



EDUCATION FOR SUSTAINABLE DEVELOPMENT

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ABSTRACT

Sustainable development is the need to integrate social, environmental, and economic concerns so as to arrive at development paths which meet the needs of present generations, without compromising the ability of future generations to meet their own needs. Education for sustainable development is a vision of education that seeks to balance human and economic well-being with cultural traditions and respect for the Earth's natural resources. Education for sustainable development has come to be seen as a process of learning how to make decisions that consider the long term future of the economy, ecology and social well-being of all communities. Education for sustainable development must explore the economic, political and social implications of sustainability by encouraging learners to reflect critically on their own areas of the world, to identify non-viable elements in their own lives and to explore the tensions among conflicting aims. This paper primarily deals with the UNESCO sustainable development goals (SDG), especially the SDG 4 – 'quality education and lifelong opportunities for all' and its empirical and theoretical background as well. The authors have tried to review the literature on 'education for sustainable development' (ESD) and 'sustainability in education' to assess the definition and best practices of 'Sustainable Education'. By adopting Sterling's 'triple bottom line model' (of Sustainable Development) the authors have tried to develop a conceptual model of sustainable education for Indian school education system.

KEY WORDS: Sustainable development, the UNESCO sustainable development goals (SDG), Sterling's 'triple bottom line model.

INTRODUCTION:

Education is an essential tool for achieving sustainability. People around the world recognize that current economic development trends are not sustainable and that public awareness, education, and training are the keys to moving society toward sustainability. People argue about the meaning of sustainable development and whether or not it is attainable. They have different visions of what sustainable societies will look like and how they will function. These same people wonder why educators have not moved more quickly to

develop education for sustainability programs. The lack of agreement and definition has stymied efforts to move education for sustainable development (ESD) forward. It is curious to note that while we have difficulty envisioning a sustainable world, we have no difficulty identifying what is unsustainable in our societies. We can rapidly create a laundry list of problems - inefficient use of energy, lack of water conservation, increased pollution, abuses of human rights, overuse of personal transportation, consumerism, etc. But we should not chide ourselves because we lack a clear definition of sustainability. Indeed, many

truly great concepts of the human world - among them democracy and justice - are hard to define and have multiple expressions in cultures around the world.

MEANING OF EDUCATION FOR SUSTAINABLE DEVELOPMENT:

The term “Education for Sustainable development” contains 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.” One of the original descriptions of sustainable development is credited to the Brundtland Commission: “Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (World Commission on Environment and Development, 1987, p 43). Sustainable development is generally thought to have three components: environment, society, and economy. The well-being of these three areas is intertwined, not separate. For example, a healthy, prosperous society relies on a healthy environment to provide food and resources, safe drinking water, and clean air for its citizens. The sustainability paradigm rejects the contention that casualties in the environmental and social realms are inevitable and acceptable consequences of economic development. Thus, the authors consider sustainability to be a paradigm for thinking about a future in which environmental, societal, and economic considerations are balanced in the pursuit of development and improved quality of life.

CHARACTERISTICS OF EDUCATION FOR SUSTAINABLE DEVELOPMENT:

Interdisciplinary and holistic: learning for sustainable development embedded in the whole curriculum, not as a separate subject; Values driven: it is critical that the assumed norms – the shared values and principles underpinning sustainable development - are made explicit so that that (sic) can be examined, debated, tested, and applied; Critical thinking and problem solving: leading to confidence in addressing the dilemmas and challenges of sustainable development; Multi-methods: word, art, drama, debate, experience, different pedagogies which model the process. Teaching that is geared simply to passing on knowledge should be recast into an approach in which teachers and learners work together to acquire knowledge and play a role in shaping the environment in their educational institutions; Participatory decision making: learners participate in decisions on how they are to learn; Locally relevant: addressing local as well as global issues, and using the language(s) which learners most commonly use. Concept of sustainable development must be carefully expressed in other languages - languages and cultures say things differently, and each language has creative ways of expressing new concepts.

PRINCIPLES OF SUSTAINABLE DEVELOPMENT:

The Rio Declaration on Environment and Development fleshes out the definition by listing 18 principles of sustainability. “People are entitled to a healthy and productive life in harmony with nature. Development today must not undermine the development and environment needs of present and future

generations. Nations have the sovereign right to exploit their own resources, but without causing environmental damage beyond their borders. Nations shall develop international laws to provide compensation for damage that activities under their control cause to areas beyond their borders. Nations shall use the precautionary approach to protect the environment. Where there are threats of serious or irreversible damage, scientific uncertainty shall not be used to postpone cost-effective measures to prevent environmental degradation. In order to achieve sustainable development, environmental protection shall constitute an integral part of the development process, and cannot be considered in isolation from it. Eradicating poverty and reducing disparities in living standards in different parts of the world are essential to achieve sustainable development and meet the needs of the majority of people. Nations shall cooperate to conserve, protect and restore the health and integrity of the Earth's ecosystem. The developed countries acknowledge the responsibility that they bear in the international pursuit of sustainable development in view of the pressures their societies place on the global environment and of the technologies and financial resources they command. Nations should reduce and eliminate unsustainable patterns of production and consumption, and promote appropriate demographic policies. Environmental issues are best handled with the participation of all concerned citizens. Nations shall facilitate and encourage public awareness and participation by making environmental information widely available. Nations shall enact effective environmental laws, and develop national law

regarding liability for the victims of pollution and other environmental damage. Where they have authority, nations shall assess the environmental impact of proposed activities that are likely to have a significant adverse impact. Nations should cooperate to promote an open international economic system that will lead to economic growth and sustainable development in all countries. Environmental policies should not be used as an unjustifiable means of restricting international trade. The polluter should, in principle, bear the cost of pollution. Nations shall warn one another of natural disasters or activities that may have harmful trans boundary impacts. Sustainable development requires better scientific understanding of the problems. Nations should share knowledge and innovative technologies to achieve the goal of sustainability. The full participation of women is essential to achieve sustainable development. The creativity, ideals and courage of youth and the knowledge of indigenous people are needed too. Nations should recognize and support the identity, culture and interests of indigenous people. Warfare is inherently destructive of sustainable development, and Nations shall respect international laws protecting the environment in times of armed conflict, and shall cooperate in their further establishment. Peace, development and environmental protection are interdependent and indivisible.

FIVE DIMENSIONS OF SUSTAINABLE DEVELOPMENT

Ecological sustainability: Conserving critical ecological capital on which all life and economic production depends. Economic sustainability: Generating wealth and wellbeing in a continuous

way without periods of 'boom and bust'. ^ Social sustainability: Meeting everyone's basic needs and reducing inequalities in ways that promote social justice and reduce social conflict. ^ Cultural sustainability: Drawing on culturally appropriate knowledge and promoting cultural diversity. ^ Personal sustainability: Promoting people's physical and mental health and fostering a state of wellbeing within them and with the rest of the world.

THRESHOLDS OF EDUCATION AND SUSTAINABILITY:

Consider for instance, that when education levels are low, economies are often limited to resource extraction and agriculture. In many countries, the current level of basic education is so low that it severely hinders development options and plans for a sustainable future. A higher education level is necessary to create jobs and industries that are "greener" (i.e., those having lower environmental impacts) and more sustainable. The relationship between education and sustainable development is complex. Generally, research shows that basic education is a key to a nation's ability to develop and achieve sustainability targets. It can improve agricultural productivity, enhance the status of women, reduce population growth rates, enhance environmental protection, and generally raise the standard of living. But the relationship is not linear. For example, four to six years of education is the minimum threshold for increasing agricultural productivity. Literacy and numeracy allow farmers to adapt to new agricultural methods, cope with risk, and respond to market signals. Literacy also helps farmers mix and apply chemicals (e.g., fertilizers and pesticides) according to manufacturers'

directions, thereby reducing the risks to the environment and human health. A basic education also helps farmers gain title to their land and apply for credit at banks and other lending institutions. Effects of education on agriculture are greatest when the proportion of females educated to threshold level equals that of males. Education benefits a woman in life-altering ways. An educated woman gains higher status and an enhanced sense of efficacy. She tends to marry later and have greater bargaining power and success in the "marriage market." She also has greater bargaining power in the household after marriage. An educated woman tends to desire a smaller family size and seek the health care necessary to do so. She has fewer and healthier children. An educated woman has high educational and career expectations of her children, both boys and girls. For females, education profoundly changes their lives, how they interact with society, and their economic status. Educating women creates more equitable lives for women and their families and increases their ability to participate in community decision making and work toward achieving local sustainability goals. Another educational threshold is primary education for women. At least a primary education is required before birthrate drops and infant health and children's education improve. Nine to 12 years of education are required for increased industrial productivity. This level of education also increases the probability of employment in a changing economy. Finally, a subtle combination of higher education, research, and lifelong learning is necessary for a nation to shift to information or knowledge-based economy, which

is fueled less by imported technology and more by local innovation and creativity

A NEW VISION FOR EDUCATION

These many initiatives illustrate that the international community now strongly believes that we need to foster — through education — the values, behavior and lifestyles required for a sustainable future. Education for sustainable development has come to be seen as a process of learning how to make decisions that consider the long term future of the economy, ecology and social well-being of all communities. Building the capacity for such futures-oriented thinking is a key task of education. This represents a new vision of education, a vision that helps students better understand the world in which they live, addressing the complexity and interconnectedness of problems such as poverty, wasteful consumption, environmental degradation, urban decay, population growth, gender inequality, health, conflict and the violation of human rights that threaten our future. This vision of education emphasizes a holistic, interdisciplinary approach to developing the knowledge and skills needed for a sustainable future as well as changes in values, behavior, and lifestyles. This requires us to reorient education systems, policies and practices in order to empower everyone, young and old, to make decisions and act in culturally appropriate and locally relevant ways to redress the problems that threaten our common future. In this way, people of all ages can become empowered to develop and evaluate alternative visions of a sustainable future and to fulfill these visions through working creatively with others.

SEEKING SUSTAINABLE DEVELOPMENT THROUGH EDUCATION BY EDUCATORS :

place an ethic for living sustainably, based upon principles of social justice, democracy, peace and ecological integrity, at the centre of society's concerns encourage a meeting of disciplines, a linking of knowledge and of expertise, to create understandings that are more integrated and contextualized ^ encourage lifelong learning, starting at the beginning of life and grounded in life — one based on a passion for a radical transformation of the moral character of society develop to the maximum the potential of all human beings throughout their lives so that they can achieve self-fulfillment and full self-expression with the collective achievement of a viable future value aesthetics, the creative use of the imagination, an openness to risk and flexibility, and a willingness to explore new options encourage new alliances between the State and civil society in promoting citizens' emancipation and the practice of democratic principles mobilize society in a concerted effort so as to eliminate poverty and all forms of violence and injustice encourage a commitment to the values for peace in such a way as to promote the creation of new lifestyles and living patterns create realistic hope in which the possibility of change and the real desire for change are accompanied by a concerted, active participation in change, at the appropriate time, in favour of a sustainable future for all.

KEY POINTS ^:

Deciding how education should contribute to sustainable development is a major task. In coming to decisions about what approaches to education will be locally relevant and culturally

appropriate, countries, educational institutions and their communities may take heed of the following key lessons learnt from discussion and debate about education and sustainable development over the past decade. Education for sustainable development must explore the economic, political and social implications of sustainability by encouraging learners to reflect critically on their own areas of the world, to identify non-viable elements in their own lives and to explore the tensions among conflicting aims. Development strategies suited to the particular circumstances of various cultures in the pursuit of shared development goals will be crucial. Educational approaches must take into account the experiences of indigenous cultures and minorities, acknowledging and facilitating their original and important contributions to the process of sustainable development. The movement towards sustainable development depends more on the development of our moral sensitivities than on the growth of our scientific understanding — important as that is. Education for sustainable development cannot be concerned only with disciplines that improve our understanding of nature, despite their undoubted value. Success in the struggle for sustainable development requires an approach to education that strengthens our engagement in support of other values – especially justice and fairness – and the awareness that we share a common destiny with others.

CONCLUSION:

From the above discussion we can conclude that if we want to achieve sustainable development goals, especially SDG 4 we have to adopt ESD as a process and mechanism for making our education system (school level) robust,

progressive and sustainable. An education system or a school organization that promotes the awareness of the complexities, diversities and uncertainties of the surrounding world and promote changes through ESD strategies can be considered as reflexive in relation to social learning and new social movements. In order to bring reform in our education system we have to improve the basic unit of a school as an organization that encompass the human efforts and material equipment which could collectively improve student's learning, teachers' performance and school culture (Kelley and Dijkers, 2016). The recent ESD literature on SDGs for 2030 advocates for "Whole School Approach" to bring sustainable change in the schools' vision, routines and structures , professional knowledge creation and pedagogical practices. In the proposed pilot study the present authors also wish to adopt the Scherp's ESD model (2013a) to examine its impact in Indian context. The primary purpose of adopting ESD is to build up a school culture that would improve learning and help students to become responsible individuals by fostering sustainability for the sake of conservation of natural resources and promote equality, sustainable consumption, life-style and practices to protect our environment and make our world a place of sustainable habitat.

REFERENCES:

- World Commission on Environment and Development: 1987. *Our Common Future*, Oxford: Oxford University Press.
- Van Den Branden, K. (2012), "Sustainable education: basic principles and strategic recommendations",

school effectiveness and school improvement, Vol. 23 No. 3, pp. 285-304.

Van Den Branden, K. (2015), "Sustainable education: exploiting students' energy for learning as a renewable resource", Sustainability, Vol. 7, pp. 5471-5487

Heyn, Michael; Katrina Lythgoe; and

Charles Myers, 1997. "Education and Economic Development: Sustainability, Threshold, and Equity." Proceedings of the Third UNESCO ACEID International Conference Educational Innovation for Sustainable Development. UNESCO: Bangkok, Thailand.