PREFACE

Cities all across the world are dealing with an increasingly common and difficult problem with urban flooding, which is made worse by elements including fast urbanisation, climate change, and poor infrastructure. Pune is a particularly interesting and significant case study among the numerous cities facing similar difficulties. Pune, a city in the western Indian state of Maharashtra, frequently experiences urban floods, underscoring the pressing need for efficient flood control plans that are specific to the city's socioeconomic and environmental circumstances.

This introduction lays the groundwork for an extensive investigation using the Soil Conservation Service Curve Number (SCS-CN) approach to map urban floods and analyse runoff in Pune. This study intends to give insights into the underlying causes of urban flooding in Pune and provide evidence-based strategies to improve flood resilience and decrease future risks by exploring the complex interactions between hydrological processes, land use patterns, and infrastructural dynamics.

This study aims to improve our understanding of urban flood dynamics in Pune by combining hydrological modelling, geographic information systems (GIS) analysis, and socio-economic assessment. It also provides policymakers, urban planners, and community stakeholders with practical recommendations. This research aims to add to the expanding body of knowledge on catastrophe risk reduction and sustainable urban development by placing the findings within the larger discourse on urban resilience and climate adaptation.

In addition to shedding light on the intricate problems associated with urban flooding in Pune, it is my hope that this study will spur collective action towards the construction of more inclusive and resilient cities that are able to withstand the strains and shocks of an uncertain future.