



THE ACTIVITY OF IMPACTING STORMWATER ON BUILDINGS

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Abstract: The impact of stormwater on buildings is a crucial issue that needs to be addressed, especially in urban areas where impervious surfaces like concrete and asphalt dominate the landscape. The purpose of this article is to explore the activity of impacting stormwater on buildings, including its causes, effects, and potential solutions. The article will use the imrad structure, with a focus on the introduction, methods, results, and discussion.

Keywords: stormwater, buildings, impact, urbanization, runoff.

Introduction:

In recent years, the impact of stormwater on buildings has become a major concern, especially in urban areas. Urbanization has led to the creation of impervious surfaces like concrete and asphalt, which result in increased runoff of stormwater. This increased runoff can lead to flooding, erosion, and damage to buildings and infrastructure.

There is limited research on the impact of stormwater on buildings in Uzbekistan. However, concerns regarding this issue have been raised due to the country's high risk of flooding and urbanization. Urban areas in Uzbekistan, particularly the capital city of Tashkent, are susceptible to flooding due to insufficient drainage systems and the increasing amount of paved surfaces.

The government of Uzbekistan recognizes the importance of addressing the impact of stormwater on buildings and has taken steps to implement policies for sustainable water management. In 2017, the government launched the "Water Resources Management Improvement Program" aimed at enhancing water resource management, including the management of stormwater [1-5].

There are also various non-governmental organizations (NGOs) and research institutions in Uzbekistan that focus on sustainable water management and environmental protection. For instance, the Uzbekistan-Swiss Cooperation Office (SCO) promotes cooperation in sustainable water management and has implemented a number of initiatives to mitigate the impact of flooding in urban areas. The Institute of Water Problems of the Academy of Sciences of Uzbekistan is a research institution that conducts research on water resources and their management.



In conclusion, while research on the impact of stormwater on buildings in Uzbekistan is limited, the government and various NGOs and research institutions are taking steps to address this issue and promote sustainable water management [6-10].

Methods:

This article used a literature review to explore the causes, effects, and potential solutions of stormwater impact on buildings. The review of literature was done by exploring academic journals, online reports, and government publications .

The methods for your article on the impact of stormwater on buildings could include:

1. Literature review: Conduct a comprehensive review of relevant literature, including academic journals, online reports, and government publications to gather information on the causes and effects of stormwater impact on buildings, as well as potential solutions to mitigate this impact.

2. Field surveys: Conduct on-site surveys to assess the extent of damage caused by stormwater on buildings in urban areas, including damage to foundations, walls, roofs, and other structures. This could involve collecting data on water infiltration rates and the effectiveness of current drainage systems [11-13].

3. Interviews: Conduct interviews with property owners, contractors, and municipal officials to gather information on their experiences with stormwater impact, as well as their opinions on potential solutions to the problem.

4. Case studies: Conduct case studies of urban areas that have implemented successful solutions to mitigate the impact of stormwater on buildings. This could involve analyzing the effectiveness of green infrastructure, such as rain gardens and permeable pavements, and the retrofitting of buildings with features like rain barrels and cisterns.

5. Simulation modeling: Use computer simulation modeling to assess the impact of stormwater on buildings under different scenarios, including changes in land use, rainfall patterns, and the implementation of different mitigation strategies.

These methods can help to provide a comprehensive understanding of the impact of stormwater on buildings, as well as the most effective solutions to mitigate this impact [14-15].

Results:

The literature review reveals that the impact of stormwater on buildings can be significant, leading to damage to foundations, walls, roofs, and other structures. This damage can result in costly repairs and maintenance, which can be a burden on property owners and municipalities. The causes of stormwater impact on buildings include urbanization, changes in land use, and environmental factors such as climate change.

There are several potential solutions to mitigate the impact of stormwater on buildings, including the creation of green infrastructure such as rain gardens, green roofs, and permeable pavements. These solutions can help to reduce runoff, promote



infiltration, and provide habitat for wildlife. Other potential solutions include the retrofitting of buildings with features like rain barrels, cisterns, and gutters [16-20].

Discussion:

The impact of stormwater on buildings is a significant issue that needs to be addressed, especially in urban areas. The causes of this impact, including urbanization and environmental factors, require a multi-faceted approach to mitigate their effects. The solutions proposed in this article, such as green infrastructure and retrofitting of buildings, offer a way to reduce the impact of stormwater on buildings, promote water sustainability, and create more livable and resilient communities.

Conclusion:

The impact of stormwater on buildings is a significant issue that requires attention from policymakers, property owners, and residents. The solutions proposed in this article, such as green infrastructure and retrofitting of buildings, offer a way to mitigate this impact and create more sustainable and resilient communities. By working together, we can create a future where stormwater is treated as a valuable resource, rather than a potential hazard.

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