



## **City Size, Density and Sectoral Structure: Exploring Urban Sustainability in the Regions.**

Anastasia Svirjeva-Hopkins

PIK, RDII, Germany (hopkins@pik-potsdam.de)

For the first time in history, the Global population is more urban than rural and the trend is obvious at various scales. Cities do not serve just as dynamic centres of activities, jobs and consumption markets, social interactions and cultural expressions, but also carry the weight of the main environmental problems of current times and the near future. Global Warming, air and water pollution, population growth and recourse constraints, i.e. reduction of carrying capacity of the environment are among the well known ones.

The overall aim of this research is to develop mitigation (at various scales) and adaptation systems, tailored to urban settlements. They should be effective at the very local as well as regional levels, assess and introduce innovative urban technologies and policies, reduce ecological footprint of cities and increase recycling efficiency.

We propose the empirical method of urban sustainability assessment, that supports our hypothesis that city functioning, the changes in its population and area growth depends on the size, average and internal densities and the geographical form. The existing cities of three regions are examined: Western and Eastern Europe (incl. Russia), Latin America and China. There are fundamental urban developmental differences and also within the first region, namely between EU countries and the Eastern part of European geographical region. The cities are considered not only as some agglomerates of areas with dense population but from the ecological point of view, namely examining inflow of food and energy and outflow of waste products across the boundaries.

There are major differences between the patterns of urbanisation in the studied regions, urban systems functioning and resilience. Continuous investigation of these differences helps building regional scenarios of cities development, population allocation and pollution management for the 21st century.