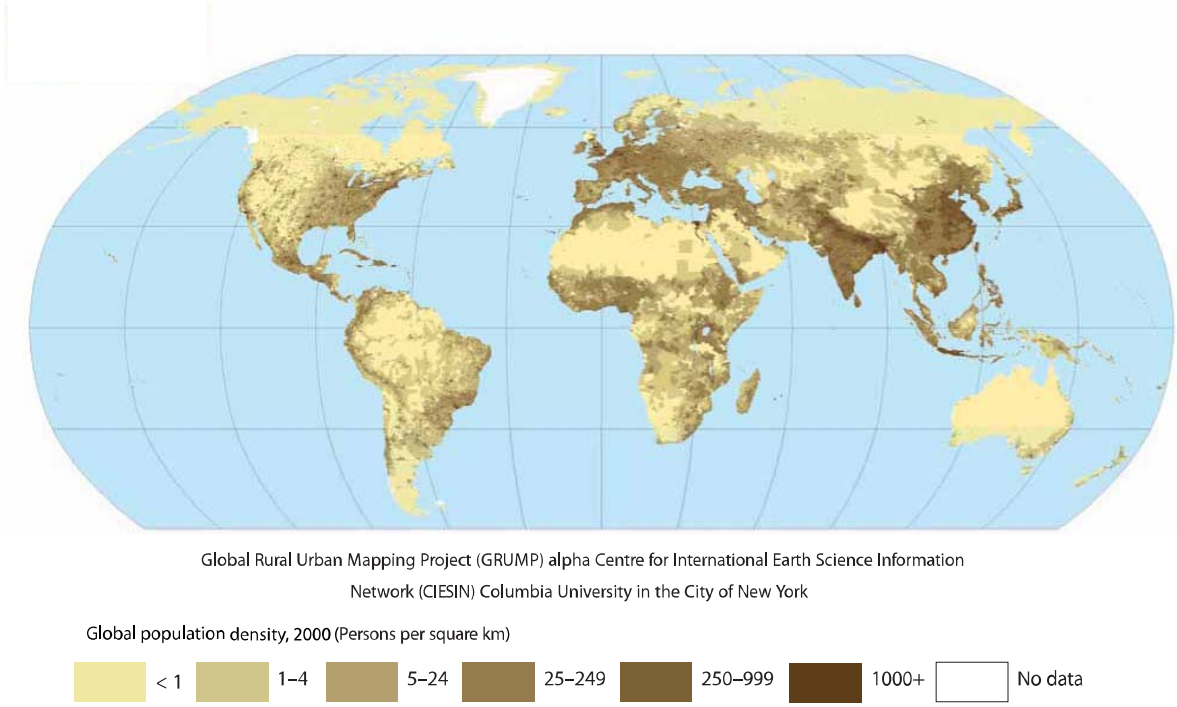
Indicator name	**Rural and urban population**



Prepared by	Water Systems Analysis Group, University of New Hampshire (UNH)
Example	**WWDR2, Section 1, Global Map 2** **WWDR3, Chapter 2, Map 2.1 and Figure 2.1**
Challenge area	Sharing Water, Human Settlements
Rationale	This indicator presents the spatial distribution of total global population and the spatial extent and density of human settlements with 1,000 persons or more.
Position in DPSIR chain	Pressure, State
Definition of indicator	Global Rural-Urban Mapping Project (GRUMP)
Underlying definitions and concepts	The indicator is based on the following definitions: • Total population: distribution of global population in years 1990, 1995, 2000. • Human settlements: spatial extent and distribution of urban population centers in 1994-95.
Specification of determinants needed	Population per grid cell Boundaries of human settlements Population density
Computation	Population data were transformed from their native spatial units (usually Administrative) and of varying resolutions to a global grid. The human settlements database is a global database of cities and towns of 1,000 persons or more, where each settlement is spatially represented as a point, and has associated tabular information on its population and data sources. Population data were gathered primarily from official statistical offices (census data) and secondarily from other web sources, such as Gazetteer and CityPop1, or from specific individual databases when official statistical databases were not available. Based on the data available and applying UN growth rates, population was estimated for years 1990, 1995, and 2000.
Units of measurements	Number of people per grid cell.
Data sources, availability and quality	All data for this indicator is available from the Center for International Earth Science Information Network (CIESIN) Socioeconomic Data and Applications

	Center (SEDAC) at Columbia University http://sedac.ciesin.columbia.edu/ (Accessed 3 March 2009) UN World Urbanization Prospects The 2007 Revision Database link: http://esa.un.org/unup/ (Accessed 3 March 2009) Document link: http://www.un.org/esa/population/publications/wup2007/2007WUP_Highlights_web.pdf (Accessed 3 March 2009)
Scale of application	Quadrilateral latitude-longitude cells at a resolution of 2.5 arc minutes
Geographical coverage	Global and by continent
Interpretation	This indicator provides a measure total population, urban population and, by difference, rural population and can be aggregated to basin, national, continental or global scales.
Linkage with other indicators	Domestic water use Industrial water use
Alternative methods and definitions	None reported
Related indicator sets	None reported
Sources of further information	Balk, D. and G. Yetman, 2004, The global distribution of population: Evaluating the gains in resolution refinement, available on-line at http://beta.sedac.ciesin.columbia.edu/gpw/docs/gpw3_documentation_final.pdf (Accessed 3 March 2009) Balk, D., F. Pozzi, G. Yetman, U. Deichmann, and A. Nelson, The distribution of people and the dimension of place: Methodologies to improve the global estimation of urban extents, final document, available on-line at http://www.iussp.org/Activities/wgc-urb/balk.pdf (Accessed 3 March 2009)
Involved agencies	International Food Policy and Research Insitute (IFPRI; http://www.ifpri.org/) (Accessed 3 March 2009) World Bank (http://www.worldbank.org/) (Accessed 3 March 2009) International Center for Tropical Agriculture (CIAT; http://www.ciatbo.org/) (Accessed 3 March 2009) World Conservation Monitoring Center (WCMC; http://www.unep-wcmc.org/) (Accessed 3 March 2009)