Raja N.L. Khan Women's College

International Research Journal of Basic and Applied Sciences 1 (2015) 16-17
http://rnlkwc.org

ORIGINAL ARTICLE

Sustainable development and environmental sustainability: With special reference to science and technology

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ARTICLE INFO

Article history

Received 25 October 2015
Accepted 28 November 2015

Keywords:
Environmental Sustainability, Science and Technology, Sustainable Development, Environmental Degradation.

ABSTRACT

For the past one decade much effort was expended in the global label to achieve sustainable development. At present the World summits towards the protection of environment. The World is environmentally less sustainable than in the previous days. Directly or indirectly science and technology is an important role to play for sustainable development. Science and technology can offer economically viable solutions for small to large environmental problems. Science and technology are exclusively concerned to environmental sustainability, it is impossible to achieve sustainable development.

INTRODUCTION

At present, there is no unique operational definition for sustainable development. The reason is that there is no signal indicator for comparing the relative progress made by different countries or regions towards sustainable development at a given time or for measuring progress made by a given country or region over time. This lack has been impeding progress towards global sustainable development.

GOAL OF SUSTAINABLE DEVELOPMENT

1. Protection of regional cultures, diversity, regional knowledge and age-old time, tested eco-friendly practices.
2. Creation of conditions that ensure the future survival of human beings and other living species.
3. Creation of the sustainable system that helps preservation and protection of environment and ecosystem.
4. Creation of environment that sustains biological and natural productivity systems.
5. Creation of environment that provides and satisfies at least elementary basic requirements.

PRINCIPLE OF SUSTAINABLE DEVELOPMENT

1. The business and industrialist community has specific role to manage environmental impacts of the goods and services it provides.
2. Unsustainable consumption pattern is more visible in physical infrastructures.
3. Rectification in chain of production-consumption and final disposal government must provide incentive measures, infrastructural facilities.
4. Participation of the people in the decision making process.
5. The development process must be balanced and conductive with nature.
6. Equal distribution and social justice should be taken care of.
7. The development process must be participatory from all section of people.
8. All development process must be intrigrated and co-ordinated.

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ENVIRONMENTAL SUSTAINABILITY:

The only hope is that if we reduce or stop further CFC emission, so that the environmental sustainability control of the future generation. At first CFC emission, in due course the problem would probably or possibly be solved by nature's own capacity for regeneration. And second, while science and technology can offer economically viable solutions to small-scale environmental problems, such as those for treating municipal waste water or restoring relatively small areas of contaminated land, they cannot be applied to solve large-scale or global manmade problem, or to alleviate their achieve global environmental sustainability.

SUSTAINABLE DEVELOPMENT AND ENVIRONMENTAL SUSTAINABILITY

Unfortunately, experience shows that in the environmental community there are many who do not understand the true meaning of sustainable development. In addition, the environmental community must discharge its collective professional responsibility in ways that are consistent with the core requirements of sustainable development and global environmental sustainability.

ROLE OF SCIENCE AND TECHNOLOGY IN DELIVERING ENVIRONMENTAL SUSTAINABILITY

There is a strong belief in the international scientific community that the environmental problems can be solved and sustainable development and global environmental sustainability achieved only with the application of science

and technology alone. But the progress towards sustainable development is dependent upon a fundamental change in society's attitude to nature and the environment. It is only with such enlightenment that the affluent would be willing to adopt less consumptive life styles commensurate with the Earth's ecological capacity. Science and technology, however advanced cannot help in their matter. Hence, what is needed to bring about their change of altitude is education in moral and ethical philosophy. In the young minds, it is essential to reinforce the environment-respecting moral values.

CONTRIBUTION OF SCIENCE AND TECHNOLOGY

An analysis would show that the main contribution of science and technology to environmental protection has been in two distinct areas. First alerting us to potential or manifest environmental problems. For example it is through science that the global impacts of some of our polluting activities have been discovered mainly in terms of qualitative Couse effect relationships. Typically, it was though science that CFC emissions were found to be the cause of stratospheric ozone depletion. Once a scientifically sound cause-effect relationship in established, appropriate measures (such as the Montreal protocol in the case of ozone depletion) may be taken up by the international community to modify our lifestyle environmental degradation. However, neither science nor technology can be applied to repair the damage already caused. For example, neither can offer an economically viable method of stratospheric ozone layer to its pristine state.

SUSTAINABLE DEVELOPMENT THOUGH SCIENCE AND TECHNOLOGY

It is very hard to find any aspect of modern life untouched by science and technology. Directly or indirectly they have brought immense benefits to human societies, and it has given us the means to understand how the physical world around us works. The impacts of science and technology are determined by how they are applied, why they are applied, and whether or not we choose to apply them in the first place. As for the natural environment is concerned, whether they turn out to be good or bad is determined by their environmental impacts.

Following the industrial revolution economic development though industrialisation based on science and technology become the norm. But in the international organisations such as World Bank and international monetary fund, environmental degradation is considered as the norm.

Science and technology have brought immense benefits. However we are paying a high 'price' for it terms of environmental degradation and the 'price' is escalating to thwart the achievement of even a modest degree of globally sustainable development. And this has serious implications for future generations.

SOLVE THE LIMITS OF SUSTAINABILITY

Compelled to conclude that although science and technology can help the process of sustainable development and global environmental sustainability in a limited way, they cannot deliver them. Science and technology are exclusively concerned with treating the effluent and not the cause. Hence, this conventional approach, which focuses only on symptoms, cannot bring meaningful progress towards global sustainable development.

CONCLUSION

If the science and technology can deliver sustainable development, then the rich developed countries should be the most sustainable on the country, they are the biggest consumer and polluters. For example, USA with 4.5% of World's population, it consumers an estimated 25% of the World's resources and produces an estimated 26% of global pollution. Such a nation cannot be said to be sustainable. So, it is clear that sustainable development is economic development that exclusively relies upon and is firmly rooted in the integrity and sustainability of the natural environment.

CONFLICT OF INTEREST: None

REFERENCES

1. Bhat, B.A: Gender, Eduycationand child Labour: A Sociological Perspective, Educational Research and Reviews, Vol-5(6), pp.323-328, June, 2010.
2. Clugston, R: Earth Charter Education for Sustainable Ways of Living, Journal of Education for Sustainable Development, 4:2(2010):157-166.
3. Jeong,Dai-Yeun: A Sociological Implcation Of Evironment In Social Development,Korea Journal Of Population And Development,Vol.26,No.2,December 1997.
4. King.K: Education, Skill, Sustainability and Growth: Complex Relations, International Journal of education Development, 29(2009), 175-181.
5. Lee, J.C.K and Chung, Y.P: Knowledge Foundation: Education for Sustainable Development, Quality of Human Resources: Education – Vol-III.
6. Ratner,Blake D. : "Sustainability" as a Dialogue of Values:Challenges to the Sociology of Development,Sociological Inquariry,Vol.74,No.1,February2004,50-69
7. Tongia, R; Subramanian, E; Arunachalam, V.S.(2005): Information and Communications Technology for Sustainable Development.Ailled Publishers Pvt.Ltd, India.
8. Vrat, Prem (2006). "Indian Institutes of Technology" in Encyclopedia of India (vol. 6. D.J. Thampapillai, Environmental Economics, Oxford University Press, Melbourne, 1991.
9. Tyler G. Miller, Living in the Environment: An Introduction to Environmental Science, 6th edition, Wadsworth Publishing, Belmont, 1990, chapter 22.
10. Jacobs, M (1993) Environmental Economics, Sustainable Development and Successful Economies, Resource Assessment Commission, occasional paper No. 4.
11. Dusgupta, A. & Pearce, D. (1972) Cost-Benefit Analysis: Theoryand Practice, Macmillian, London.*2)*, edited by Stanley Wolpert. 229–231.