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Global City Typologies: 300 Cities and Over 100 Datasets

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Abstract : Cities and local governments the world over are interested to employ circular strategies as a means to bring about food security, create employment and increase resilience. The selection and implementation of circular strategies is facilitated by modeling the effects of strategies locally and understanding the impacts such strategies have had in other (comparable) cities and how that would translate locally. Urban areas are heterogeneous because of their geographic, economic, social characteristics, governance, and culture. In order to better understand the effect of circular strategies on urban systems, we create a dataset for over 300 cities around the world designed to facilitate circular strategy scenario modeling. This new dataset integrates data from over 20 prominent global national and urban data sources, such as the Global Human Settlements layer and International Labour Organisation, as well as incorporating employment data from over 150 cities collected bottom up from local departments and data providers. The dataset is made to be reproducible. Various clustering techniques are explored in the paper. The result is sets of clusters of cities, which can be used for further research, analysis, and support comparative, regional, and national policy making on circular cities.

Keywords: data integration, urban innovation, cluster analysis, circular economy, city profiles, scenario modelling

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