

ENVIRONMENTAL SUSTAINABILITY AND SUSTAINABLE DEVELOPMENT – AN OVERVIEW

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Abstract

The goal of environmental sustainability is to conserve natural resources and to develop alternate sources of power while reducing pollution and harm to the environment. For environmental sustainability, the state of the future – as measured in 50, 100 and 1,000 years is the guiding principle. Many of the projects that are rooted in environmental sustainability will involve replanting forests, preserving wetlands and protecting natural areas from resource harvesting. The biggest criticism of environmental sustainability initiatives is that their priorities can be at odds with the needs of a growing industrialized society. The sustainability is the study of how natural systems function, remain diverse and produce everything it needs for the ecology to remain in balance. It also acknowledges that human civilization takes resources to sustain our modern way of life. Sustainable development is the practice of developing land and construction projects in a manner that reduces their impact on the environment by allowing them to create energy efficient models of self-sufficiency. This can take the form of installing solar panels or wind generators on factory sites, using geothermal heating techniques or even participating in cap and trade agreements. The biggest criticism of sustainable development is that it does not do enough to conserve the environment in the present and is based on the belief that the harm done in one area of the world can be counter balanced by creating environmental protections in the other.

Key words: Environmental sustainability, sustainable development, wind energy, solar energy, green space.

1. Introduction

The “sustainability” is the study of how natural systems function, remain diverse and produce everything it needs for the ecology to remain in balance. It also acknowledges that human civilization takes resources to sustain our modern way of life. The goal of environmental sustainability is to conserve natural resources and to develop alternate sources of power while reducing pollution and harm to the environment. Sustainable development is the practice of developing land and construction projects in a manner that reduces their impact on the environment by allowing them to create energy efficient models of self-sufficiency. This can take the form of installing solar panels or wind generators on factory sites, using geothermal heating techniques or even participating in cap and trade agreements. The biggest criticism of sustainable development is that it does not do enough to conserve the environment in the present and is based on the belief that the harm done in one area of the world can be counter balanced by creating environmental protections in the other.

2. Sustainable development

According to Brundtland Commission (1987), sustainable development is development that meets the needs of the present, without compromising the ability of future generations to meet their own needs.” There are three primary goals of sustainable development: to minimize the depletion of natural resources when creating new developments; to create development that can be maintained and sustained without causing further harm to the environment; and to provide methods for retrofitting existing developments to make them into environmentally friendly facilities and projects. Global organizations such as United Nations, NGOs, aid organizations and governments are increasingly sponsoring efforts to ensure sustainable development goals are realized for every individual across the board. The other most important sustainable development goals set by these bodies include:

Provision of essential needs: The explosion of population means people will have to scramble for the limited life essentials like food, shelter, and water. Adequate provision of these basic needs almost entirely hinges on infrastructure capable of sustaining them for a long time. If governments insist on utilizing fossil fuel based sources of energy instead of renewable and sustainable options, the cost and environmental effects of supplying these basic needs would become a tall order.

Eradication of poverty: These organizations primarily focus on the least developed and low-income countries where poverty is rife. They aim to eradicate poverty across the board by expanding social protection programs like school feeding, cash transfers, targeted food assistance, social insurance and labour market programs such as skill training, old age pensions, wage subsidies, unemployment insurance, disability pensions and so on.

Promotion of good health and well-being: This sustainable development goal seeks to ensure good health and well-being for all at each stage of life. The goal takes into account all the main health priorities such as maternal and child health, reproductive health, environmental, communicable and non-communicable diseases, universal health coverage, and access to quality, safe, effective, and affordable vaccines and medicines. It advocates for enhanced health financing, increased research and development, strengthening the capacity of every country engaged in health risk prevention and management.

Agricultural requirement: Growing population means agriculture must catch up. Finding ways to feed more than 3 billion people can be staggering. If same unsustainable cultivation, planting, irrigation, spraying, and harvesting techniques are utilized in the future, they might prove to be financially burdening considering fossil fuel resources are projected to run out. Sustainable development focuses on sustainable agricultural methods such as effective

seeding techniques and crop rotation to promote high yields while maintaining the integrity of the soil, which produces food for a large population.

Provision of quality education for all: These bodies have realized that the level of child school dropout is at an all time high. This gap must be closed to ensure sustainable future development even as international communities work to ensure quality and equity in the education sector. In a nutshell, this goal seeks to ensure equitable and inclusive quality education and promotion of long life learning opportunities.

Manage climate change: Climate change can be mitigated by sustainable development practices. Sustainable development practices seek to reduce the use of fossil-based sources of fuel like oil, natural gas, and coal. Fossil fuel sources of energy are unsustainable since they will deplete in the future and are responsible for the emission of greenhouse gasses.

Provision of clean water and sanitation: Water and sanitation are on top of the chart regarding sustainable development. They are critical to the survival of humans and the planet. This goal aims to address aspects relating to sanitation, hygiene, drinking water and the quality and sustainability of water resources across the globe.

Building up strong infrastructure: This goal takes into account three aspects of sustainable development: industrialization, infrastructure, and innovation. Infrastructure is vital because it offers the basic framework necessary to smooth running of enterprise and society at large. Industrialization drives up economic development, yield job opportunities, hence, reducing levels of poverty. Innovation enhances technological abilities of industrial sectors and triggers the development of innovative skills.

Financial stability: Sustainable development practices have the ability to create more financially sustainable economies across the globe. Developing countries that can't access fossil fuels can leverage renewable forms of energy to power their economies. From the development of renewable energy technologies, these countries can create sustainable jobs as opposed to finite jobs based on fossil fuel technologies.

Enabling access to affordable and clean energy: Energy is the most critical resource to achieving most of the sustainable development goals. Energy plays a vital role in mitigating poverty through advancements in industrialization, education, water supply and health and fighting climate change. This sustainable development goal focuses on developing and expanding renewable energy resources such as sun, wind, hydropower, liquid and solid bio fuels, biogas and geothermal. These renewable sources of energy don't emit greenhouse gasses to the atmosphere and so are ideal for the environment and human health.

3. Impact of sustainable development

Wind energy: Wind energy is harnessed from the motion of wind using wind turbine or windmills. Wind energy is renewable, which means it is never ending and can be used to substitute energy at the grid. This makes it a good sustainable development practice.

Solar energy: This energy is harnessed from the sun using solar panels. It's advantageous since it is absolutely free and its supply is infinite. These factors make it beneficial to consumers and good for Mother Nature because it doesn't contribute to emission of greenhouse gasses.

Green space: Green spaces are locations where plants and animals are left to flourish. Parks also fall into the category of green spaces. Green spaces provide people remarkable opportunity to take pleasure in outdoor recreation, more so in big cities, where resting space is hard to come by. Green spaces help regulate climate and quality of air, insulate rivers and streams from polluted runoff and lowers energy usage by dealing with the warming impacts of paved surfaces.

Crop rotation: Crop rotation is the practice of planting different crops in the same farm to enhance soil fertility and assist control diseases and insects. Crop rotation is beneficial in many ways; most importantly, it is chemical free. This means using this farming practice maintains integrity of soil, making it a sustainable development practice.

4. Failures in environmental sustainability

There are three types of failures in environmental sustainability. The economic failures stem from the basic problem that environmentally damaging activities are financially rewarded. A forest is usually worth more money after its cut down which is a particular problem for countries transitioning to a market-based economy. Political failures happen when governments can't or won't implement effective policies. This is often because large extractive industries, like mining, are dominant players in an economy and see themselves as having the most to lose. This occurs in developed and developing countries, but the latter can face extra difficulties enforcing policies once they're put in place. Communication failures centre on poor consultation or community involvement in the policy process. Opposition then flourishes, sometimes based on a misunderstanding of the severity of the issue. It can also be fed by mistrust when communities see their concerns being overlooked. These types of failure are mutually reinforcing. Poor communication of the benefits of sustainable development creates the belief that it always costs jobs and money.

5. Suggestions for environmental sustainability

Pollution control: Air, water, noise and soil are some of the major forms of pollution plaguing the environment today. Pollution control boards can be set up or regulatory standards must be enforced to keep pollution within lowest levels.

Forest conservation: Increased industrialization has come at the cost of deforestation. The implication of forests being cut down is that the ecology is significantly affected. Afforestation measures need to be taken and forest conservation regulations must be seriously implemented.

Social awareness: Until people are made aware of the graveness of the situation, the problem of environmental degradation cannot be dealt with. Creating awareness through campaigns and movements can help avert the problem of the ongoing environmental crisis.

Waste management: Solid waste management must be carefully managed in urban areas. Rural waste has the potential of being used as natural manure by converting it into compost.

Water management: Rainwater harvesting and conservation of water can help with the long-term potent problem of scarcity of water.

Implementation of policy programmes: Enactment of environment-centric acts and policies is not enough. Their effective implementation and careful observation are what will actually make a difference to environmental conservation efforts.

6. Conclusion

The aim of the paper is to discover why policies that promote sustainability have failed in order to improve future efforts. The challenge is immense and there is a great deal at stake. The government needs to provide financial incentives to switch to eco-efficient production. Politicians need to have the courage to go well beyond current standards. Well-targeted interventions can create both carrot and stick, rewarding eco-friendly behaviour and imposing a cost on unsustainable activities. Government shall provide a viable transition pathway for industries that are doing the most damage. New environmental tax breaks and grants, for example, could allow businesses to remain profitable while changing their business model. Finally, leaders from all sectors need to be convinced of both the seriousness of the declining state of the environment and that sustainable development is possible.

7. Reference

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