

Environmental Sustainability – Global Need of the Day

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Abstract

With the present pace of development world over with focus on immediate needs and political gains, an effort has usually been made presently to overlook the future needs, interest of future generations and environmental damages resulting into long term and irreversible negative impacts. Such an issue needs to be addressed in an integrated manner with vision on future generations. The authors have therefore made an attempt in this editorial article to address some of the issues relating to environmental sustainability.

Keywords: Environmental sustainability; Pollutants; Natural resources

Introduction

Environmental myths and realities may be seen from common man perception of day to day activities. Let's take an example of a man who wants to pick the apples from his apple tree. He has two options, one he can take a stepladder and go up to where the apples are or second he can take an axe and cut down the apple tree. The man thinks the second option is a great idea because instead of bothering himself with a cumbersome ladder, he can just chop down the tree and bring the apples to ground level, where he can easily pick up the entire apples. While he has plenty of apples for his immediate needs, but he will not have his needs met next year because there will be no tree to produce apple. Such is a reality in almost all developmental activities which usually aimed to address present needs ignoring the needs of future generations and their demands. In other words, not only the common man but even the planners or decision makers overlooked the importance of environmental sustainability. In this context, we have to apply different ways and means to ensure that future generations can enjoy the natural resources our planet has to offer.

It has been aptly said that waste free activities are hard to find as activity dissipates energy and matter and as such all the developmental activities world over contribute environmental pollutants or damaging constituents in one way or another resulting into producing negative impacts. Our main focus should be on the concept of "waste to wealth" and "waste to energy": with scientific application of transformation of waste into usable products. Though most of the countries of the world consider water as an essential component of life supporting system and also recognize the fact that its usable availability is diminishing on a time scale yet not enough steps taken to sustain quantitative as well as qualitative aspect of water. It may even be predicted that the world war may be fought on water resources issue between different countries in the future to come.

Environmental sustainability

Environmental sustainability may be defined as effective interface with the environment with a view to avoid depletion or degradation of natural resources along with maintaining or restoring long-term environmental quality [1]. The environmental sustainability addresses the needs of today's population but without affecting the needs of future generations. It is to be understood that the natural environment has the ability to rejuvenate itself and sustain its character. For example, when a tree falls, it decomposes while adding nutrients to the soil thereby helping to facilitate conditions for future saplings to grow. If a nature is left alone and not disturbed by external factors, it has a significant ability to care and sustain for itself. However, when man influences the environment by its indiscriminate activities in using the natural resources, the quality of the environment changes. In other words, human actions can deplete and deteriorate natural resources which otherwise cannot be restricted or minimized without the application of environmental sustainability methods [2].

We consume significant natural resources every day presently in urban existence throughout the developed world [3]. To be more precise, we consume more power than those who live in rural areas. It should therefore be needed that sustainable living should not only focus on people who live in urban centers but should also address the needs of other people who live in rural and slum areas [4]. It has also been estimated that we consume about 40% more resources every year as against the resources put back into the environment and thus needs sustainable approach [5]. We should therefore focus on balance between resources available and consumed presently and to evolve technological options having regard to carrying capacity of environmental resources along with economical parameters to ensure sustainable development for present as well as future generations [6].

The three Pillars of Sustainability have been identified in the World Summit on Social Development in 2005 which contribute to the philosophy and social science of sustainable development [7]. These "pillars" form the basis of sustainability to address different forms of development in the world. The Brundtland Commission portrayed it as "improvement that addresses the issues of the present without trading off the capacity of future ages to address their own issues" [8]. We must therefore consider the future while making our decisions about the present. These three pillars of sustainability are as under:

1. Economic Development
2. Social Development
3. Environmental Protection

Out of the above three conceptual issues, environmental protection is predominantly very important issue concerning the future of humanity. It defines how we should study and protect ecosystems in

the form of environmental quality and sustainability of our resources coupled with environmental protection. It also concerns how technology will be infused to achieve our greener future. Moreover, the EPA recognized that developing technology and biotechnology is the key to this sustainability along with protecting the environment of the future from potential damage [9]. In 2012, the United Nations Conference on Sustainable Development frame set of goals to work towards achieving sustainability, out of which some are given as under [10]:

- End of poverty and hunger
- Better standards of education and healthcare - particularly water quality and better sanitation
- To achieve gender equality
- Sustainable economic growth while promoting jobs and stronger economy
- Tackling the effects of climate change, pollution and other environmental factors in order to avoid adverse health effects and better livelihoods.
- Sustainability to include health of the land, air and sea

History of sustainability

Humans have since the Neolithic Agricultural Revolution and maybe even before been a consumer rather than a replenisher of environmental resources [11]. It is widely recognized that many societies collapsed due to an inability to adapt to the conditions brought on by these unsustainable practices .in the form of introducing alien species that upset the balance of the ecosystem, cutting down too many trees or even a failure to adapt to natural fluctuations in the climate [12]. We are now far more aware in the modern world about the potential damage caused by human action along with cultural change [13].

The science of climate change was established in the late 20th century. The problems relating to greenhouse effect and the destruction of the ozone layer was known in 1980s, as a result of indiscriminate use of our fossil fuel resources. It is then felt that our fossil fuels resources were finite and that we should make efforts to move to renewable methods of power. It was then that we saw the social, economic and scientific birth of the environmental movement [14].

Sustainable future

It has been a myth or reality as to what our sustainable future will look like but with emerging technologies along with transformation of old to new cleaner technologies , the problems have been addressed to some extent. We have experienced unprecedented growth including intensive farming, a technological revolution and a massive increase in

our power needs putting pressure and strain on the planet's resources [15]. We are also aware of the fact that the developing world can face natural and human-caused disasters resulting into alarming effects that these can have on the ecosystems and on human population [16]. It's the time now that we develop new, cleaner technologies coupled with sustainable planning and strategies to cope with our energy and other demands having full regard to demands of our future generations.

Conclusion

Environmental sustainability is a global need of the day. There should be an integrated scientific environmental sustainable models based on specific locations, needs of the people, available resources, prevailing social and cultural status, economic background and other parameters. Such well-defined models should be an important part of legislative framework of every country and no deviation should be permitted by the regulatory or decision making authorities, the public should be well aware of such models and their predictive outcomes in order to ensure its applicability and to act as watch dogs.

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