

Spatio - temporal analysis of urban rural gradient modelling: Case of Gulbarga city



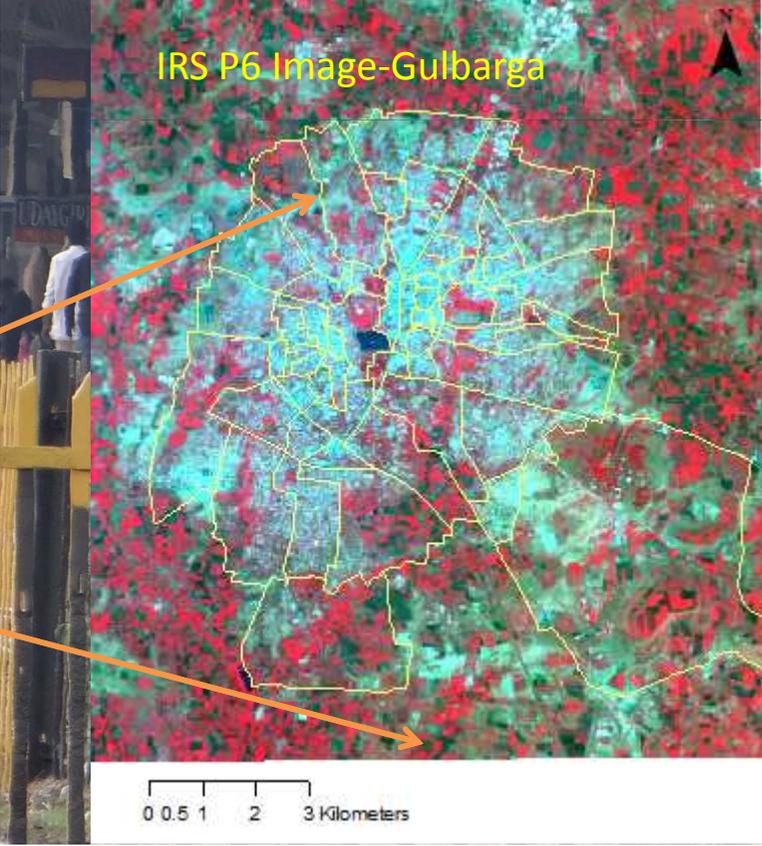
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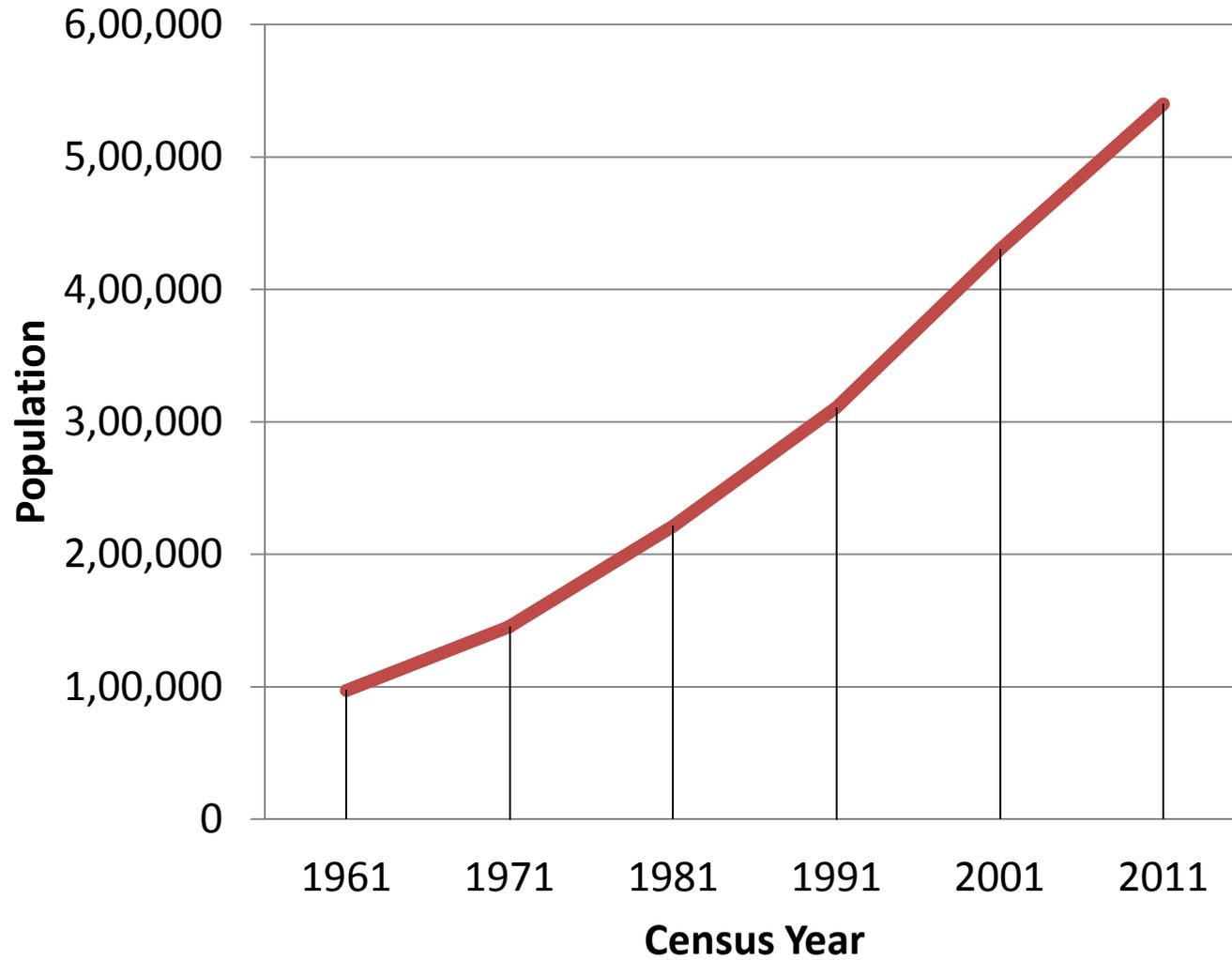
Urban - rural Gradient

- An ordering of sites based on the predominance of buildings and infrastructure coupled with dense human population, in contrast with sites having sparse infrastructure and low human density.
- URG can be found as continuous lines from old downtown, through suburbs and ending in forested or agricultural areas.





Population Growth



Growth of Gulbarga city

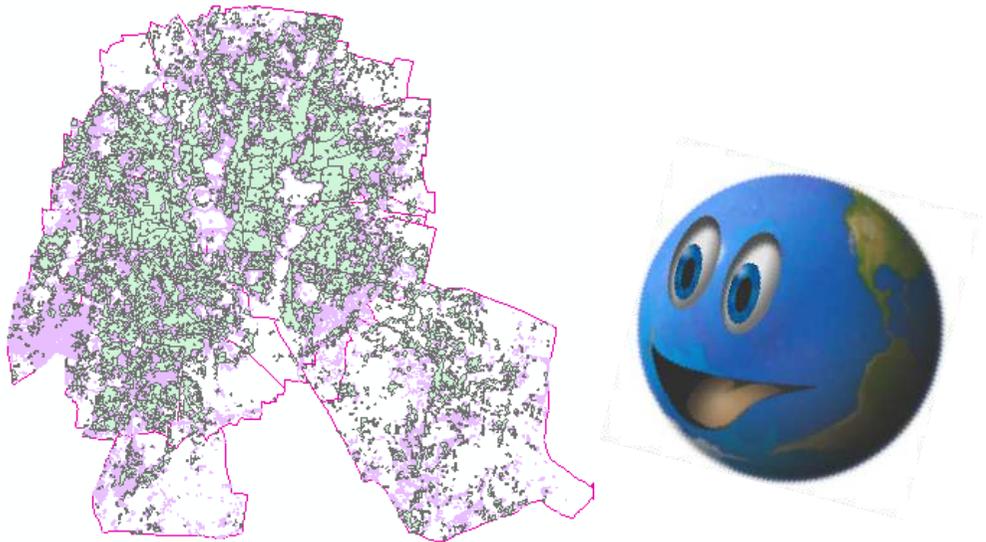
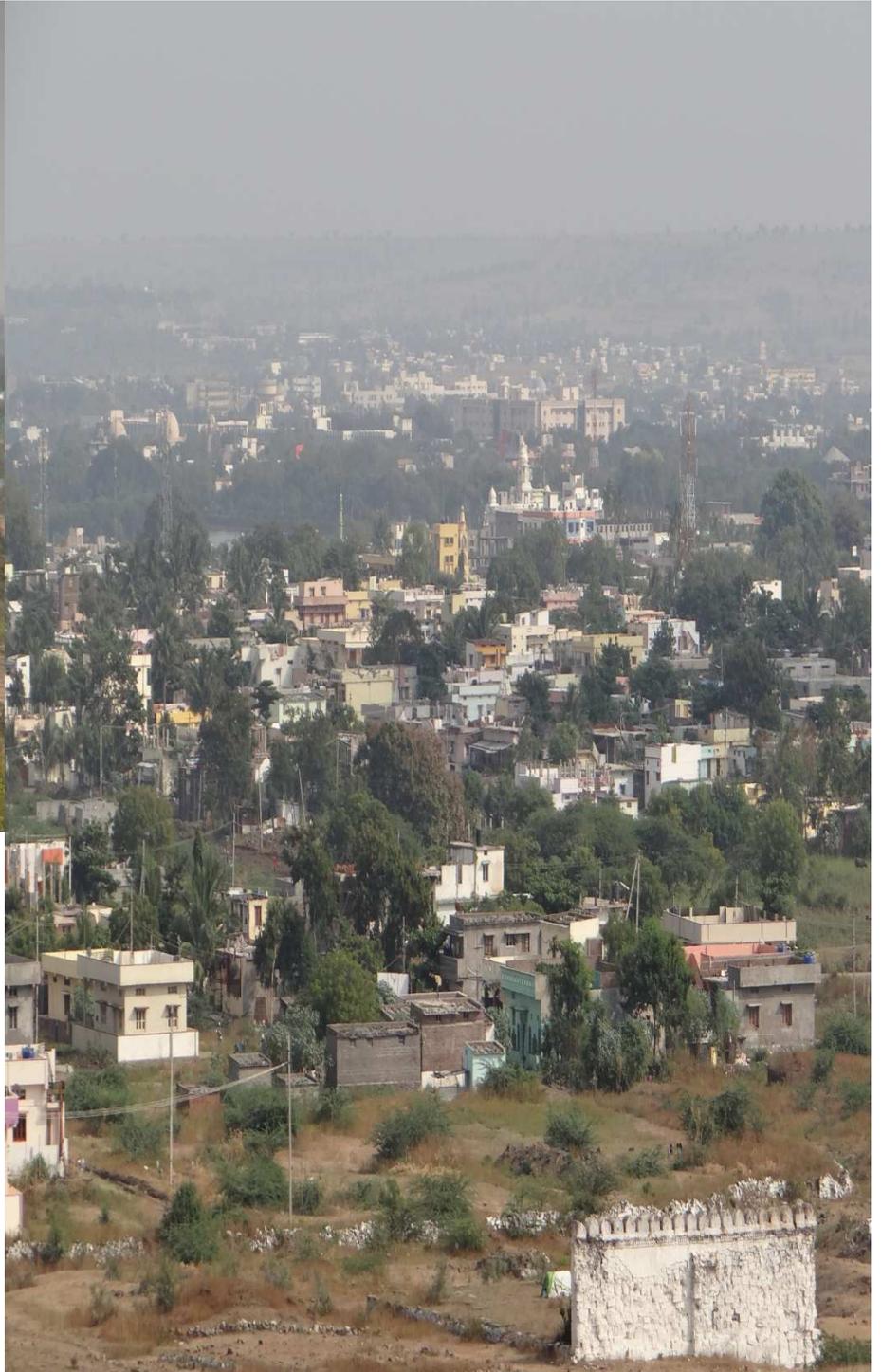
Year	Population	Area		Population Density
	<i>Nos.</i>	<i>Sq. km</i>		<i>Persons per Sq km.</i>
1971	145,588	25sq.km	-	5823.52
1981	221,325	55 sq.km	30	4024.091
1991	310,920	55 sq.km	33	5653.091
2001	430,265	65 sq.km	55	6619.462

Source - DPR

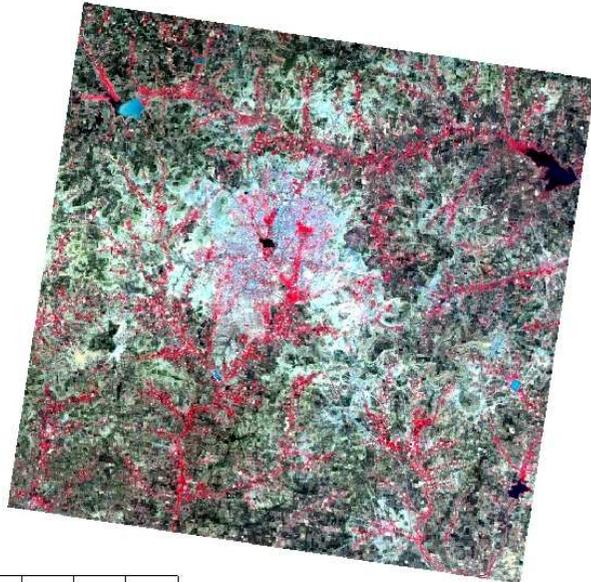




Gulbarga is Growing!!!

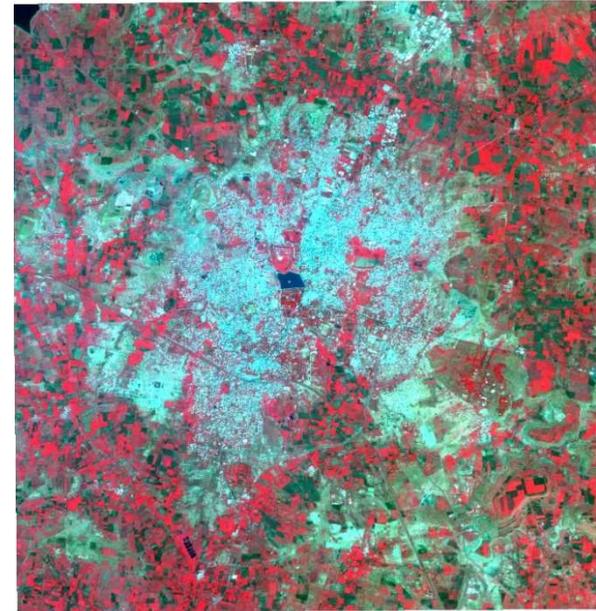


2002



0 2.5 5 10 Kilometers

2007

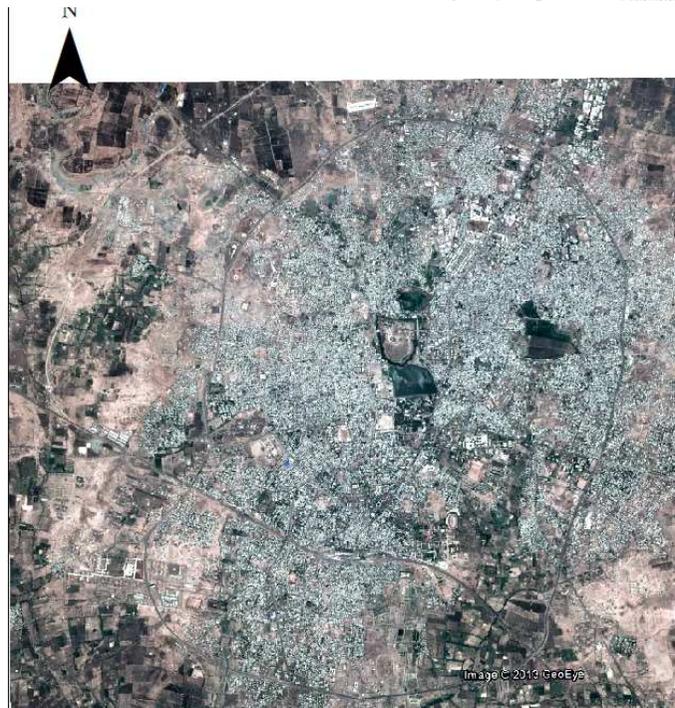


0 1 2 4 Kilometers



2012

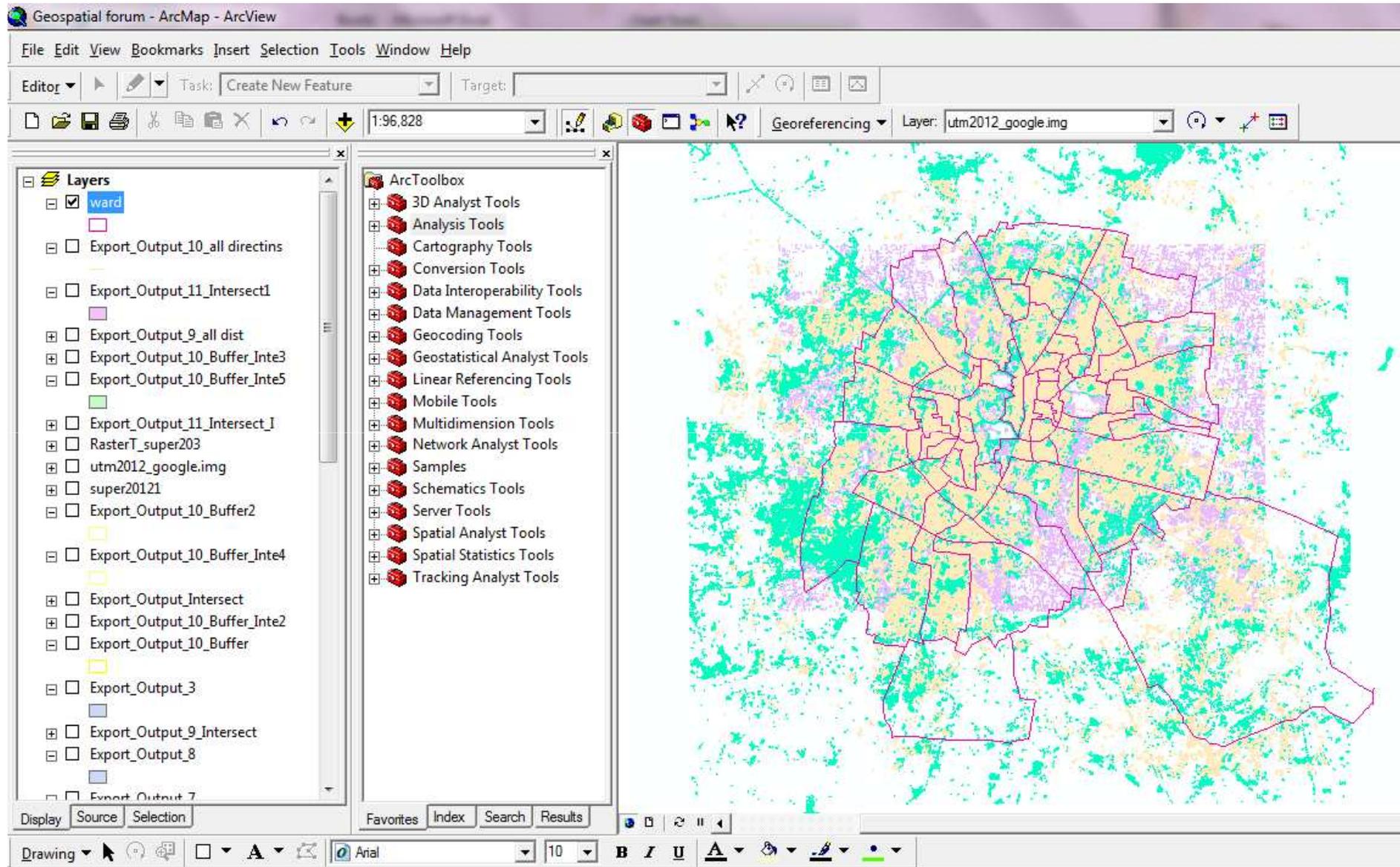
Spatial Data



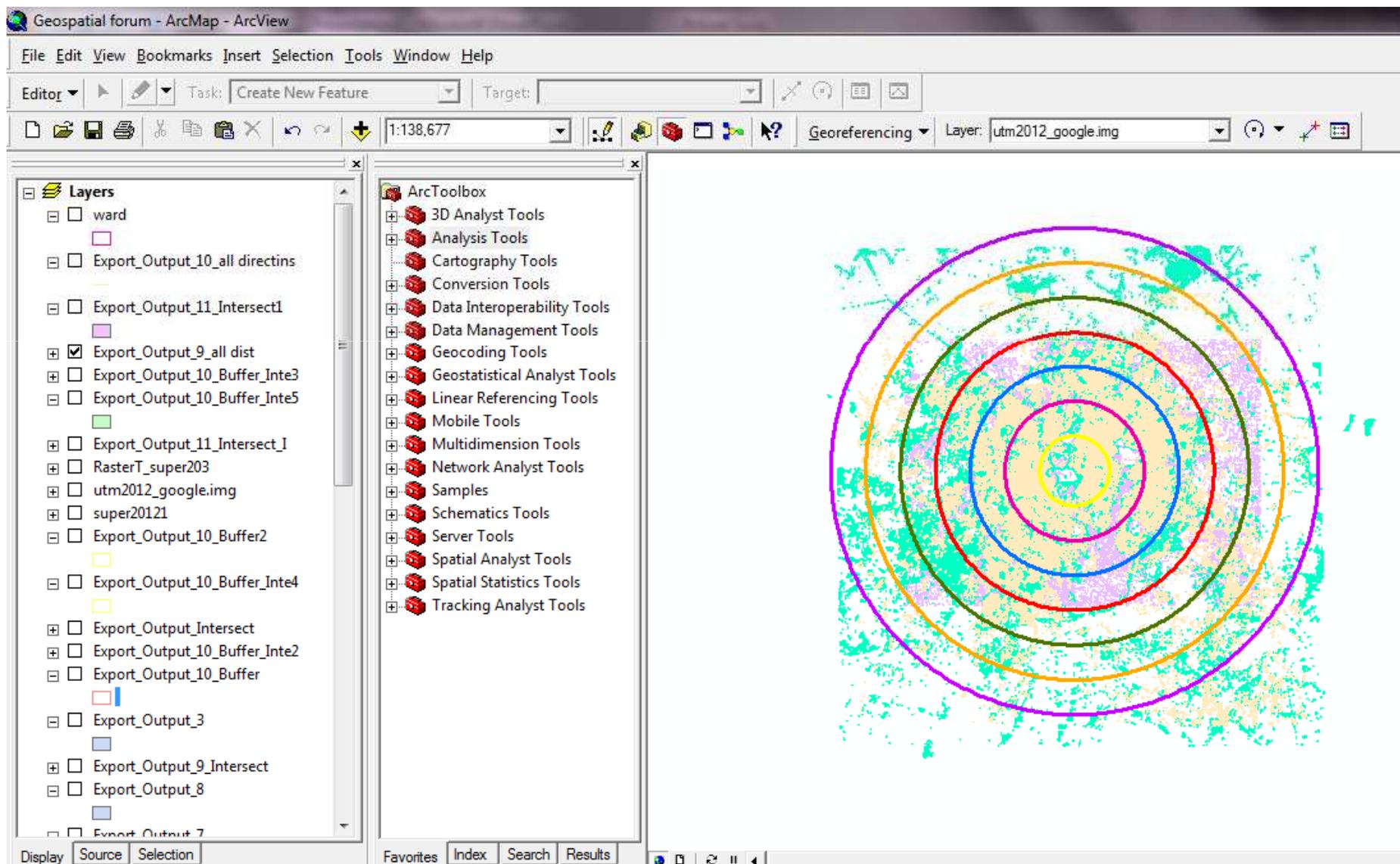
0 0.45 0.9 1.8 Kilometers

Temporal Data

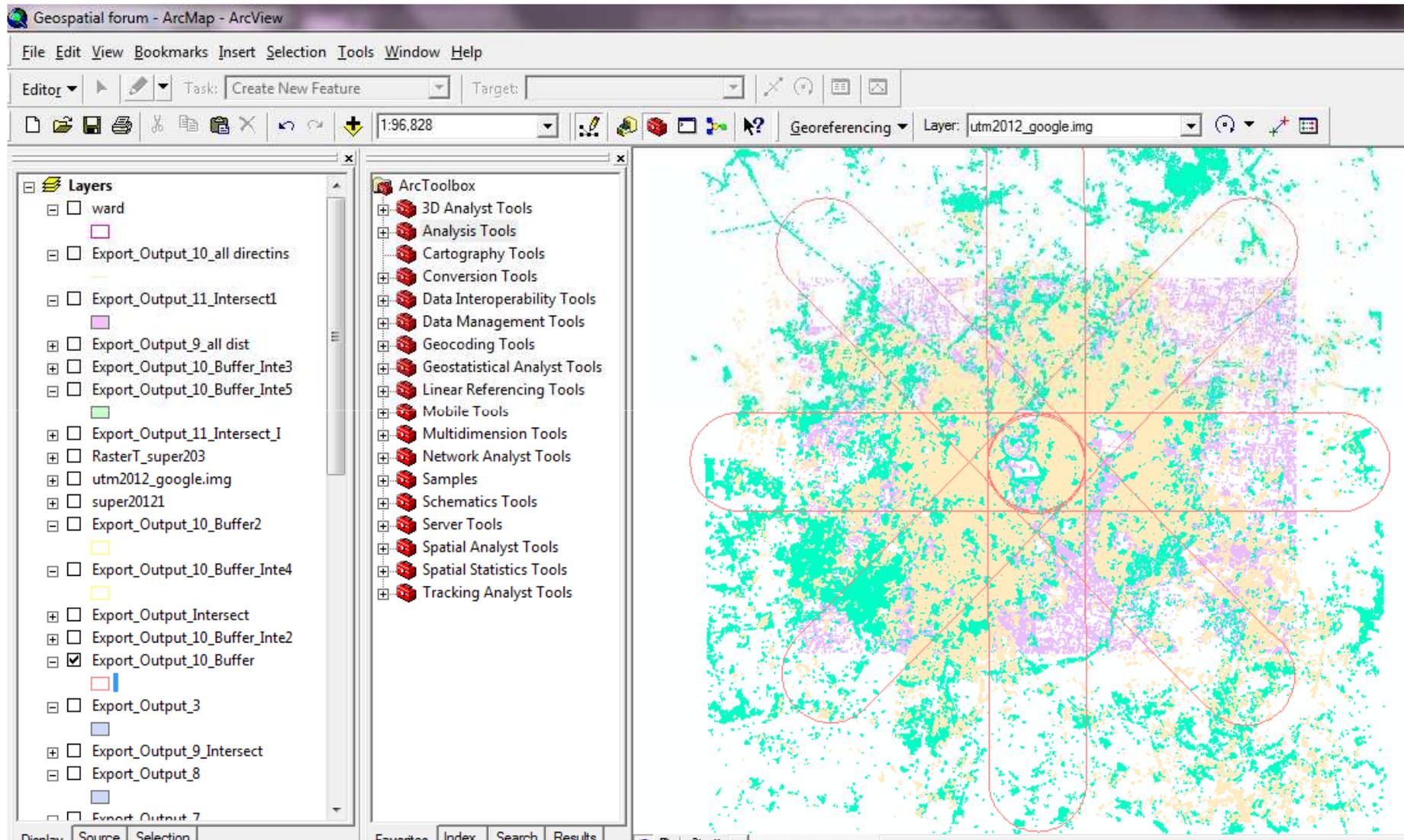
Classification- Built-up area



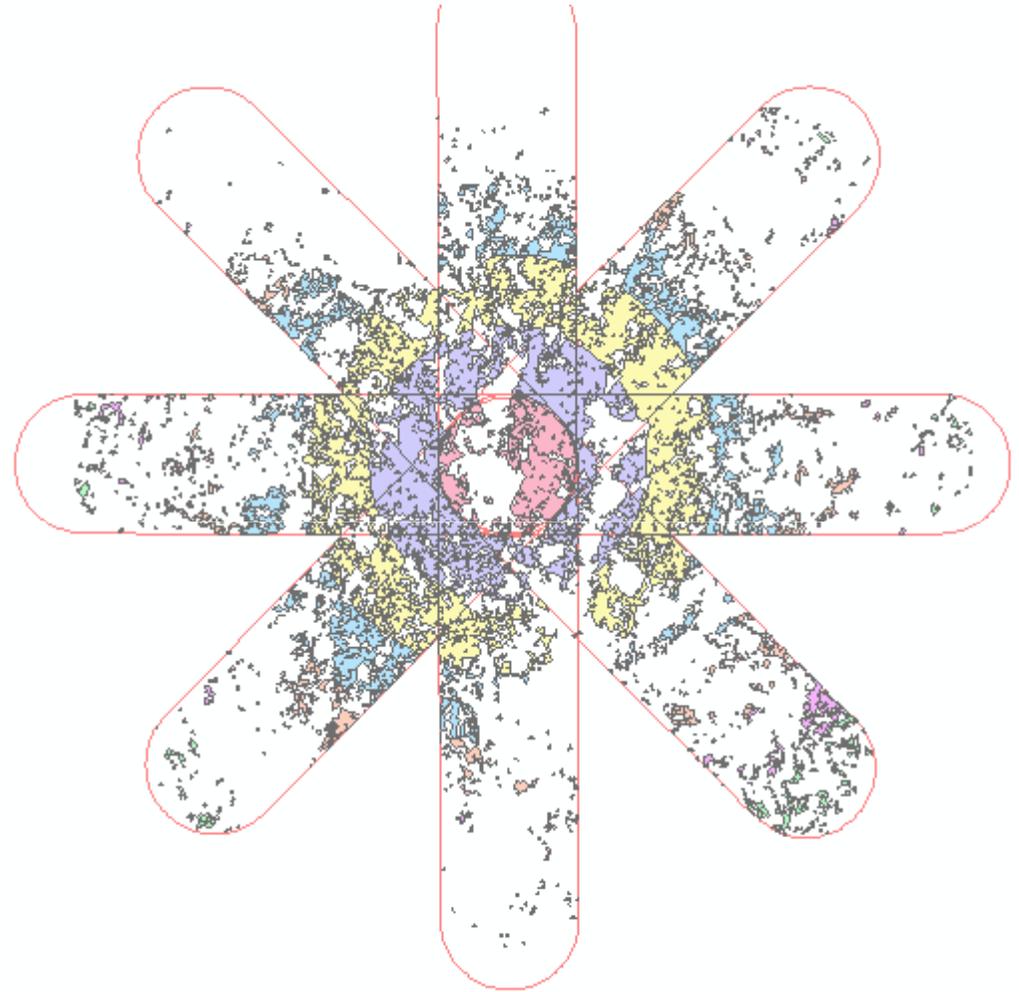
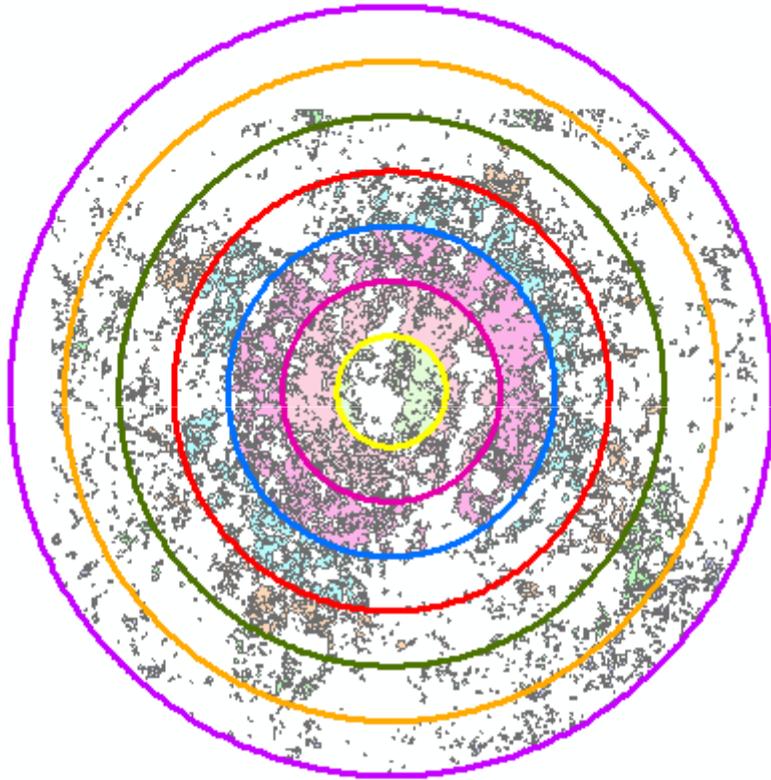
Creation of Zones –from Centre part of the city



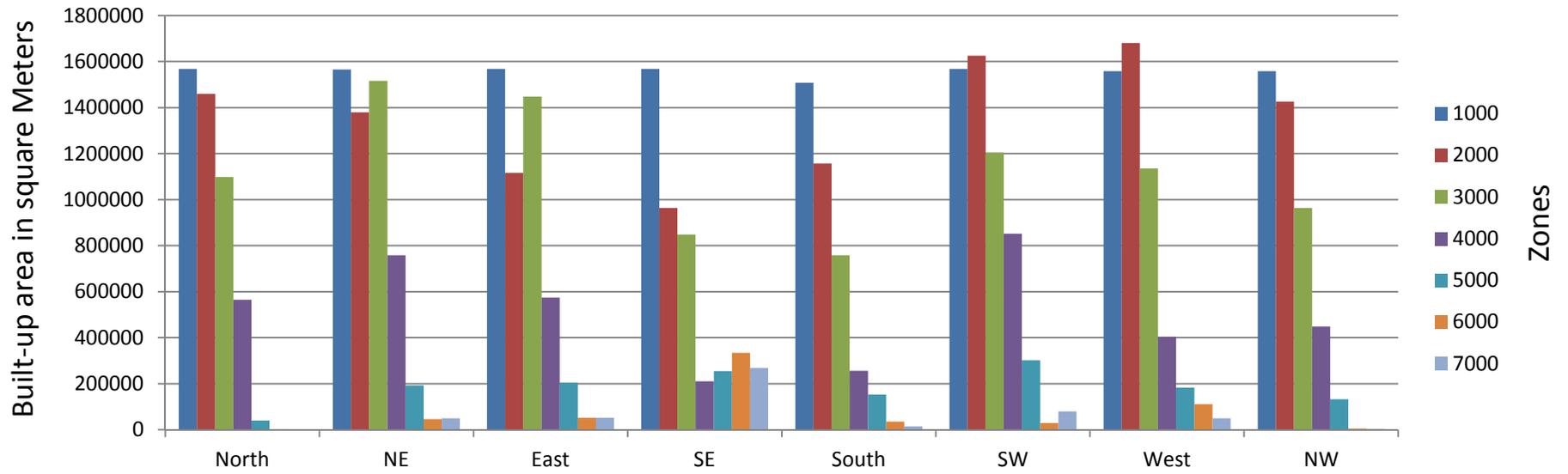
Growth analysis- Directions radiating from the centre



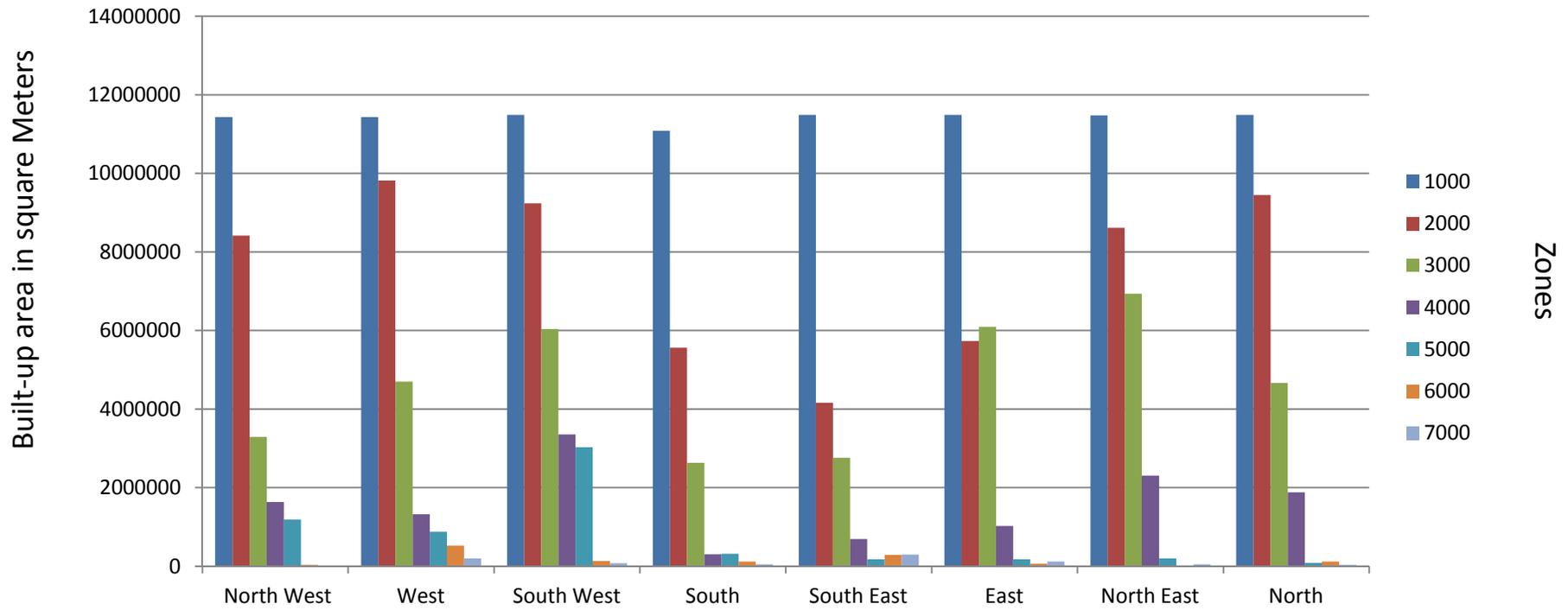
Extraction of Built-up area



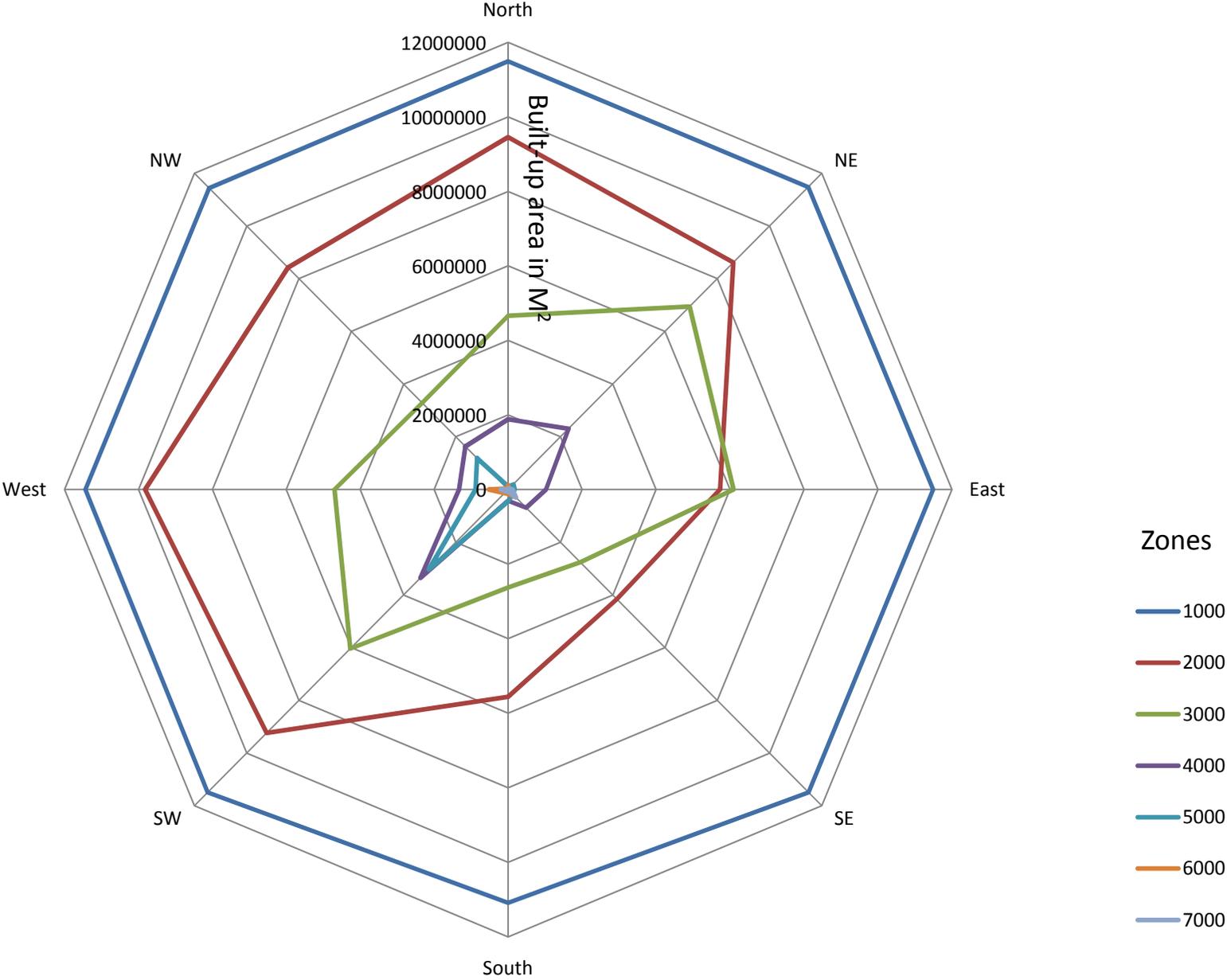
Built-up area -2002



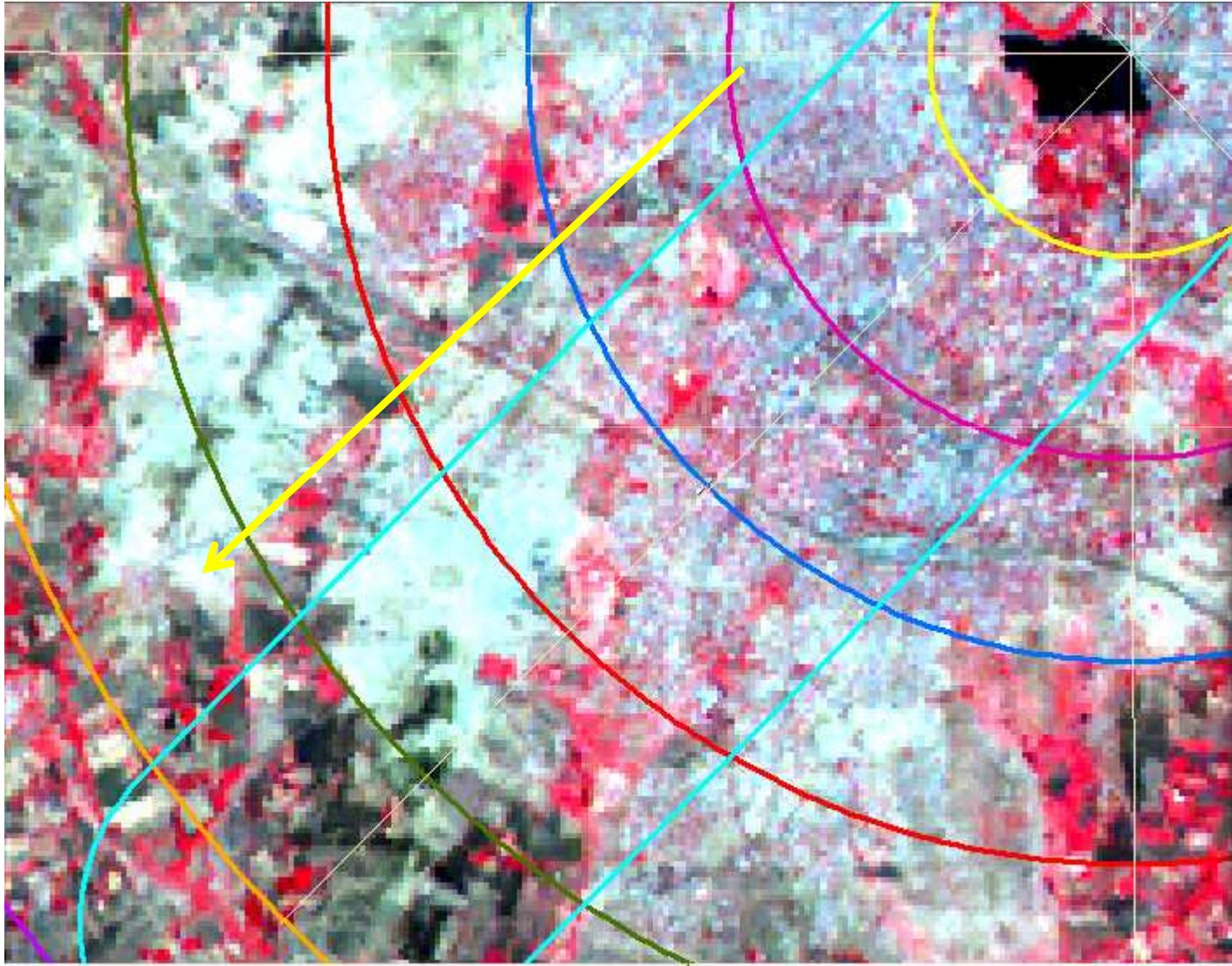
Built-up area -2007



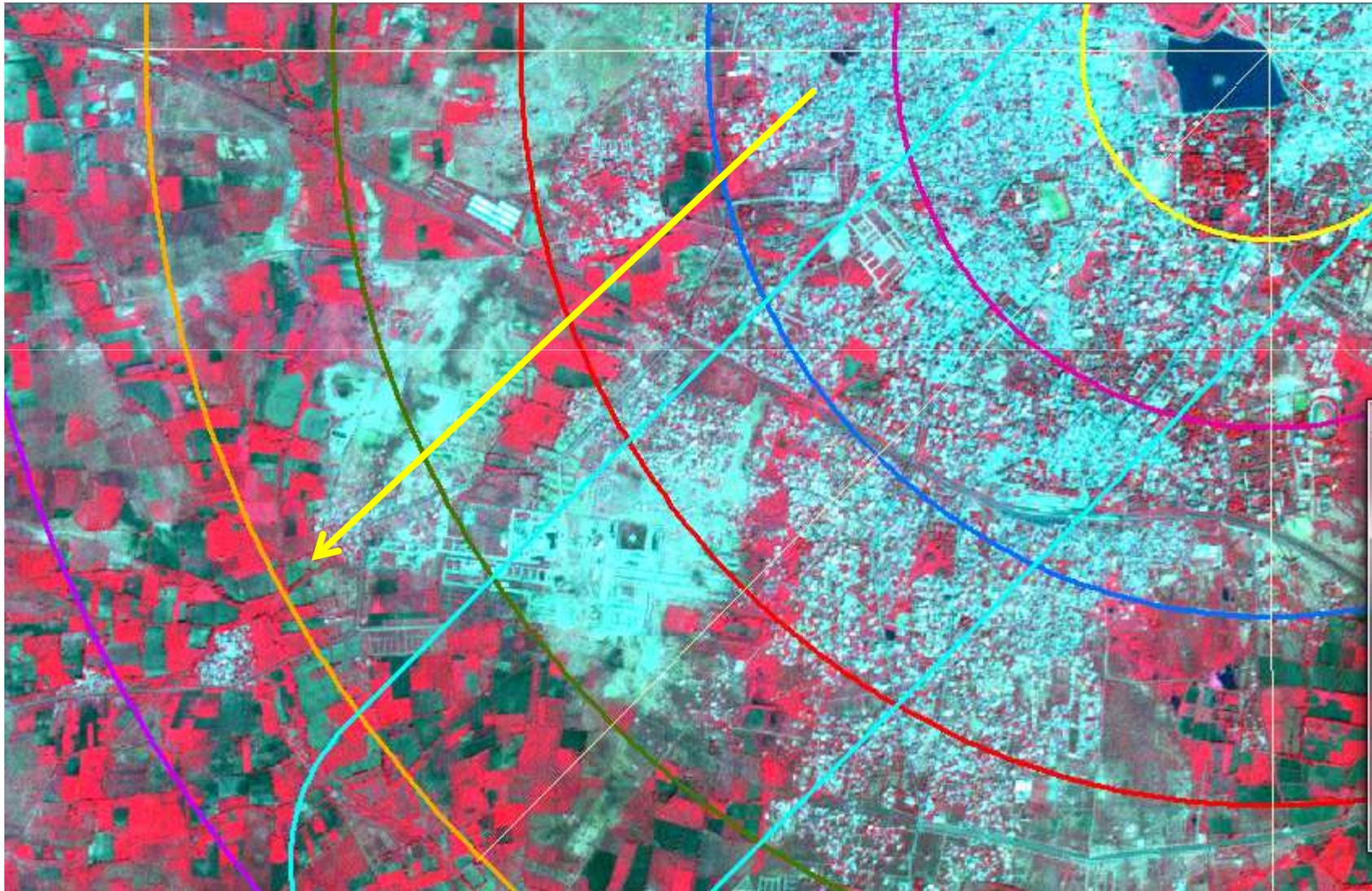
2007



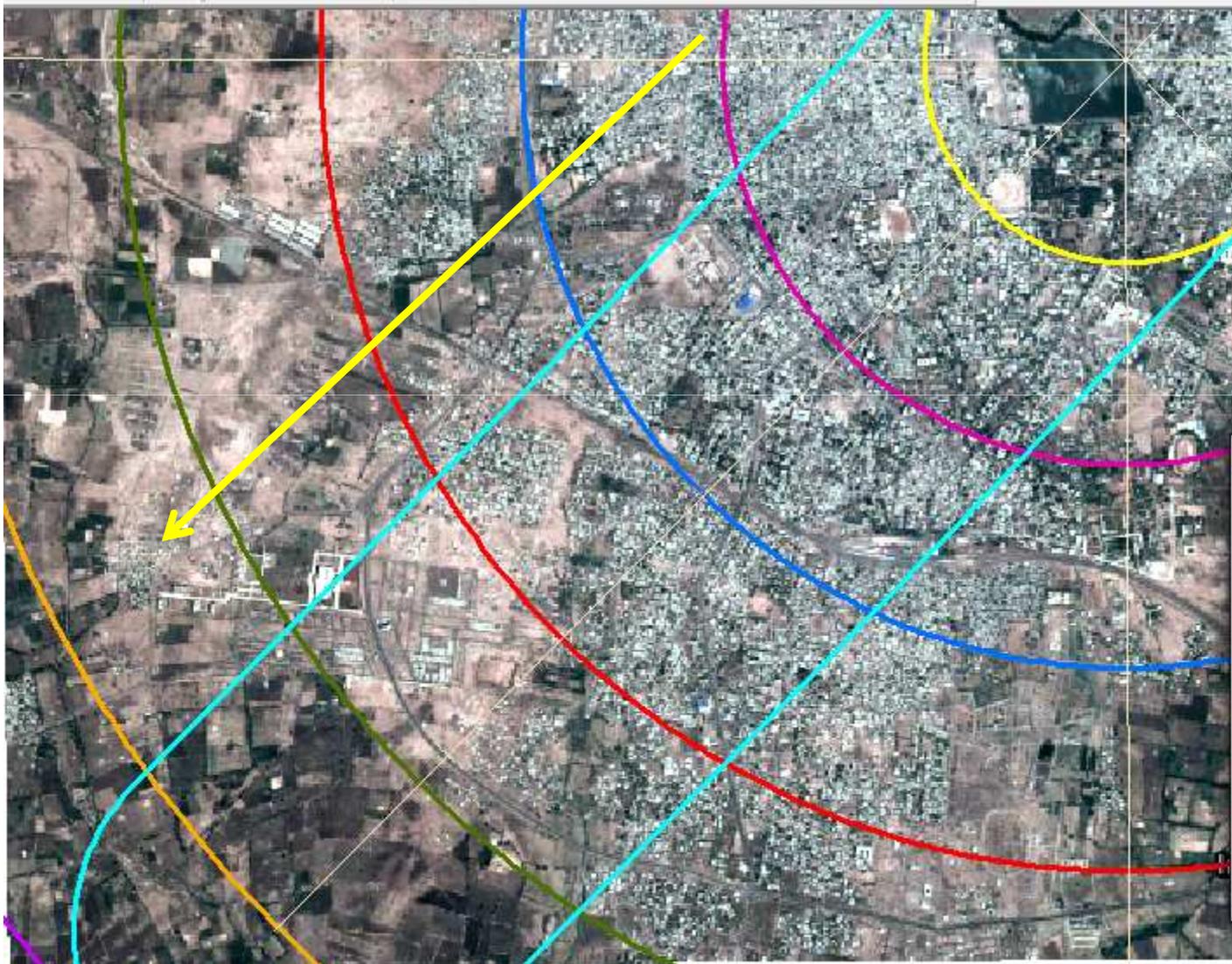
Urban –Rural Gradient 2002



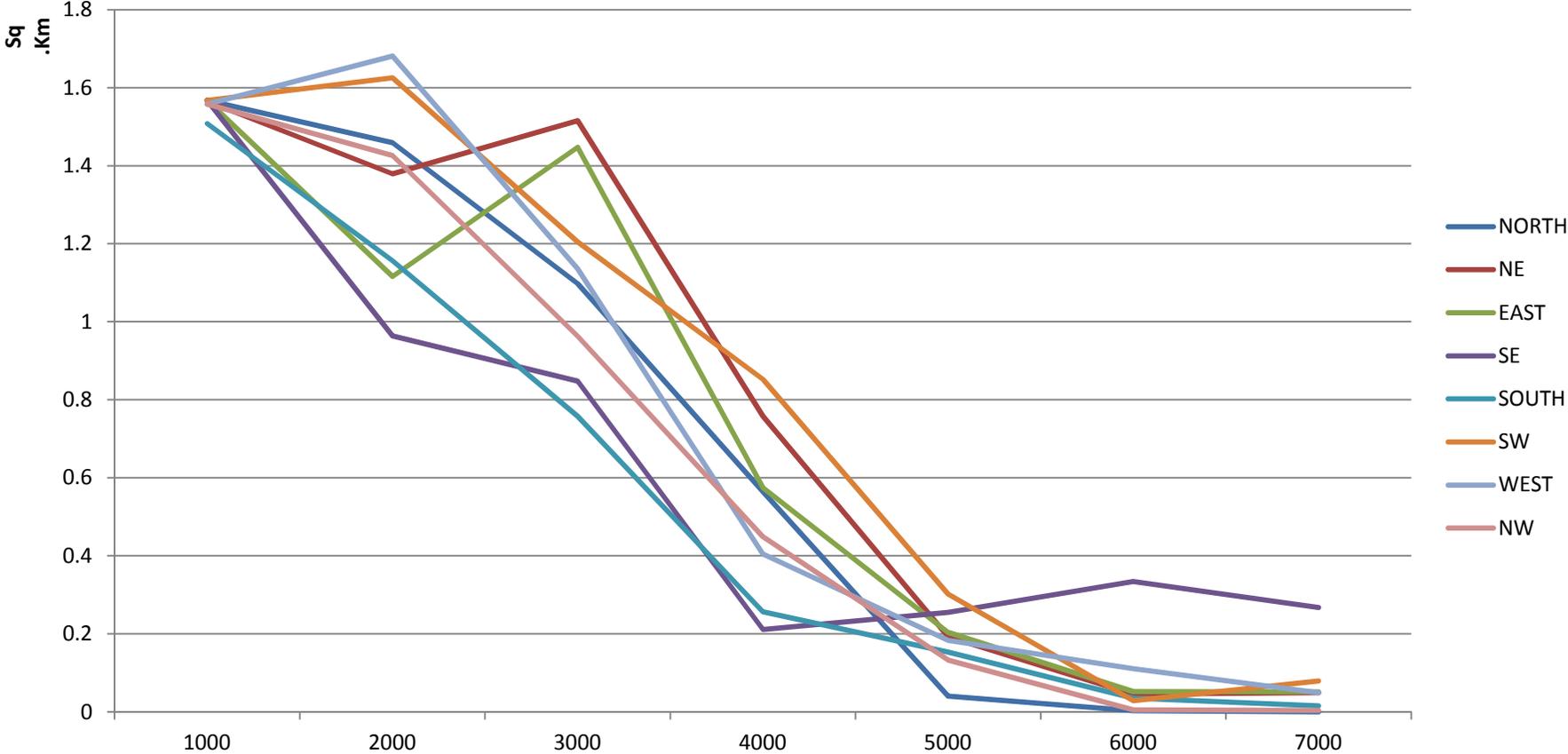
Urban –Rural Gradient 2007



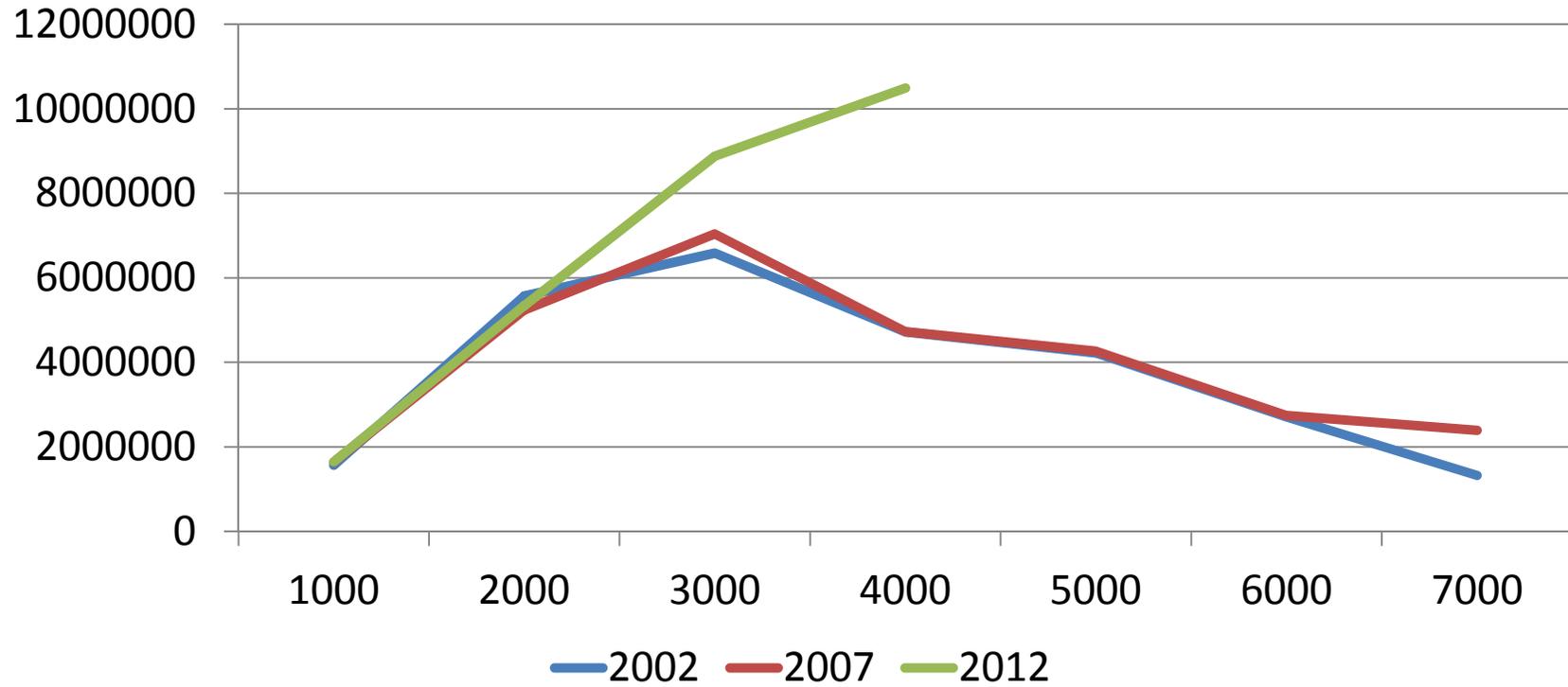
Urban –Rural Gradient 2012



Gradient Analysis



Temporal Analysis



Future is Urban



Thank you