

Comparison of Land Use Changes Due to Urban Growth in St. Louis Metropolitan Area (USA) and Greater Copenhagen Area (Denmark) (93)

Henry N.N. Bulley (primary contact)
Department of Geography/Geology
University of Nebraska at Omaha
e-mail: hbulley@mail.unomaha.edu

Anne G. Busck (primary contact)
Department of Geography
University of Copenhagen
e-mail: agb@geogr.ku.dk

Samrita Lohani
Public Policy Research Centre
University of Missouri at St. Louis

Søren P. Kristensen
Department of Geography
University of Copenhagen

Søren Præstholt
Department of Geography
University of Copenhagen

Encroachment of urban structures and functions into agricultural lands is a growing phenomenon especially in developed countries. These rural areas, which are in a transformation process from agriculture to urban land uses, are referred to as suburban in the United States and peri-urban in Europe. The areas are often characterized by tensions due to conflicts of environmental conservation versus urban settlement and economic development of major metropolitan areas. A sustainable development based on land use policy and zoning regulation will need to balance the competing demands on land resources in these situations. This paper will present results of studies of land use system change in the Greater Copenhagen Area in Denmark and urban sprawl in St. Louis Metropolitan Area in Missouri (United States). The methods employed in both studies include spatial analyses of the pattern of agricultural land conversion into urban areas and analyses of farm survey information for both metropolitan areas. Preliminary results confirm a general decrease in arable land, a concentration of most land development closer to the city centers, increase and diversification of non-farm related activities, a decrease in the number of full-time farmers and differing rationales for the acquisition of farms lands in suburban and peri-urban areas.

The structural components of land use and landscape elements appear relatively unchanged in the Greater Copenhagen area with well defined corridors and green spaces connecting the peri-urban areas to the city center. However, current urbanization trends in the Greater Copenhagen area are putting pressure on the rural functions and the extent and network of green spaces –

implying potential socio-economic conflicts (e.g. between farming and urban functions). On the other hand, urban sprawl in the St. Louis Metropolitan area is characterized by a pattern of outward growth consisting of disconnected patchwork of new subdivisions without well defined corridors and green spaces linking the suburbs to the city center. This is typical of Midwestern United States where land availability is not a limiting factor to population and economic growth. The urban growth patterns in both metropolitan areas are ultimately influenced by zoning regulations and the biophysical characteristics of the arable land area, including soil quality and water availability. We will present a comprehensive transatlantic comparison of the two urban growths scenarios and highlight some of the useful lessons for land use assessment in the United States and Denmark – pointing at potential future grounds for joint research within the field.

Keywords: land use change, urbanization, urban sprawl, agricultural restructuring, GIS