.

During the last decade environmental education promoted awareness and knowledge about the environment and the interactions between people and nature. While environmental education has occupied place in our education system for many years, the focus has now shifted to perspective emphasising sustainable development. This is likely to put a greater

emphasis on equipping generation to take responsibility for making decisions towards a sustainable future by considering what is best for them in the *long* term. This no longer involves children learning about what has happened, but also about what can be done for tomorrow. In Ireland Wood Children's Centre in England kindergarten children have set up their own fruit and vegetable garden with their collaborative efforts. The teacher noted all of the children's ideas, and the children on their own planned how the garden should look.

They also discussed extensively with their teacher regarding which fruits and vegetables should be grown in the garden. After the initial discussion they executed their plan in practice by planting seeds of fruits, vegetables and trees. At the end harvesting of fruits and vegetables was done and even planning for marketing of excess fruits and vegetables was done with the cooperation of family members and the local community. This very good example of how children can be linked with their surrounding environment, society and economic productivity.

Need and importance of education in SD

Education for sustainable development develops and strengthens the capacity of individuals, groups, communities, countries and all the nations to take judicious decisions and choices in favour of sustainable development. The attitude and behaviour of the citizens needs to be changed so that the standard of quality of life of the citizens can be improved and our world becomes a better place to live in. Education for sustainable development can provide critical reflection and greater awareness and empowerment so that new visions and concepts can be explored and new methods and tools developed (UNECE 2005, 1; UNECE, 2009, 15) ^[12, 13].

Education plays a major role in achieving sustainable development. A quality education is emphasized by United Nations (2002) ^[11] and as an essential tool for a more sustainable world. (Cotgrave and Kokkarinen 2011) ^[3] Argued that policy and regulation can only force the people to work efficiently in sustainable ways. However, it is not enough to change the human behaviour. Therefore, education has to play a vital role in changing the mind set of people and subsequently it can lead to the behaviour changes. So, there is a need to revamp our existing educational structure if we want to develop and inculcate behaviour among children that meets the demands of sustainable development.

During the last decade Education has gained considerable attention and has been seen as one of the most important instrument to achieve sustainable development at the global, national and local levels. UN stakeholders working on global sustainable development policies have a common view that countries will be in a better position to meet the challenges of sustainable development if they equip their citizens with the knowledge and skills necessary to tackle the problems of sustainable development. There is a growing concern among the countries that they not only need to change their educational policies and technologies, but also ensure that their citizens are equipped with the knowledge to make choices that will support living sustainably. (UNESCO, 2013b; 2013c).

Education is now being integrated into environment and development agendas in a number of UN bodies and processes. In 2011, the UN Environment Management Group called for ESD to address the 'requisite attitudes, knowledge and values for responsible eco-citizenship' (UN Environment Management Group, 2011, p. 103) ^[14]. UNDP's 2011 Human

Development Report singled out the need for education in order to encourage sustainable consumption (UNDP, 2011, p. 27) ^[14]. The UN Secretary-General's High-Level Panel on Global Sustainability highlighted ESD in its 2012 report as one of the six priority areas for action, to help ensure that 'all of society can contribute to solutions that address today's challenges and capitalize on opportunities' (UN Secretary-General's High-Level Panel on Global Sustainability, 2012, p. 6) ^[16]. Opportunities have now opened up at the international level to further highlight the need for ESD. The recommendations were grounded on notions that children are enough competent, responsible and active in their own lives and recognised that children are affected by and both capable, to engage with complex environmental and social issues.

The panel further recommended that by 2030 ensure all learners acquire knowledge and skills needed to promote sustainable development through education for sustainable development for changing their attitudes, lifestyle, human rights and values. (UN 2012) ^[16].

Paradigm shift from traditional education practice to ESD practice

Cotgrave and Kokkarinen (2011) ^[3] claimed that higher education has the potential to make the greatest impact on sustainability as it has the opportunity to shape the future builders. In addition, Ollis and Krupczak (2007) ^[8] stressed institutions of higher education are the torch bearers of environmental and sustainability issues; planning, creation of private and public collaboration and transformation of pedagogy towards sustainable development. Cade and Druce (2007) ^[2] emphasized it is the responsibility of all higher educational institutions to ensure that their students become highly competent in critically understanding and applying the principles of sustainable development. It is because these future work forces have a direct impact on the environment; they can play a crucial role in implementing practical solutions to current environmental problems (Abdul-Wahab, S. A., Abdul raheem, M. Y., & Melanie, H. 2003) ^[1]. Hence, it is the need of the hour that they need to be trained and equipped with the skills so that they can understand problems of sustainable development and can take concrete steps for its improvement. Integrating sustainability issues into the higher education curriculum is necessary to change the way in which future generations will think and work.

Tilbury (2004) ^[9] pointed out that incorporating the concept of sustainability in professional programmes is a vital link to move the society towards sustainability. Thus, the curriculum in higher education needs to be shifted from the traditional educational practices to sustainable development practices. There is an urgent need to reform existing curriculum and practices so that the future generation are not only having the knowledge, but higher-level cognitive and critical thinking skills so as to come up with effective solutions to tackle the complex problems. Therefore, they would make the leap from "I know" to "I care" to "I'll do something".

Policy frame work of ESD

The policy recommendations for ESD are to be reinforced at five levels: International, regional, sub regional and local level. These recommendations for policymakers emphasise the key points for actions to be taken namely professional development in education, governing and managing of institutions,

curriculum development monitoring and assessment. The extent to which change in policy and the specific tools required by these recommendations will be according to existing regional and local conditions and policy frameworks. Although these recommendations address competencies for educators across formal and non-formal education, as well as informal learning, attention must be focussed on formal learning. There is a need to develop such competencies in teacher educators which promotes the development of critical and rational thinking among the future generation. These recommendations are intended to focus attention on how educators can be empowered so that they are able to recognize their capabilities and fulfil that potential through the development and practice of the competencies.

These recommendations address not only Governments and regulatory bodies but all decision makers and leaders who have vital role in providing frameworks, conditions and means for promoting the development of educator competencies. These decision makers could, for example, be in the private sector, with responsibility for work-based educational training with capacity for promoting informal learning; or be an NGO involved in creating learning experiences.

Conclusion

Now we have reached a stage where we have both the technological, social, and ethical capabilities to make sustainable world a reality and it is now our obligation to do so. The future citizens must be given an opportunity to understand this reality. Hunter (1997) ^[4] argued that sustainable development is not a single absolute standard. He illustrated a broad pattern of beliefs, attitudes, critical thinking, reasoning and commitment that needs to be developed among the young generation for making decisions and inculcate habits that demonstrate an understanding of and belief in sustainability. This will enable them to commit to a lifestyle which is in agreement with the principles of sustainable development, think critically about the problems and obstacles at the local, regional and global level, working towards better lifestyle and improving quality of life of all its citizens and taking personal responsibility for maintaining ecological balance and equal sharing and distribution of natural resources; and understanding the impacts of over exploitation of resources and live in such a manner so as to lessen the impact of these consequences and make the world a better to live in for coming future generations.

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