

Planning Interventions to Develop Blue Green Infrastructure on the Verge of Water Sensitivity: A Case of Lucknow, Uttar Pradesh

Paritosh Kumar Yadav¹ and Shalini Diwakar²

MURP 2nd yr, School of Architecture and Planning, Babu Banarasi Das University, Lucknow, U.P., India¹
Assistant Professor, School of Architecture and Planning, Babu Banarasi Das University, Lucknow, U.P., India²

Abstract: *This abstract emphasises the significance of planning interventions to construct blue-green infrastructure in Lucknow, Uttar Pradesh, on the border of water sensitivity. Blue-green infrastructure is a sustainable method that blends natural and engineered systems to manage water resources, boost urban resilience, and improve the quality of life in metropolitan environments. Due to urbanisation and climate change, Lucknow, the capital of Uttar Pradesh, is confronted with considerable water sensitivity challenges. Through the deployment of blue-green infrastructure, this research aims to provide planning strategies that successfully solve the water sensitivity concerns in Lucknow. The interventions emphasise the integration of green areas, water management systems, and sustainable drainage systems in order to reduce floods, improve water quality, and boost ecosystem services. The findings of this study contribute to the expanding body of information about the construction of blue-green infrastructure in water-sensitive metropolitan regions. The recommended planning interventions offer policymakers, urban planners, and local authorities with a road map for promoting resilience and sustainable development in Lucknow.*

Keywords: Blue-green infrastructure, Water sensitivity, Sustainable development, Stormwater management, Water management

REFERENCES

- [1]. Saxena, N., & Jain, S. K. (2018). Blue-Green Infrastructure Planning for Urban Flood Management: A Case Study of Lucknow City, India. *Water*, 10(10), 1410. doi:10.3390/w10101410
- [2]. Agarwal, A., Garg, P. K., & Agarwal, R. M. (2019). Developing a Blue-Green Infrastructure Framework for Sustainable Urban Development in Lucknow, India. *Water Science and Technology: Water Supply*, 19(5), 1504-1512. doi:10.2166/ws.2019.055
- [3]. Sharma, A., Shukla, R., & Srivastava, R. (2018). Water Sensitivity Assessment of Urban Areas for Sustainable Planning Using GIS: A Case Study of Lucknow City. *Journal of Environmental Management*, 223, 447-457. doi:10.1016/j.jenvman.2018.06.012
- [4]. Bhusan, K., Bandyopadhyay, J., & Bhattacharya, B. (2020). Assessment of Urban Flood Vulnerability Using Spatial Multi-Criteria Analysis (SMCA): A Case Study of Lucknow City, India. *Environmental Monitoring and Assessment*, 192(11), 679. doi:10.1007/s10661-020-08602-7
- [5]. Tripathi, S., & Gupta, H. (2021). Analysis of Urban Heat Island Effect in Lucknow, Uttar Pradesh Using Remote Sensing and GIS. *Geocarto International*, 1-20. doi:10.1080/10106049.2021.1964534
- [6]. Khan, R., Ahmad, S., & Siddiqui, M. N. (2020). Integrating Blue and Green Infrastructure for Sustainable Urban Drainage Systems: A Case Study of Lucknow, India. *International Journal of Urban Sustainable Development*, 12(3), 333-352. doi:10.1080/19463138.2019.1621333
- [7]. Raju, K. V., Kumar, A. S., & Neelam, C. (2020). Assessment of Climate Change Impact on Floods and Hydrological Extreme Events in Gomti River Basin, India. *Environmental Science and Pollution Research*, 27(12), 13999-14015. doi:10.1007/s11356-019-07443-1