

Sustainable Development of the Megacities

Sustainable development

The notions „sustainability“ and „sustainable development“ began to be used at the beginning of the 1970s in relation to the findings that any uncontrolled growth (of population, production, consumption, pollution, etc.) is unsustainable in the environment of limited resources. The principle of sustainable development is becoming one of the generally recognised principles of development of the human society and it seems to be a new possible solution of adverse consequences of the global trends and their negative impacts on the nature.

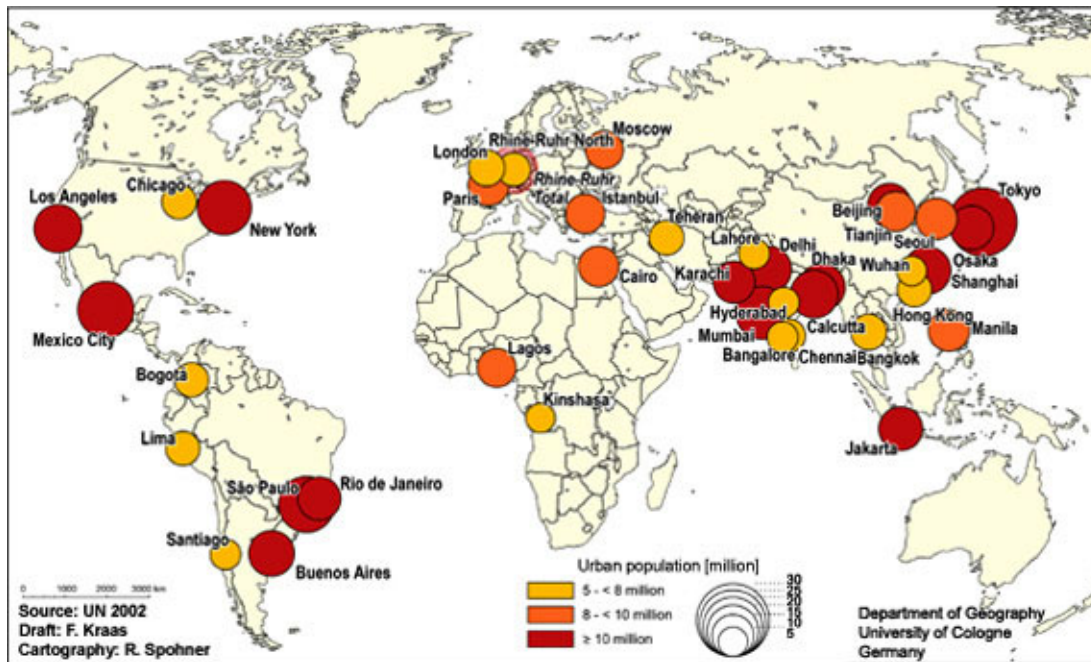
Definition of the sustainable development in Slovak Republic is *„development which allows both current and future generations to meet their basic living needs without reduction of diversity of the nature and which maintains natural functions of ecosystems“*.

Megacities

Mega cities are polycentric, metropolitan agglomerations with at least 10 million inhabitants. We can see enormous trend in megacities development, and it's increasing of megacities inhabitants. In 1975 only 38 % of the world's population lived in cities. More than 50 % of the world's population is predicted to be living in cities in 2007, and this will increase to two thirds by 2030. These shifts and the increasing population density are unprecedented and are taking place at a pace (the present cities of the world grow by 60 Million per year) that is putting to the test the strategic and innovative competence of politics, the economy and civil society.

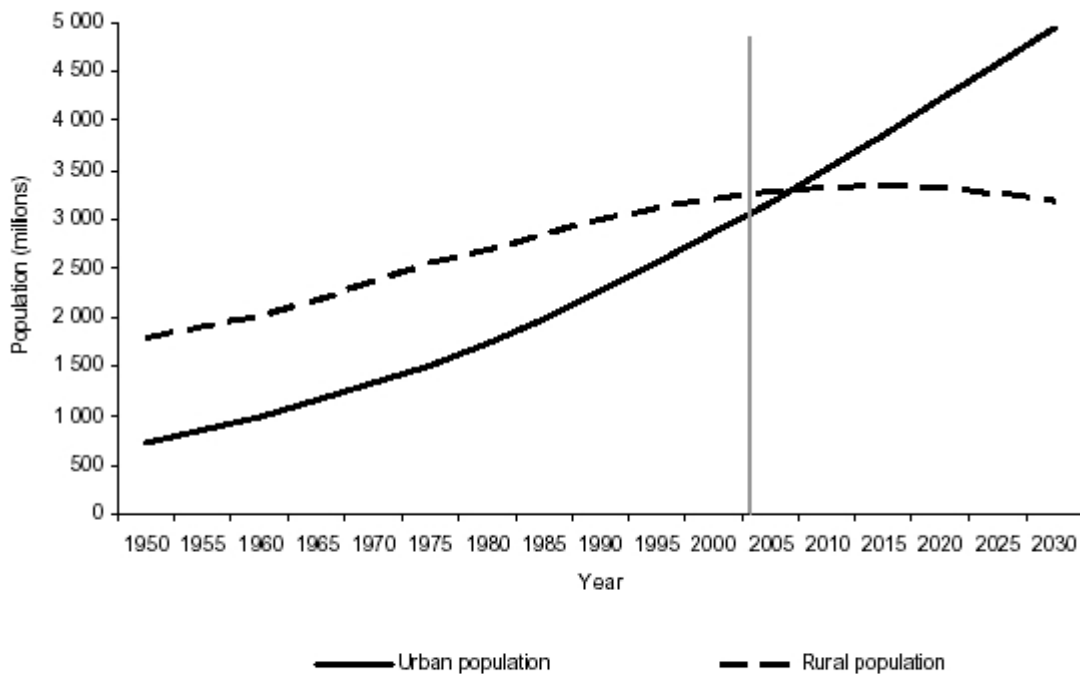
In addition, there are numerous other large cities and those with over a million inhabitants that are moving towards the 10 million mark. These “megacities of tomorrow” are of special interest to politics as there is still an opportunity for precautionary action and targeted urban development. Characteristic of this focal point of support is that it is firmly embedded in the concept of sustainable development. Environmental, economic and social aspects of urban development are incorporated into a single concept. Natural resources should be effectively managed in big cities, but at present these are places where water and energy are squandered. Cities also swallow up increasing amounts of land as they continue to expand over arable areas and green spaces. The expansion of coastal cities even affects the marine environment. For example, in the last quarter of a 20th century the population of New York City has risen by 5 per cent, but the area it covers has increased by 61 per cent. Measures must be taken to ensure that activities to protect the urban environment become a source of income and enable the people who live in cities to take charge of running them.

World megacities:



Urban vs. Rural population

Figure 1. Urban and rural populations of the world, 1950-2030



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Cities take up less than 2% of the earth's surface, but use 75% of its resources. To offer a concrete example, inhabitants of Vancouver consume resources which correspond to a surface area, which is about 200 times bigger than actual surface of city. Thus global sustainability depends on sustainability of urban areas.

During the growth of a megacity, problems typically increase in all three sustainability dimensions: social, economical and ecological dimension. For all of these dimensions there are characteristics, problems and sustainable options and solutions. Characteristics distinguish megacities from other settlements. Problems contradict principles of sustainability and options promote it. I would like to describe all of dimensions with their characteristics, problems and options (solutions).

1. Social dimension:

- Characteristic features are: diversity, heterogeneity, cultural variety, confrontation, choice among cultures and subcultures, segmentation, weakening of traditional norms, innovation, opportunities, advertising, media, art, education, individualism...
- Problems could be following: segmented and polarised living conditions, polarised social structure, slums, ghettos, deficient transport, criminality, stress, overcrowded
- Sustainable options: formation of middle-class, better health care, increasing level of education, cultural progress, emancipation of women, decreasing working hours, more spare time, democratic participation

2. Economical dimension:

- Characteristic features: capital accumulation, investment potentials, specialised financial institutions, banking system, job differentiations, rising consumption levels
- Problems: mass unemployment, low wage level, overused infrastructure, decay of buildings, equipment and capital goods
- Sustainable options: productivity increases, improvement of infrastructure, technological inventions, increasing wealth, better redistribution of taxes, local government, decentralisation

3. Ecological dimension:

- Characteristic features: dependence on supply corridors (energy, sources, material flows) radiality and marginality (centre vs. periphery, city vs. hinterland)
- Problems: air pollution, smog, noise, hygiene deficits, urban sprawl, traffic jams (individual automobilism), waste accumulation, illegal rubbish dumps, city climate (heats), consumption, water pollution
- Sustainable options: more effective consumption of resources (per person, per time, land unit), environmental legislation, regulation, land use planning, environmental advantages, waste separation, public transport, less cars, more bicycles, walking, be thrifty to resources.

USED LITERATURE:

Federico Mayor Zaragoza "[Living in tomorrow's cities](#)". UNESCO Courier. Sept 1996.

The urban transition: Research for the sustainable development of the megacities of tomorrow

Sustainable Development in the Slovak Republic 2001