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Research Article

The Adverse Effects Of Construction Development On The Environment In Bangladesh.

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Abstract

The construction and development sector in Bangladesh has witnessed rapid growth in recent years, driven by urbanization and economic progress. However, this progress comes at a significant environmental cost. The sector contributes to air and water pollution, biodiversity loss, increased carbon emissions, and the urban heat island effect. This paper explores the environmental impacts of construction development in Bangladesh, supported by case studies and empirical data. It highlights the major contributors to environmental degradation, such as unregulated land use, inefficient resource management, and poor enforcement of environmental laws. Additionally, the paper proposes sustainable construction practices and policy recommendations to mitigate the adverse effects while balancing development needs.

INTRODUCTION

Bangladesh, a rapidly developing nation, has been experiencing a construction boom, particularly in urban areas like Dhaka, Chattogram, and Khulna. This growth is necessary to meet the demands of a growing population and expanding economy. However, the construction industry is a significant contributor to environmental degradation. This paper aims to investigate the key environmental issues caused by construction activities in Bangladesh and propose measures to address them sustainably.

ENVIRONMENTAL IMPACTS OF CONSTRUCTION DEVELOPMENT

Air Pollution

Construction activities, including excavation, demolition, and transportation of materials, release particulate matter (PM10 and PM2.5) into the air. The burning of fossil fuels in construction machinery and vehicles further exacerbates air pollution, leading to respiratory and cardiovascular health issues among urban populations.

Water Pollution

Improper disposal of construction waste and chemicals into rivers and water bodies contaminates water resources. This disrupts aquatic ecosystems and poses health risks to communities dependent on these water sources.

Biodiversity Loss

Urban expansion often involves the clearing of forests and wetlands, destroying natural habitats. The fragmentation of ecosystems affects the survival of native species, contributing to a decline in biodiversity.

Urban Heat Island Effect

The excessive use of concrete, asphalt, and other non-reflective materials in urban construction intensifies the urban heat island effect. Cities like Dhaka experience higher temperatures than surrounding rural areas, increasing energy demand for cooling and affecting the quality of life.

CASE STUDIES

Dhaka City: A Hotspot of Construction Activities

Unregulated construction in Dhaka has led to severe air pollution, with PM2.5 levels frequently exceeding WHO guidelines. The Buri Ganga River, one of Dhaka's main water sources, has been heavily polluted by construction debris and industrial waste.

Cox's Bazar: Environmental Impact of Infrastructure Development

The construction of hotels and resorts in Cox's Bazar has led to deforestation and habitat loss, threatening the survival of wildlife such as the Asian elephant. Also, according to the forest department of Cox's Bazar it was found that Rohingya

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people have established illegal settlements in 1,625 acres of forestland in Ukhia and 875 acres of forestland in Teknaf and have chopped down more than one million trees to make way for their huts.

MITIGATION STRATEGIES

Policy and Regulation

Strengthening the enforcement of the Environmental Conservation Act, 1995 Introducing mandatory Environmental Impact Assessments (EIAs) for all construction projects.

Sustainable Construction Practices

Promoting green building materials such as fly ash bricks and recycled aggregates.

Raising awareness among stakeholders, including developers and local communities, about sustainable practices.

Encouraging public participation in urban planning and decision-making.

CONCLUSION

While construction development is essential for economic growth, it is crucial to balance development needs with environmental sustainability. Also, another concern is corruption. Due to the corruption many projects approve by government employee or offices. The country lost up to Tk 50,835 crore in the last 15 years due to corruption in development projects implemented by the Roads and Highways Department, according to a Transparency International Bangladesh estimate. By adopting green construction practices, enforcing strict environmental regulations, and engaging stakeholders, Bangladesh can mitigate the adverse effects of construction activities and ensure a sustainable future.

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