

FOOD SECURITY

Urban self-sufficiency at risk*Agroecol. Sust. Food* <http://doi.org/cbsh> (2017)

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Food production in urban areas is constrained by regional land uses that are a function of both local and global forces, according to research from Dirk Wascher and Leonne Jeurissen of Wageningen University. Demand for food must be satisfied with agricultural and livestock resources that can require many times more land than is available locally, putting a dent in efforts for self-sufficient urban agriculture.

To calculate the footprint necessary for urban food security, the authors utilized life-cycle analysis to develop the Metropolitan Foodscape Planner framework. The analysis differs between local hectares, which is the land area needed to grow crops that accounts for only a fraction of agriculture demands, and global hectares, which factors in that land use plus all other dimensions of food production and distribution such as transportation, waste management, and retail at various trade levels. However, even with lower impacts, the footprint of food production and available land with those 'local hectares' still overwhelms regional agriculture from satisfying the needs of urban areas.

The authors applied two levels of analysis — the Metro Food Ring and the Transition Zone — to one of Europe's most developed agro-industrial regions, incorporating the cities of Antwerp, Rotterdam and Düsseldorf. Each of these cities suffers from mismatches in supplies and demands for livestock, vegetables, fruits and cereals. While a large proportion of agricultural products are exported from this region, the amount of space available for agriculture is still dwarfed by existing demands for food, let alone competing demands from urban development, recreation and biodiversity.

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