Multidisciplinary Approaches in Addressing Sustainability Challenges

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Abstract

People can't live peacefully until a constructive environment for sustainable life continues on the earth. Continuous environmental degradation, injudicious use of renewable energy resources, violence, lust for power, racism, social injustice etc. have made life miserable for many people. Materialism and reductionism have dominated the idea of human thoughts both in philosophy and science. The concept of development in the present era is temporary and quantitative. It is measured in terms of per capita income and Gross Domestic Products (GDP). There is ceaseless attempt to apply the principles of science to all the humanistic subjects including religion, ethics, education, psychology and development. Now-a-days nature is seen as a combination of building blocks of matter and man is seen as a cog in the wheel to be turned by a 'welfare state' for maximum benefits of maximum possible people. Communism as well as capitalism is outcomes of same philosophy of materialism, reductionism and industrialism. Unfortunately both failed to fulfill the development dream for all the people and ended in tyranny in one form or the other. The above said challenges can only be addressed if we have a sustainable society, where living conditions and use of resources continue to meet human needs without undermining the integrity and stability of economic, social and environmental system. The sustainable development today has become a pragmatic word which embraces all disciplines of knowledge. The sustainable development goals (SDGs) based on three dimensions of development viz. economic, social and environmental are viewed as extension of millennium development goals (MDGs). As recommended by UNESCO the SDGs are a set of seventeen specific goals offering special focus on important areas related to sustainable development that requires urgent and extensive attention at present and in near future. Quality education for everyone being the fourth goal is the basis for all other goals. Objective of this goal is to ensure inclusive and equitable quality education and prolong lifelong opportunities for all. It is well known that quality education converts people into human beings with responsibility for sustainable development of the society. The present paper is an attempt to highlight the challenges which cause hurdles in the way of sustainable development and try to analyze the multidisciplinary approaches in education to address the posed challenges. This paper will further pinpoint some suggestion which need to be undertaken for the accomplishment of sustainable development goals of 2030.

"We have sufficient to meet the needs of people but not the greed of people"

M.K Gandhi

Key Words-sustainable, multidiscipline, development, Education

INTRODUCTION

People can't live peacefully until a constructive environment for sustainable life continues on the earth. Continuous environmental degradation, injudicious use of renewable energy resources, violence, lust for power, racism, social injustice etc. have made life miserable for many people. Materialism and reductionism have dominated the idea of human thoughts both in philosophy and science. The concept of development in the present era is temporary and quantitative. It is measured in terms of per capita income and Gross Domestic Products (GDP). There is ceaseless attempt to apply the principles of science to all the humanistic subjects including religion, ethics, education, psychology and development. Now-a-days

nature is seen as a combination of building blocks of matter and man is seen as a cog in the wheel to be turned by a 'welfare state' for maximum benefits of maximum possible people. Communism as well as capitalism are outcomes of same philosophy of materialism, reductionism and industrialism. Unfortunately both failed to fulfill the development dream for all the people and ended in tyranny in one form or the other. In the recent years, the socio-economic-political situations all over the world have undergone considerable transformations under the impact of urbanization, globalization and industrialization. The development of infrastructure has just not kept pace with expansion. Climate change, the global food crisis and ongoing financial and economic crisis are the examples of sustainability issues the societies have to cope with in a globalized world. Population is growing at much faster rate and it is one of the factors which is contributing to environmental degradation and thus posing a danger to sustainability of society. There is growing realization among scientists that we are using our resources in an irrational way. Struggle among nations or groups to gain social, economic and political power, is increasing day by day. Russia and Ukraine war is live example of this. The above said challenges can only be addressed if we have a sustainable society. But in this era of unsustainability, can we think of sustainable society? If yes, can it meet the needs of the future society? Sustainable society is the society, where living conditions and use of resources continue to meet human needs without undermining the integrity and stability of economic, social and environmental system.

The Sustainable Development G0als (SDGs) are based on three dimensions of development namely environmental development, economic development and social development. If these three dimensions exist in harmony with each other, then only sustainable development can take place. Let's have a small description of these three dimensions of sustainable development:

- **Environmental Sustainability:** Environmental sustainability is the process of making sure current processes of interaction with the environment are pursued with the idea of keeping the environment as pristine as naturally possible based on ideal-seeking behavior. The report of 'Third Environment Outlook' states that by 2032, 3% of the earth surface will become concrete due to urbanization. More than half of the population will live with drought. Next war will be fought for water. 70% of the remaining land and animals would be under threat; 16 billion tons of carbon dioxide will be released from fossil fuels. An unsustainable situation occurs when natural capital (the sum total of nature's resources) is used faster than it can be replenished. Sustainability requires that human activity only uses natures' resources at a rate which can be replenished naturally.

- **Economic Sustainability:** In the present society, differentiation is based on per-capita income i.e. on economic basis whereas morality, culture, knowledge, spiritual values are ignored. Brundtland Commission Report (1987) also pointed out the linkage between economic development, environment degradation and population pressure. Economists have since focused on viewing the economy and the environment as a single interlinked system with a unified valuation methodology. Healthy ecosystem provides vital goods and services to human and other organisms. Thus, economic sustainability concerns the specification of a set of actions to be taken by present persons that will not diminish the prospects of future persons to enjoy level of consumption, utility, or welfare comparable to those enjoyed by present persons. At present, the average per capita consumption of people in the developing world is sustainable but population numbers are increasing and individuals are aspiring to high consumption western lifestyle. The developed world population is only increasing lightly but consumption levels are unsustainable. Thus, the challenge of sustainability is to curb and manage western consumption while raising the standard of living of the developing world without increasing the resources use and environment impact.

- **Social Sustainability:** Sustainability issues are generally expressed in environmental and economic terms, but implementing change is a social challenge that entail, among other things, international and national laws, planning and transport, local and individual life style, and ethical consumerism. Social disruptions like war, crime and corruption divert resources from areas of greatest human need, damage the capacity of societies to pan for the future and generally threaten human well-being. Another major hurdle to achieve sustainability is the alleviation of poverty.

According to Brundtland Report, "Poverty is the major cause and effect of global environmental problem". Individual living in poverty then to rely heavily on their local ecosystem as a source for basic needs (such as medicine and nutrition) and general well-being. According to United Nation Population Fund, high fertility and poverty have been strongly correlated thus leading to un-sustainability.

One approach to sustainable living is to have small scale urban transition towns and rural eco-villages, which maximize self-efficacy particularly in food production. Other approaches are based on new urbanism, through reducing environmental impact by altering the built environment and pressure sustainable cities which support sustainable transport. Thus the degree of human progress towards sustainability depends on large scale social movements.

The above mentioned three dimensions of sustainable developments i.e. environmental, economic and social are viewed as extension of millennium Development goals (MDGs) with sustainability parameter added to each MDG to be implemented in the post-2015 era along with a set of new goals which were ignored in the MDGs. These are a new set of goals, targets and indicators that the United Nation (UN) member states are expected to use to frame their agendas and political policies over the next 15 years. The SDGs are a set of 17 specific goals offering special focus on important areas related to sustainable development that require urgent and extensive attention at present and in the near future. The 4th SDG i.e. quality education is the basis for all other goals. The main objective of this goal is to ensure inclusive and equitable quality education and promote lifelong opportunities for all. It is well known that quality education transform people into human beings with responsibility for sustainable development of the society.

The United Nation has recognized the central role of education, and has declared a 'Decade of Education for Sustainable Development' (DESD) 2005-2014, which aim to challenge us all to adopt new behavior and practices to secure our future.

The objectives of the DESD are:

- Facilitate networking linkage, exchange and interaction among stakeholders in education for sustainable development.

- Foster increased quality of teaching and learning in education for sustainable development.

- Help countries make progress towards and attain the millennium development goals (MDGs) through education for sustainable development.

- Provide countries with new opportunity to incorporate education for sustainable development into education reform efforts.

UNESCO is also facilitating the international Education for All (EFA) programme that aims to develop and implement national education plan, enable capacity development in early-childhood, primary and science education, and catalyze new approaches to family education as well as citizenship, peace, multicultural and environment education. UNESCO has also developed partnerships with many UN agencies, including UNFPA, WHO and ILO to promote population education, WHO to develop new approaches to health education, FAO to advance education in rural areas and promote food security, WHO and UNAIDS to combat the pandemic, UNICEF, UNHCR and major NGOs to assist in the reconstruction of education in crisis and post-conflict situations, and many more.

Reorienting education towards sustainable development requires a new vision for education. Chapter 36 of Agenda 21, on Education, Awareness and Training states that education, including formal education, public awareness and training should be recognized as a process by which human beings and societies can reach their fullest potential. Education is critical for achieving environmental and ethical awareness, values and attitudes, skills and behavior consistent with sustainable development and for effective public participation in decision-making. Both formal and informal educations are indispensible to changing people's attitude so that they have the capacity to assess and address their sustainable development concern. To achieve this vision, chapter 36 called on governments, international agencies, business and civil society groups to:

- Ensure that basic education and functional literacy for all is achieved.
- Make environment and development education available to people of all ages.
- Integrate environmental and developmental concepts, including those of population, into all educational programmes, with analysis of the causes of the major problems.
- Involve school children in local and regional studies on environmental health, including safe drinking water, sanitation, food and the environmental and economic impact of resource use.

The 4th SDG i.e. quality education has following 10 targets encompassing following aspects of education

- Universal primary and secondary education
- Early childhood development and universal pre-primary education
- Equal access to technical/vocational and higher education
- Relevant skills for decent work
- Gender equality and inclusion
- Universal youth literacy
- Education for sustainable development and global citizenship
- Effective learning environment
- Scholarships
- Teacher and educator

The goal 10 proposes that by the year 2030, there should be a substantial increase in the availability of qualified teachers all over the world, through international cooperation among the countries for teacher training in developing and under developed countries. The goal seven proposes that by the year 2030, it is essential that everyone through education should aquire the knowledge and skills needed to promote sustainable development including sustainable lifestyle, global citizenship, human right, gender equality, and promotion of a culture of peace and non-violence, appreciation of cultural diversity and culture's contribution to sustainable development.

A periodic improvement in the education system is necessary for human development and sustainable development of society. Reforms in the education system by considering many success models in developed countries and customizing such things with local needs is the present requirement for a country to prosper. India , being a fast developing country with approximately 130 crore human capital can prosper and overtake other developing countries by planning and adopting an appropriate model of education. In this aspect, the National Education Policy 2020 is an inclusive model with many innovations to provide liberal but specialized and customized both school and college education by adding research components both at school and college level. The NEP 2020 envisions an indigenous education system that contributes directly to transforming our nation into sustainable, equitable and vibrant knowledge society by providing high quality of education to all. It draws inputs and diciplines from fast amount of India's heritage. The country's education system contributed many scholars including Charaka, Susruta, Aryabhata, Bhaskarcharya, Chanakya, Patanjali and many more. Through such famous people the country made influential contributions to world knowledge in varied fields such as mathematics, astronomy, metallurgy, civil engineering, architecture, navigation, medical science etc. the entire Indian education is founded and built with such background support and inspiration. The goal of Indian Education is to develop good, well-rounded and creative individuals with intellectual curiosity, spirit of service and a strong ethical compass.

The planned transformation in higher education and research is envisioned to be implemented and monitored through three major institutes named Mission Nalanda, Mission Takshashila, and National Research Foundation. The NEP has suggested many techniques to be implemented to realize liberal education like STEAM (Science, Technology, Education, Art & design, Mathematics), multidisciplinary and cross disciplinary education. Quality of B.Ed. will improve due to the fact that only type-I and Type-II HEIs will be able to offer teacher education. Teachers are made as to the center of the system and the measures are for continuous improvement of both quality and performance of the teachers. Drastic improvement in the quality and exposure of school teachers by making four years integrated B.ED. as a minimum qualification for them. Further encouragement research is provided by proposing a policy for

National research Foundation to retain IPR with the researchers. Secondary stage of school education comprises of four years with eight semesters so that repeated board exams at state level are eliminated.

Education is a fundamental human right. It plays an important role in sustainable development, peace and stability within and among countries. Thus an indispensible means for effective participation in the societies and economics of the twenty-first century, are affected by rapid globalization. Therefore, the reorientation of education as a whole towards sustainability involves all levels of formal, non-formal and informal education in all the countries. The concept of sustainability encompasses not only environment but also poverty, health, food security, democracy, human rights and peace. Following are some strategies for sustainable development through education:

- ✓ **Vision building for Sustainable Development:** Education should provide vision to people, particularly teachers and students to work for environmental protection and conservation. The programmes should be organized in the form of orientation and workshops, involving the local communities.

- ✓ **Capacity Building and Training for Sustainable Development:** Education institutions should organize capacity building and training programmes on Education for Sustainable Development for teachers and students besides covering environmental education, integrating population education and consumer education.

- ✓ **Research and innovations for sustainable development:** The institutes of higher education and universities should conduct research and survey to identify linkages between education and sustainable development and other aspects of learning (literacy, natural science, social science etc.).The teacher training institutes also train prospective teachers to address sustainable development in a locally relevant and culturally appropriate manner.

- ✓ **Creating awareness among students for Sustainable:** Educational institutions should emphasize on creating awareness and understanding among students that an individual or group action can affect the life of others as well as influence the social, economic and environmental situations-locally, nationally, regionally and globally both for the present and future generations.

- ✓ **Inculcation of Values for Sustainable Development:** Education institutions should develop strategies to inculcate values to bring positive changes for sustainability through education. These values include:
  - (i) Respect for the human rights of future generations and communities to inter-generational responsibility.
  - (ii) Respect and care for the greater commonality of life.
  - (iii) Respect and commitment for protecting and restoring the earth's ecosystems.
  - (iv) Respect for the cultural diversity, and commitment to build locally and globally a culture of tolerance, non-violence and peace.

- ✓ **Peace Education for Sustainable Development:** Peace in today's world is only a dream that does not exist in reality. The majority of the world's population and the rest of the God's creation on earth is suffering from violence, conflicts and war which are on the rise globally. In the words of UNESCO "since war begin in the minds of men, it is the mind of the men that the defenses of peace are to be constructed". Therefore the remedy also has to take shape in the mind of men. There is a great need to train human mind to work towards peace. Peace education is an attempt to respond to problems of conflict and violence on scales ranging from the global and national to the local and personal. It is about ways of creating just and sustainable future. Educational institutions are the platforms where the young minds are trained to understand the deeper meaning of peace for sustainable development. To accomplish this, the teacher should developed qualities such as patience, tolerance, respect and appreciation for others, being fair and open-minded.

- ✓ **Population Education for Sustainable Development:** According to census of India 2021, India's current population is1.39 billion. India is the only country after china to officially cross the billion marks. China's current population is about 1.41 billion and continuously showing slow growth trends. It is expected that in 2032, china will be with zero population growth rate; therefore, India will most likely overtake china to become the most populous country in the world. The rapid population growth and the concomitant problems of poverty and lack of

adequate health and educational facilities, malnutrition, non-fulfillment of even the basic needs of a vast majority of populace, scarcity of employment opportunities' dwindling natural resources and consequently environmental degradation constitute critical dimensions of the present population and developmental phenomenon and thus posing a great threat to sustainable development.

Population education makes the learners aware of the interrelationship between population and sustainable development and thus inculcate in them rational attitude and responsible behavior towards population and development issues. It also empowers them to take decisions on issues of population and development including those of reproductive health.

- ✓ **Environment education for Sustainable Development:** Pollution of air, land and water through excessive deforestation, industrialization and overfilling landfills which emit carbon dioxide and add to greenhouse effect result in environmental crisis. If human society has to survive for not just another century, but for thousand and thousand years, we need to imbibe a way of life that can be sustained. World educators and environmentalists have repeatedly pointed out that any solution to environmental crisis will require environmental awareness and understanding, to be deeply rooted in the education system at all levels. Hence environment education assumes great significance, as people who are ignorant and indifferent to environment must be educated.

  Environmental Education (EE) is a permanent process in which individual gain awareness of their environment and acquire the knowledge, values, skills, experiences, and also the determination which will enable them to act individually and collectively to solve present and future problems in order to meet their needs without compromising those of future generations.

- ✓ **Human Right Education for Sustainable Development:** Globalization is widely considered to be the fundamental dynamic of our time, an epoch making event in the history of mankind radically transforming social and economic relations and institutions in the present century. W. Twinning defines globalization in terms of 'those processes which tend to create and consolidate a world economy, a single ecological system, and a complex network of communication that cover the whole globe even if does not penetrate every part of it'. In narrow sense globalization means and refers to 'widening and deepening of the international flow of trade, technology and information within a single integrated globe market'. It means the free flow of capital and the removal of trade barriers between states, as well as to the accompanying cultural transformation and exchange. Although globalization has affected all facets of our life, it is increasingly becoming synonymous with development, growth in trade, technology, finance, and international civil society factors, global operations of transactional corporation. Vast increase in transboundary communication and information exchange, economic liberalization, privatization deregulation, hegemony of market capitalism.

  While globalization offers great opportunities, its benefits are very unevenly shared and its costs are unevenly distributed.

  Globalization has made adverse impact on the social, economic and cultural rights of the impoverished, deprived and disadvantaged sections of society.

  It is widely believed that globalization has the potentiality to offer a host of opportunities for economic growth, employment generation and for the wellbeing of people but the current course of globalization is so narrow and limited that it has proved detrimental to the interest of the world's poor. Sadly, economic globalization has led to markets becoming genuinely free. It has led to wide economic inequalities in the world and created new economic insecurities. It has adversely affected the economic and social rights of people across the world. But since globalization seems to be an irreversible process the problem before us is how to make it genuine, fair and equitable so that benefits can reach equitably to world's poor and developing countries. It requires a political, economic, ethical and spiritual vision based on respect for the human rights of all people and to human wellbeing for sustainable development.

  The task of making globalization inclusive and equitable is daunting but not insurmountable and U.N. Millennium declaration provides the necessary framework for it. The article 26 of Universal D of Human Declaration of Human Rights states that "Education shall be directed to the full development of human personality and to the strengthening of respect of human right and

fundamental freedom. It shall promote understanding, tolerance and friendship among nation, racial or religious groups.

Also UNESCO's International Congress on education for Human Rights and Democracy (1993) adopted a definition that, "Human Right Education is a human right, a precondition for sustainable development, the civil, social and democracy. It was also accepted that human right education provide protection from discrimination, unfair treatment, undemocratic attitude, deterioration of cultural values, unawareness of society and environment, exploitation, bondage, human rights illiteracy, abuses of human rights at any level etc.

Human Rights Education is an emerging concept and has assumed eminence and significance in order to ensure success of democracy, socialism and secularism throughout the world. The UN and affiliated agencies have not only taken initiative but have also been implementing various programmes and actions for making human right education a success. Unless all human beings are able to enjoy their rights adequately there will be no peace, harmony and happiness in the universe.

Thus, Human Right Education for Sustainable Development

- Is the only guarantee of demonstrating our commitment to human dignity, promotion of an adequate standard of life to everyone and finally for the promotion of world peace and prosperity for all.
- Guarantees fundamental human rights and freedom to all without distinction of creed, race, and sex, economic and political status.
- Guarantees gender equality and women empowerment to enable women to contribute equally to peace and prosperity.
- Is committed to the achievement of goals of UN Decade for Human Rights Education (1995-2005)

CONCLUSION

At the end, we can say that education act as a powerful tool in the socio-economic transformation of society, community and nation. It sharpens the eye of knowledge, develops awareness and makes mind logical. Education is an input as well as dynamic force besides promoting knowledge; understanding and disseminating information can help changing attitude by giving stress on ethics and morality. In the words of **Betrand Russel,** "World could be transformed if the basis of education is the knowledge wielded by love and values for sustainable development. Through education we need to pass on the message to the society that to maintain the quality it requires commitment, acceptable reverence and eloquence. It is not the quantity of education but the quality that is important. To maintain quality it requires efforts, courage, conviction and commitment.

Education encompasses teaching and learning specific skills, positive judgment and well developed wisdom. It is the fundamental instrument of imparting culture from one generation to another. The basic aim of the education for sustainable development is 'education for a new man', who has a culture of sustainability, high socio-cultural needs and deep ethical moral values and who is capable of solving local as well as global problems faced by mankind to promote sustainable society.

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