Grounding simulation models in a participatory process: a case study of use of urban natural space in Thamesmead, London

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Abstract

Concerns over the creation, preservation and quality of urban natural space are increasing due to the intensification of urban areas, the move towards privatized spaces and the wider societal shifts in nature of the public realm/public life. There is a substantial body of research on the positive impacts of natural space on the urban system, with an increasing focus on the value of urban natural spaces to sustainability, health and wellbeing. Despite such benefits, studies report a recent decline of natural space use in England. The decline results from a number of factors, including socio-demographic and health conditions, the quality and proximity of the natural spaces and their facilities. These factors are often investigated in isolation, whereas their interconnections possibly determine for what and how natural space is used. Within this context, this paper aims to use participatory System Dynamics modelling to understand the factors influencing the use of urban natural space. It presents a highly participatory modelling process and the related model aimed to investigate the use of space, quantifying a large set of intangible variables and uncertain relationships. The paper is based on a participatory SD modelling process for an urban regeneration case study based in Thamesmead, London.

Keywords

Participatory System Dynamics, Community Based System Dynamics, Stakeholders, Simulation, Evaluation, Sustainability, Urban natural space