

Education: An Essential tool for Sustainable Development

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Introduction

It is widely agreed that education is the most effective means that society possesses for confronting the challenges of the future and for shaping the world of tomorrow. Access to education is the *sine qua non*¹ for effective participation in the life of the modern world at all levels (UNESCO, 1998).

Education is that thread which ties the society with the discipline and knowledge. Globally we are experiencing an important role of education in the development of the society in a particular way which leads to the sustainable development of the world. The present study examines the consequences of education on sustainable development and highlights the importance of sustainable development. The study is divided into four parts. In the first part of the paper, we have discussed sustainable development broadly, its definitions and meaning. In the second part of the paper, we have given stress on education outcomes and sustainability. The third part of the paper is dedicated to India and her education trends towards sustainable development. In the fourth part of the paper, we have given conclusions and discussion.

Sustainable Development:

Sustainable development can be and should be the organizing principle for improving quality of life and in our communities. It integrates traditional economic development and social well-being with environmental protection and restoration, and makes particular sense at the community level because the relationships among these objectives are most obvious there (Dernbach & Bernstein, 2003, p.528). It is the development which does not cause environmental externalities.

The word “sustainability” has appeared frequently over the past several decades in literature in fields, particularly those concerned with environment and halting environmental degradation (e.g. Senator Al Gore’s 1991 Earth in the balance) (Stea & Zech, 2007, p.159). Sustainable means “able to be sustained”; that is, to be maintained indefinitely, and is contrasted with “unsustainable”, referring to what cannot be maintained (Martinez-Alier 2002; Wackernagel and Rees 1995). Sustainable development means having a different vision of the world. Sustainable development a constantly evolving concept, is thus the will to improve everyone’s quality of life, including that of future generations, by reconciling economic growth, social development and environmental protection (UNDESD, 2005) There are many definitions of sustainable development given by different people but the most commonly used definition of sustainable development defines it as “the development which meets the needs of the present generation without compromising the needs of the future generations. It is the capacity to satisfy the needs of the present generation without jeopardizing the possibility of doing so for future

¹ According to Cambridge dictionary Sine qua non is the necessary condition without which something is not possible

In December 2002, The United Nations General Assembly adopted resolution 57/254 to put in place a *Decade of Education for Sustainable Development* from 2005-2014. The primary goal for the decade is laid out in the *UN General Assembly Resolution* “encourage governments to consider the inclusion...of measures to implement the decade in their respective education systems and strategies and, where appropriate, national development plans” (Mekeown, 2007, p.151).

United Nations Millennium Development Goals (UNMDGs) and United Nations Sustainable Development Goals (UNSDGs)

The Millennium Development Goals as given by United Nations are:

1. Eradication extreme poverty and hunger.
2. Achieve universal primary education.
3. Promote gender quality and empower women.
4. Reduce child mortality.
5. Improve maternal health.
6. Combat HIV/AIDS, malaria, and other diseases.
7. Ensure environmental sustainability.
8. Develop a global partnership for development.

The new sustainable development agenda seeks to ensure that the momentum generated by the millennium development goals is carried forward beyond 2015 to achieve not just substantial reductions in poverty, hunger and other deprivations but finally end them to provide a life of dignity to all (United Nations, 2015).

Sustainable Development Goals

The following figure shows United Nations Sustainable Development Goals:



Source: <http://ftnnews.com/images/stories/other/2015/sustainable-dev-goals.jpg>

Education outcomes and sustainability

Education is an important factor for the development of any nation and it is not possible to achieve sustainability without the development of education. From the time sustainable development was first endorsed at the *UN General Assembly* in 1987, the parallel concept of education to support sustainable development has also been explored. From 1987 to 1992, the concept of sustainable development matured as committees discussed, negotiated, and wrote the 40 chapters of *Agenda 21*. Initial thoughts concerning ESD were captured in chapter 36 of *Agenda 21*, "Promoting Education, Public awareness and Training" (ESD Toolkit, 2016). Education is a foundation for sustainable development. Improving the quality of our life implies a change in our learning.

Sustainable development has three dimensions (i.e., social, economic and environment) and education contributes all the three. Education is a fundamental human right and the bedrock of sustainable development. The Important role of education is mentioned throughout various conferences of United Nations and other international organisations. It has always been an integral part of the sustainable development agenda. The *World Summit on Sustainable Development (WSSD)* in 2002 adopted the *Johannesburg Plan of Implementation* which in its *Section X* reaffirmed both the education by 2015. The role of formal education in building society is to help students to determine what is best to conserve in their cultural, economic and natural heritage and to nurture values and strategies for attaining sustainability in their local communities while contributing at the same time to national and global goals (UNESCO, 1998).

The decisive role of education in sustainable development was also appropriately noted at the *United Nations Conference on Environment and Development (UNCED)*, held in *Rio de Janeiro* in 1992 through *chapter 36*, and in *paragraph 233* of the *Future We Want*, the outcome of the *United Nations Conference on Sustainable Development, Rio+20*, in 2012 education was also emphasised to a great extent. Education is both a human right in itself and an indispensable means of realizing other human rights. As an empowerment right, education is the primary vehicle by which economically and socially marginalized adults and children can lift themselves out of poverty and obtain the means to participate fully in their communities ...Education in all its forms and at all levels shall exhibit the following interrelated and essential features: (a) Availability (b) Accessibility.... (c) Acceptability...; and (d) Adaptability (Wilhite, Jaja and Lou, 2012, p.636).

Education is critical for promoting sustainable development. Both formal and non-formal education is indispensable to changing people's attitudes so that they have the capacity to assess and address their sustainable development concerns (Jickling, 1994, p.236). Education is a primary vehicle by which all people can be lifted out of poverty, as well as being an instrument for the achievement of many other human rights (Wilhite, Jaja and Lou, 2012, pp.630-631). Education is not only a basic human right but it is an essential for development. Education enables individuals especially women to live and aspire healthy, meaningful, creative and resilient lives. Education has multidimensional impacts on the accessibility of the human beings. Education

generates productivity gains that fuel economic growth. An increase in the average educational attainment of a country's population by one year increase annual per capita GDP growth from 2 *per cent* to 2.5 *per cent*. This is equivalent to increasing per capita income by 26 per cent over a 45 years period, roughly the working life span of an individual (UNESCO, 2014).

Education for sustainable development (ESD)

Education for sustainable development enables people to develop the knowledge, values, and skills to participate in decisions about the way we do things individually and collectively, both globally and locally that will improve the quality of life now and without damaging the planet for the future (Alkis, 2008, pp.597-598). Education for Sustainable Development is simultaneously a sub-field of education and a conceptual tool to aid policy makers in authoring educational policies that take into account the present environmental, societal and economic challenges. It means including important sustainable development issues like climate change, biodiversity, disaster risk reduction, sustainable consumption, poverty reduction, etc. into teaching and learning.

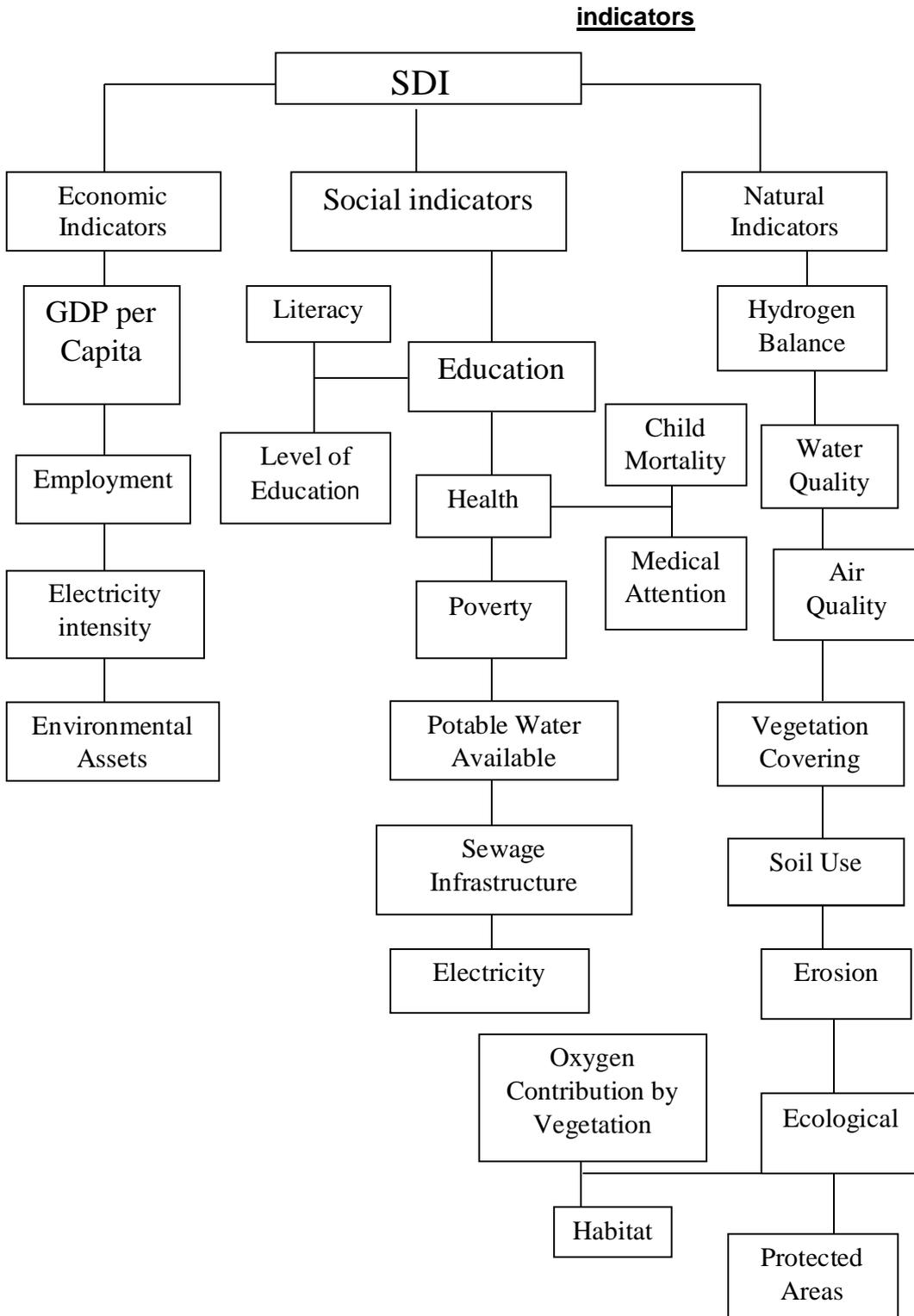
According to the UNESCO, "*it is based on all levels and types of learning- learning to know, learning to be, learning to live together, learning to do and learning to transform oneself and society*".

Education for sustainable development therefore is an important didactic tool of making an individual aware about the interdependence between human beings and each and every unit of ecology. Based on the recommendations from the *Johannesburg Summit* in 2002, *United Nations General Assembly* proclaimed in December 2002, by consensus a *UN Decade for Education for Sustainable Development 2005-2014* with UNESCO as the lead agency to promote the decade (Lindroos & Paaso, 2008, p.582). Different countries are taking serious concerns of sustainability

Sustainable Development Index (SDI)

The sustainable Development Solution Network (SDSN) and Bertelsmann Stiftung launched new sustainable development goal index and dashboard to provide a report card for tracking sustainable development goals (SDG) progress and ensuring accountability (The Economic Times, 2016). The rationale behind the HSDI is to add an environmental dimension to the HDI- which already covers two of the three dimensions of sustainability, namely the social and economic ones (see Goodland 1995)- to build a truly sustainable development index (Goodland, 1995, p.2). The HSDI has been proposed as a new way to promote sustainable development by amending the HDI in order to put a step to "celebration" of "gas-guzzling developed nations" (Togtokh, 2011, p.5). It is the index for measuring the same thing as the HDI but it also takes into account the one more indicator that the HDI fails to do and that is an environment. It includes per capita carbon emissions of the nations for finding the impact of these variables on sustainability.

The tree representing the sustainable development index considering 21



(Source: A.Barrera-Roldan, A.Soldivar-Valdes/ Ecological Indicators 2 (2002) p.254)

Hong Kong Sustainable Development Index is also an example of sustainable development index. (Geoffrey, Kelvin, and Yang, 2011) presented Sustainable Development Index of Hong Kong where they defined sustainable development index by weighted average of satisfaction scores of the ten pre-specified priority areas. It has a range between 0 and 100. The relative levels of importance of the 10 priority areas were used as weights. The importance levels of the 10 priority areas were first normalized into a percentage distribution, so as to produce a summed total of one.

In particular, the computational formula of HKSDI is given by:

$$\frac{\sum_{i=1}^{10} \bar{w}_{i1} \bar{p}_{i1}}{\sum_{i=1}^{10} \bar{w}_{i0} \bar{p}_{i0}} \times 100$$

$$\bar{w}_{i1} = \frac{1}{n} \sum_{j=1}^n W_{ij}$$

$$\bar{p}_{i1} = \frac{1}{n} \sum_{j=1}^n P_{ij}$$

Where W_{ij} is the level of importance for priority area i provided by respondent j ;

P_{ij} is the satisfaction level for priority area i provided by respondent j ;

n is the sample size;

\bar{w}_{i1} and \bar{p}_{i1} are the average important level and satisfaction level respectively for priority area i of the current year;

\bar{w}_{i0} and \bar{p}_{i0} are the average important level and satisfaction level, respectively for priority area i of the base year 2003.

India and Sustainable development

The goal of sustainable development cannot be achieved without India. This increased convergence in development priorities provides a basis for an enhanced partnership between the United Nations and India as the country develops. The proposed Sustainable Development Goals have also set a higher standard, which all Indians can recognize as an opportunity to finally end the crippling deprivations much of the country's population has long suffered from (UN, 2015). India is the second largest country in view of population, it has **1,312,457,832 (1.34 billion)²** people **as on October 1, 2016**, which is the *17.85 per cent³* of the world population. India is world's fastest growing economy with a growth rate of 7.6 per cent⁴. India was also one of the participants when UNESCO members adopted the declaration of *Education for Sustainable Development*

² Indiaonlinepages.com (<http://www.indiaonlinepages.com/population/india-current-population.html>) retrieved on 01-10-2016

³ lb id.

⁴ The World Bank data (<http://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG>) retrieved on 01-10-2016

(ESD), during *UNESCO World Conference on Education for Sustainable Development* held in Aichi-Nagoya, Japan, from 10 to 12 November 2014 (UNESCO, 2014). Beginning with the *RIO + 20 Conference on Sustainable Development in 2012*, countries have undertaken a series of processes to establish a post- 2015 development agenda. Among various efforts, an *Open Working Group (OWG)* of countries has used *MDG's* as a foundation for drafting a new broader set of *Sustainable Development Goals (SDG)* to be achieved by 2030 (UN, 2015, p.19). Sustainable development is a fundamental national policy in China. Since 1992, the Chinese government has been enacting a progress of major ventures aimed at bolstering the implementation of *Agenda 21*. In 1994 Chinese government published China's *Population, Environment, and Development in the 21st century* (Bednarz & Hamann, 2008, p.185). Since the United Nations Conference on Environment and Development, there has been increasing recognition of the critical role of education in promoting, sustainable consumption and production patterns in order to change the attitudes and behavior of people as consumers and producers and as citizens carrying out their collective responsibilities and duties. But this field is still in its infancy. Some progress has been made through activities with the advertising industry, youth surveys and in the development of teacher education materials (UNESC, 2001). However, India has not spent enough on human development, resulting in generally poorer outcomes in such areas as health, nutrition, quality of education (including skills and development), and sanitation and hygiene, compared to developing Asia as a whole and particularly compared to East Asia, which has surged for ahead. In health, for example, where India is particularly underperforming, it spends 4.05 *per cent* of its GDP, compared to 6 *per cent* to 12 *per cent* in upper middle and high-income countries respectively (UN, 2015, p.22).

Progress in understanding and achieving sustainability requires addressing it as both a scientific and an ethical issue. If sustainability is defined as "meeting human needs in a socially joint manner without depriving ecosystems of their health", most of the words in its definition are normative or value-laden. Depending on how critical normative terms such as "human needs" and "ecosystem health" are defined, sustainability could mean anything from "exploit as much as desired without infringing on the future ability to exploit as much as desired" to "exploit as much as necessary to maintain a meaningful life" (Vucetich & Nelson, 2010. P.539). There is now a remarkable convergence of vision underlying the priorities for the proposal SDG's and those of the new government in India. Building on the MDG's, the SDG's propose to end poverty and deprivation in all forms, leaving no one behind, while making development economically, socially and environmentally sustainable (UN, 2015. P.3). Apart from many backdrops, India has made notable progress towards reaching millennium development goals. India has the capacity to improve her performance by helping the weaker states emulate the good performers. With the help of quality education and other important aspects of sustainability, India can achieve the better position in sustainable development index which is not good now. According to sustainable development index 2016, India has ranked a low 110th among 149 nations assessed on where they stand with regard to achieving the sustainable development goals, according to new index which is topped by Sweden shows all countries face major challenges in achieving these ambitious goals (The Economic Times, 2016). So

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