

A System Dynamic Based DSS for Ecological Urban Management in Alexandria, Egypt

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Abstract : The concept of urban metabolism has increasingly been employed in a diverse range of disciplines as a mean to analyze and theorize the city. Urban ecology has a particular focus on the implications of applying the metabolism concept to the urban realm. This approach has been developed by a few researchers, though it has rarely if ever been used in policy development for city planning. The aim of this research is to use ecologically informed urban planning interventions to increase the sustainability of urban metabolism; with special focus on land stock as a most important city resource by developing a system dynamic based DSS. This model identifies two critical management strategy variables for the Strategic Urban Plan Alexandria SUP 2032. As a result, this comprehensive and precise quantitative approach is needed to monitor, measure, evaluate and observe dynamic urban changes working as a decision support system (DSS) for policy making.

Keywords : ecology, land resource, LULCC, management, metabolism, model, scenarios, system dynamics, urban development

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