Blue Green Dream

Imperial College London

Enhancement of Urban Design with Blue Green solutions

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#BGDachieving

eit Knowledge & Innovation Community Climate-KIC

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Enhancement of **Urban Design** with **Blue Green** solutions

Blue & Green – urban water (blue) and vegetation (green) infrastructure

Urban Design – inter-disciplinary process of designing and shaping the cities (buildings, streets and public spaces)

Concept – interactions of BG solutions with all urban Ecosystem Services

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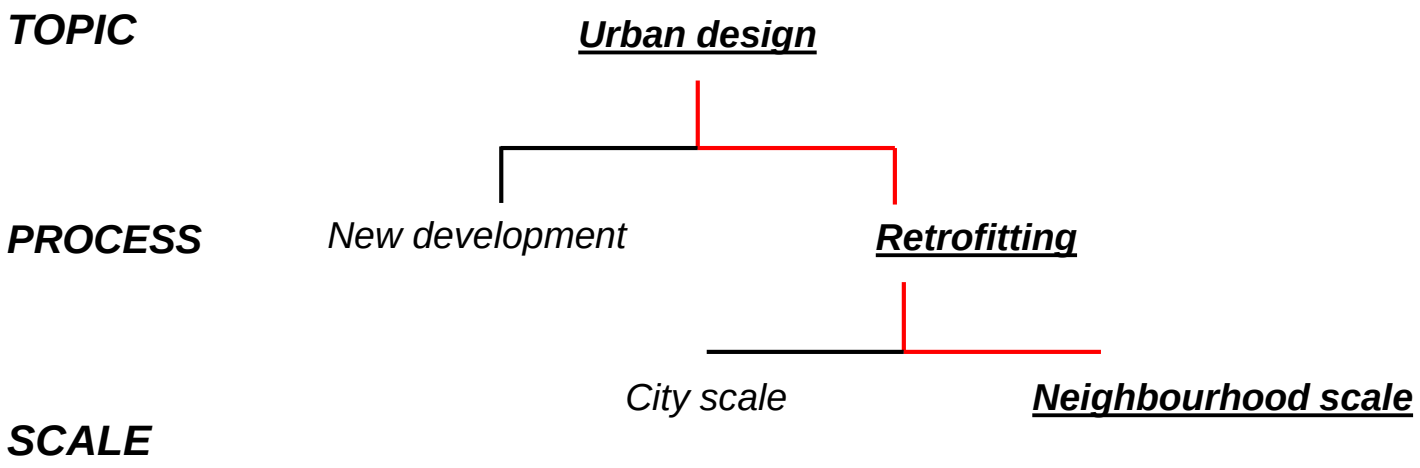
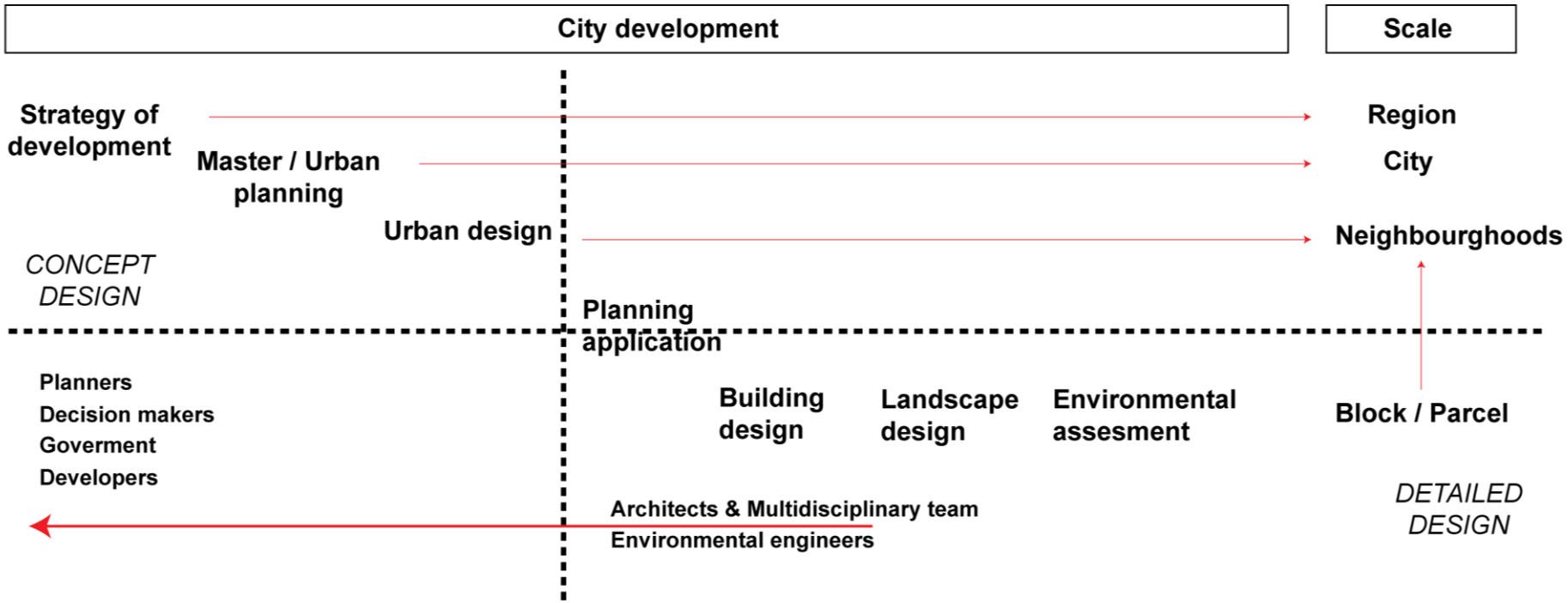
Principal aim

In order to facilitate **adaptation of urban areas** to climate change and weather extremes via highlighting importance of 'building with nature', the research aim is to:

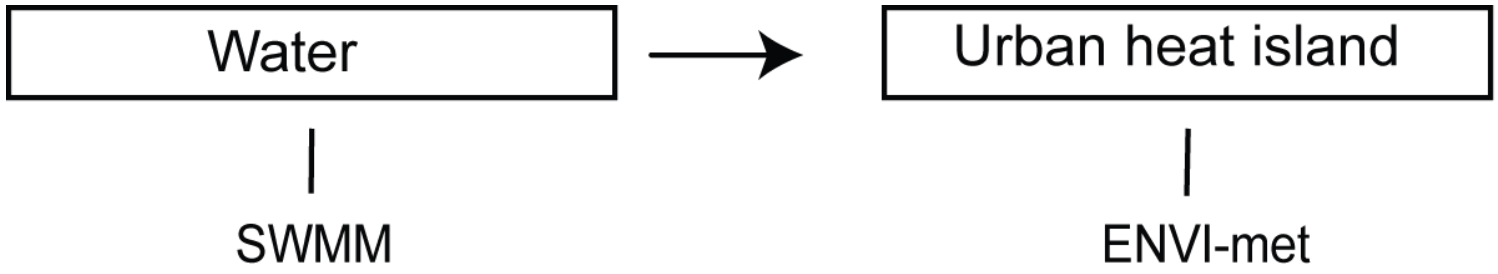
- encourage and to **enhance changes in urban design**, architecture and landscape architecture practice.



Urban Design process



Software coupling



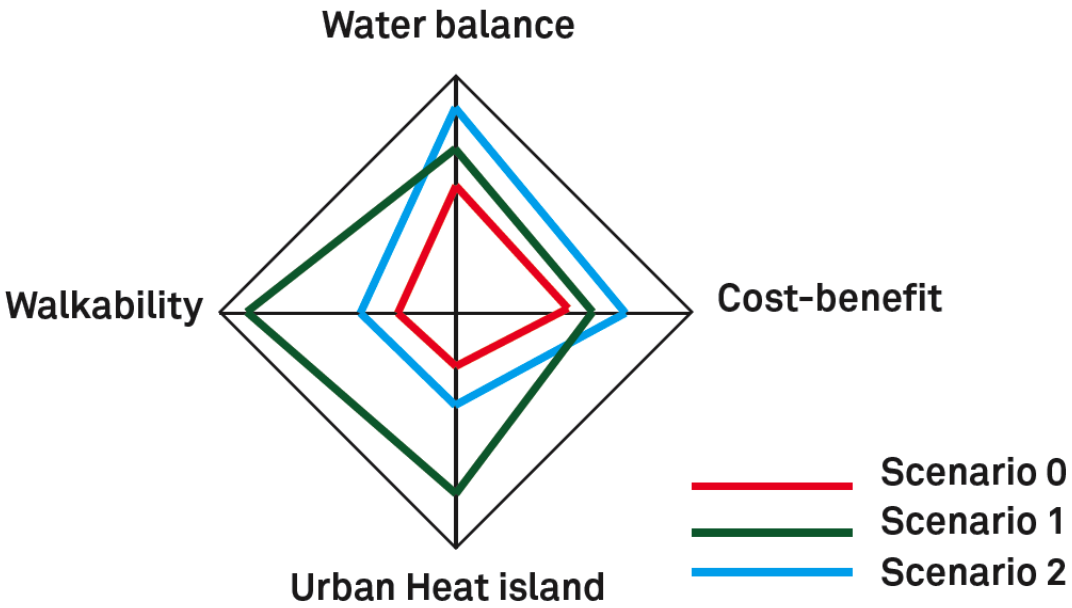
Implementation of BG Solutions quantification of **Water availability** for storage and reuse

Availability of water will influence performance of the vegetation for oudside air and surface temperature

[soil moisture, open water bodies, water availability for vegetation]

[surface and air temperature, radiation wind speed, anthropogenic pollution]

Optimisation of the Ecosystem performance indicators



Optimisation method			
SWMM	Water Menagement	→	25%
ENVI-met	Outdoor Temperature	→	60%
Optimisation model	Cost-benefit analysis	→	15%

Final outcome is to set of BGD guidelines for architects and urban designers

Published papers

Conference publications

- **Blue-green Integrated Modelling Solutions In Urban Planning And Architectural Design, PLACES AND TECHNOLOGIES, BELGRADE, 2014**
- **BLUE GREEN DREAM AND DAYLIGHT, PLACES AND TECHNOLOGIES, BELGRADE, 2014**

JOURNAL

- **SPATIAL CRITERIA FOR MICROCLIMATE COMFORT OF COMMUNAL OPEN SPACES IN RESIDENTIAL BLOCKS, CAMBRIDGE PUBLISHER, 2014**
- **Principles of climate sensitive urban design analysis in identification of suitable urban design proposals, Energy and Building, 2015**