RESEARCH PROSPECT

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Sustainability and Civil Engineering Essay

Introduction

Sustainable development comprises of the environmental, economic sustenance and health dimensions. According to World Health Organization, sustainable development encompasses development with the needs of the present generation without compromising the interest of the future generations. In improving the quality of life, sustainable development involves environmental protection, and sustainable environment. Thus, the sustainable development embraces long term health and integrity of the environment (Price, Dube, p. 9). In the engineering field, sustainable development is absolutely central to the practice of Civil Engineering (Jowitt, p. 5).

It should be noted that Sustainable development is the process that shape contemporary urban Environments, which explores sustainability cities in a rapidly urbanizing world with focus on the infrastructure, land developments, built landscapes, and facilities that collectively make up metropolitan regions (Boyle, p. 26).

Typical civil engineering influence in health, and basic human services such as water, wastewater, energy, transportation, environmental protection and enhancement of global population are uncountable (Boyle, p. 30).

Impact of civil engineering on sustainable development

The impacts of civil engineering in the sustainable development comprise the following:

Economic Profitability: There is wide economic benefit of sustainable development that can be derive from impact of civil engineering. It should be noted that, there is need of civil Engineering services for the solutions of global society and the environment enhancement. With development of economic issues, there is impact of civil engineering in better advocating sustainable development in the true sense of the word. The impact of individual civil engineers can help in solving the most challenging and threatening problems that have ever faced humankind with improvement of research and technology (Mulligan, p. 9).

With the need for financial and economic sustainability in the provision of infrastructure. There is need for increase of water quality, which closed the gap between rich and poor (Mulligan, p. 8). The achievement of environmental sustainability leads to improvement of the health life of the working population and the total economic development.

Environmental Responsibility: Healthy environment applies to the principles that involves the quality of life in the community. It should be noted that, the needs to improve the needs of the people in the community involves the development of the inhabitants for the enhancement of good economic, social and environmental conditions, which should meet the need of the

community and the enhancement of environment to meet the future generations (Price, Dube 25).

To achieve these, The practice of sustainable development for the environmental protection involves critical planning, designing, developing, building, and managing the urban built environment, which involve energy, water, materials, and the wastes disposal for environmental sustainability (Boyle, p. 30).

It also involves proper maintenance of irrigation system, good water supply and development of infrastructures for environmental enhancement (Boyle, p. 30).

In achieving these objective, the service of civil engineers is very important for designing the urban environment and managing the built environment.

Long Term Survival: Long term survival of humanity is critical for economic development. The healthy people is healthy nation. The acceptable survival of the community embraces human dignity, human rights, human health, and a moral constraint on human fertility. To achieve this, government is in need to promote the biosphere, and construction of reproductive health care (Lissa, p. 5).

The quality of environment is a major determinant of health, which is an important stimulus to other aspects of development. It should be noted that healthy people are more productive economically, which increases the economic growth rate of countries. This consequently lead to human development and human survival. Proper maintenance of the environment improve the people's health in the community and this accelerate human development and reduction dealt rate in the community (Price, Dube, p. 38).

Reduction of Waste : For proper environmental enhancement**,** there is need for effective control of the waste generation, storage, treatment, recycling and reuse, transport, recovery and disposal of hazardous wastes. The proper maintenance of waste is paramount for the environmental protection, for proper health, natural resource management, and sustainable development. Meanwhile, to achieve these objective of waste disposal prevention of hazardous wastes and the rehabilitation of contaminated sites are the key elements. Thus, there is need for design of waste management facilities by the civil engineers for the maintenance of the community (United Nation, p. 1)

The role of civil engineers is to guide the development process in the waste management to improve the quality of life and improvement of human comfort (Mulligan, p. 4).

It should be noted that the impact of civil engineering in the waste management involves operations and maintenance aspects of project implementation. This also involves the arrangement of design of waste facility for proper waste disposal and management (Mulligan, p. 6).

Contrary research

Despite the impact of civil engineering field in the enhancement of sustainable development. There are still contrasting arguments on the following issues:

Economic Profitability: The argument put forward is that the enhancement of sustainable development is not about giving priority to environmental concerns, it is just the policy of policy makers to raise revenue. For example, the putting prices on the environment, such as carbon emission tax is purposely to increase the government revenue. In this sense, there is little impact of the civil engineers in the enhancement of environmental sustainability (Beder, p. 11).

Depletion of Regional Resources : There is argument that sustainable development is basically depletion of resources. Depletion of resources is to undermine the economic growth. It should be noted that there wide large number of people that are making living from the natural resources. Meanwhile, the civil engineering construction is basically contributing the environment hazard such as climate change. The depletions of trees for the civil engineering construction lead to increase in climate change that can affect human health (Braun, p. 11).

Lack of knowledge to employ the proper methods: Argument has also been put forward on the lack of knowledge on the sustainable development. There are cases where the people involve to maintain the sustainable development for the environmental protection do not have adequate knowledge of protecting the environment. For example, the civil engineering construction that involves in the proper waste disposal may be accused of environmental pollution from lack of proper building demolition, which can lead to environmental hazard.

Conclusions

Despite the contrary arguments, there is still general belief that there are great impacts the civil engineering in the environment sustainability.

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