

## **Digital Modelling of Solid Waste Management (SWM) for the Indian Urban Development Context**

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The presentation introduces the field of Digital City Science, which focuses on the application of data-based digital tools and technologies for the purpose of integrated and sustainable (“smart”) urban development. Over the past years, the Digital City Science group has developed and deployed novel instruments in cooperation projects with the German Association for International Development (GIZ) which found pilot application in India, Ecuador, and – currently – in Palestine. The very fundament of these tools are geospatial analyses by way of Geoinformation Systems (GIS) which support decision makers facing the multiplicity of urban development tasks with an evidence-based intelligence about effects and impacts of their decisions. A central instrument is the Toolkit for Open and Sustainable City Planning and Analysis (TOSCA) which features software modules for multi-layer-map analysis, time-map calculations, intelligent queries, and impact scenario-analysis (in the case of disaster). With this set of features, a large number of use cases could be already addressed e.g. upgrading of informal settlement, service provision and delivery, disaster management in case of volcanic eruptions, among others.

The talk will focus on the potentials of the TOSCA tool for issues of Solid Waste Management as specific and much-demanded use case. From a variety of contexts – especially in the Indian and Southeast Asian realm – requests have been collected to appropriate the tool to such challenges. The Digital City Science team is eager to pick up this task and outline the necessary steps towards an geospatial data-based urban intelligence tool that supports “smart” solid waste management. The talk will present a general outline and roadmap towards this goal.