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SUSTAINABLE DEVELOPMENT, URBAN ENVIRONMENT AND POPULATION HEALTH

ODRŽIVI RAZVOJ, URBANA SREDINA I ZDRAVLJE POPULACIJE

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The man, as a social being, has always wanted to live in a group. Makind has been developing urban settlements for the last four thousand years out of two million years, that being the period during which the humans have existed on Earth. The balance between the number of inhabitants living in rural areas and those living in urban regions was disturbed in the last century as a result of industrial development [1].

Nowadays, more than a half of the world population lives in towns/cities and since there is a significant trend of further increase in the number of people living in urban environment, the percentage of population gravitating toward cities is expected to get even higher, particularly in undeveloped countries. Even now, more than 70% of population live in urban regions in developed countries and the number of cities with multi-million population, which are called megalopolises, is on the rise [2].

The map of big cities and the trend of increase in population and urbanization in 1950-2015 in the world point to the importance of tackling the issues of urban ecology and sustainable development in order to preserve and promote the life quality of population [4,5]. Cities with their abrupt growth, development, and organization have become specific environments – ecosystems called urban ecosystems, which are the topic of concern of urban ecology [5,6].

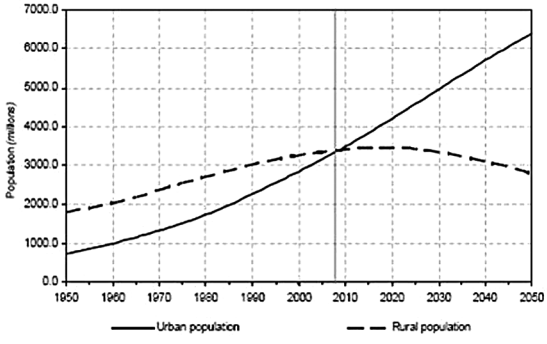

Fig. 1. Urban and rural populations of the world, 1950-2050
Source: United Nations Department of Economic and Social Affairs/ Population Division 5. World Urbanization Prospects: The 2007 Revision (2)
Slika 1. *Procena odnosa svetske populacije u urbanoj i ruralnoj sredini 1950 - 2050. godine*
Izvor: United Nations Department of Economic and Social Affairs/ Population Division 5. World Urbanization Prospects: The 2007 Revision (2)

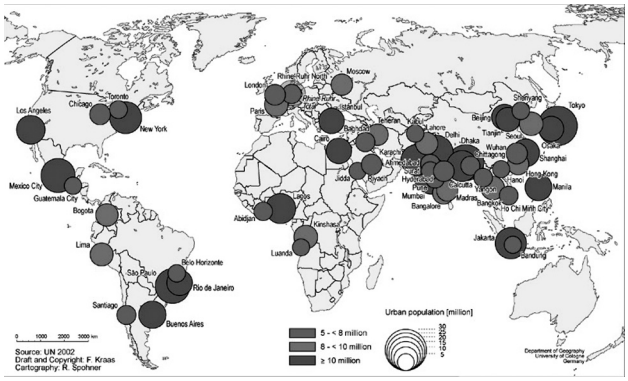

Fig. 2. Map of megacities in the world in 2015
Source: http://www.megacities.uni-koeln.de/_frame.htm?http://www.megacities.uni-koeln.de/documentation/megacity/maps.htm (3)
Slika 2. *Mapa velikih gradova u 2015. godini u svetu*
Izvor: http://www.megacities.uni-koeln.de/_frame.htm?http://www.megacities.uni-koeln.de/documentation/megacity/maps.htm (3)

The impact of housing conditions on health and the importance of housing in general as well as the dependence of living conditions on the organization of settlement have become highlighted issues only recently, during the last several decades. Craving for health, people tend to concentrate in cities because they believe it would be easier for them to ensure their physical safety and social security as well as their mental well-being there. Cities are urban environments which represent the centre of civilization and they are attractive for all positive things they offer to an individual, i.e. the population; however, at the same time, they are also the place of great risk due to certain negative factors which are present there [7,8].

The estimate of world population growth over the period from 1950 to 2050 emphasizes the necessity of serious tackling the problems of organization, quality of life in the urban environment as well as risks, which could not be avoided by an individual and/or

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population in such an environment [7,8]. Therefore, a serious task is imposed on the experts to plan the settlements, organize urban environment both in architectural and infrastructural terms, not excluding the social aspect of living. All these components, but only if they are brought together and well-harmonized, can satisfy all the needs of the human population in an urban environment, and then decrease the risk of inevitable negative impacts on health, such as noise, traffic, insufficient areas of green spaces, etc [4,9].

The majority of world population live in undeveloped or underdeveloped countries, i.e. in urban surroundings with considerable infrastructural problems as well as with social and environmental problems [10,11]. The statistics of vital events per time unit speaks about the human population growth rate, which is reflected first of all in the rapid growth of cities, where the highest number of people is concentrated. According to the above data, 4.3 children are born in each second, whereas 1.8 people die during the same time, thus the natural population growth rate is 2.5 [12,13].

Over the several past decades, a great number of countries and governments have been trying to prepare strategic documents that should help them to go safely into the future, respecting the needs of contemporary and future generations. These activities have been in accordance with strategic documents issued by the United Nations (UN), World Health Organization (WHO), European Union (EU) and their commissions and committees, and other important international organizations and including all interested public circles [14-18].

The sustainable development provides basic economic, social and environmental opportunities for everybody, but without violating the vitality of ecological systems and the systems within the communities, on which these opportunities depend. This is supposed to be done by integrating the environment, economic and social development with the underlying economical growth, which is to ensure less poverty, just distribution of wealth, promotion of health service and life quality, with levels of pollution decreased to the level of capacity of environmental factors and prevention of future pollution and preservation of biodiversity [19,20].

The sustainable development is the development that satisfies the needs of the contemporary generation without endangering the needs of future generations for their life within the capacity of the environment. The aforementioned means that this is a harmonized system of technical, technological, economic and social activities within the comprehensive development in which natural and man-made values are used respecting the principles of economy and rationality in order to preserve and promote quality of the environment for the contemporary and future generations.

The concept of Local Agenda 21 and good organization of the urban environment may contribute to more efficient management of changes and more efficient development based on four Es (the principle of four Es – Economy, Energy, Environment and Equity), which is reflected on the integration of environmental, economic and social policy and participation of the public within the community [20,21]. The long-term planning may save not only resources but also a great amount of money. By insisting on solving long-term objectives in economic, social and environmental development, the Local Agenda 21 encourages creative solutions, promotion of conditions for the best available technologies – industry that is energy efficient or recycling technologies resulting in opening new healthy work-places. Therefore, the decision-makers play a very important role and have a great responsibility in developing urban environment [15,22].

Urban environments are ”producers” of both positive and negative external impacts on the surroundings. The intra-urban capacity of a city implies the capability of the city to cope with the impacts on the environment within its boundaries (e.g. urban waste management, urban air and water pollution, traffic problems, noise, etc), whereas the extra-urban capacity implies utilization of soil and other resources necessary to provide the continuity of city life e.g. agricultural production, energy, forests, etc. Urban sustainability is an integral part of the global sustainability and it requires the process of urbanization to be considered within the context of dynamic social, economic, political and environmental processes which cause the urban growth either in a sustainable or unsustainable manner. Urbanization includes not only the migration of population from rural to urban environment, but also the results of changes in processes of production, consumption and social reproduction; therefore, the sustainable urban development is one of the biggest challenges imposed onto the society in the twenty-first century [23,24].

The population health and sustainable development are closely related, and all of the important documents dealing with these problems are tightly interwoven regarding the aims, strategic approaches and action plans. Underdevelopment of a community impairs the health of people living in that area; and inadequate development can also endanger the environment and thus affect people’s health in an indirect way [25].

The accomplishment of the global and strategic goal ”health for all” as well as the fact that health must be regarded as the capital of society is closely related to the organization and way of living in urban environments. The world population is nowadays concentrated in the urban environment, which is, therefore, the first place for the implementation of all strategic goals related to health and quality of the environment (urban environment) [26-29].

Health balance is determined on the basis of the following parameters: the stability of morbidity over a certain time period, the ratio between natality and mortality as well as the ratio between health needs and utilization of health services. Two kinds of factors are involved: those supporting the health balance, i.e. health (health resources) and those that jeopardise the health balance (health risks) [30,31].

Special attention must be paid to the following factors of environment: housing, nutrition, working

conditions, safe drinking water supply, proper waste disposal and environmental pollution control. Specific measures, such as hygienic food production, can be intended for prevention of certain diseases in order to prevent food-induced diseases. In addition, protective measures must be used to prevent occupational and other accidents [21,32,33].

Unfortunately, risks in the community cannot be avoided, but it is important to minimize them and to nourish all those components within the community that improve the quality of life of both the individual and population. Although health problems are very different, both developing and developed countries face the questions of providing equal opportunities in order to achieve the desired level of health. Health represents an indicator of the development of society and local community as well.

Health inequalities in cities are ever increasing, and scientific evidence on their outcome affecting children's health has emphasized greater socio-economic inequality in urban environments than in rural ones. As health determinants, urban settlements are of great importance since the unplanned urbanization is followed by the continuous growth of poor neighbourhoods, particularly in developed countries. The increasing burden of non-infectious diseases is based on the fact that about 80% of the global burden of chronic diseases is concentrated in undeveloped and developing countries, predominantly in urban surroundings, which has an enormous effect on the availability and quality of health services and associated expenditure. Eating habits and physical activity in urban settlements represent one of the key problems. Obesity and excessive overweight mean a significant economic burden in terms of enormous expenses invested into health care and due to the loss of productivity.

Smoking and passive smoking in urban environments have emerged as a significant problem. The frequency of smoking habit may be higher in some urban regions due to greater availability of tobacco products and target marketing, which is particularly noticeable in developing countries. Road traffic and health make an important topic, and the intensity of road traffic, which has increased over the several decades, represents a constant disease burden referring not only to accident-induced injuries but also to respiratory diseases developed as the consequence of air pollution as well as decreased physical activity. The frequency and intensity of violence are closely related to the existing economic and social inequalities within or among big cities, which exhibit great differences in rates of suicides, violence among young people, sexual violence and abuse of children. All of the afore-mentioned result from the existing inequalities in opportunities regarding housing, education and employment as well as health expenses. In addition to the above risks of urbanization, the following factors are also important: noise, air pollution, water supply, diseases of addiction, sexually transmitted diseases, mental health, social welfare and housing conditions, and many others.

Each level of authority, including the local one, should determine their own priorities and action plans directed to sustainable development on the basis of the defined criteria and in accordance with the principles of public health. Since sustainable development is not possible without healthy population, these priority activities of each community should be directed towards the actions leading to the promotion of health and life quality of all categories of citizens.

Serbia is also facing big environmental problems and challenges in the field of public health care, and within social, economic, scientific, educational, legislative, institutional and other spheres of life, as well as in the field of sustainable development and urban planning [34,35]. Many other documents important for the implementation of the Strategy of sustainable development of the Republic of Serbia have been prepared and they emphasize the correlation between the environment and social aspects of sustainable development [36-38]. The Strategy for reducing poverty in Serbia is the first multisectoral document, having the character of a programme, which has been formulated by the Government of the Republic of Serbia with the participation and contribution of the representatives of a great number of various governmental and non-governmental organizations and institutions [39-42]. Numerous documents and strategies, which have been adopted to tackle the promotion of health care system, are of great importance for the local community and its development [43]. A part of these strategic documents is the health promotion among the citizens of Serbia and the prevention of risk factors, such as smoking, inadequate nutrition, physical inactivity and excessive alcohol consumption as well as anti HIV/AIDS campaign and problems regarding food safety [45-48]. The Environment and Child's Health Action Plan has been adopted by the Government of the Republic of Serbia to provide necessary pre-conditions for the good quality of life of future generations in the urban environment [50-52].

The existing network of institutes of public health is the basis to introduce modern multi-disciplinary and inter-disciplinary approach to tackling the environmental and health issues. Law on Public Health represents a guideline to the decision-makers and activists engaged in public health – institutes of public health regarding the following fields of activities: physical, mental and social health of the population; health promotion; environment and population health; work environment and population health; health management, quality and efficiency of health system; integrated public health information system for the follow up, assessment and analysis of the population health condition and for reporting to the authorities and general public; public health in natural and other disasters and states of emergency [53].

Conclusive considerations

The promotion of population health implies the orientation to those factors most affecting health (health potential). It is common nowadays to make a long list of health determinants such as heritage and

individual characteristics, lifestyles, environment and availability, accessibility and efficiency of health services. Differences in the health status of population, among population groups and countries point to the fact that all of the above determinants are related to social and economic factors, which represent the basis of the social development of any local community, particularly of an urban environment.

In order to prevent marginalization, unsafe living conditions and contracting diseases in these population groups the health policy must be integrated into a broader concept of the social policy, which implies taking measures and activities which are partly beyond the capacity of health sector but based on the values recognized by the European Council – respecting human and patients' rights, dignity, righteousness, solidarity, equal opportunities for both sexes, participation in decision-making, freedom of choice – and balanced by the obligation to strengthen the responsibility for one's own health. These measures and activities depend on national, regional and local community conditions and include the following sectors: education, housing, environmental conditions, health care and various kinds of interventions within social welfare.

The focus of consideration has been placed on cities and urban environments. The modern approach to global problems and to tackling environmental and economic challenges as well as those associated with human health is aimed at achieving human well-being now and in the future. The importance of planning has been emphasized; changes in work organization have been directed towards better co-operation; the emphasis is placed on the support given to the community as well as to inter-sector cooperation, all of which speak of the fact that urban environment has become the focal point of activities and endeavours.

All the needs that a modern man has within the community, craving for good quality of life, development of the community, economic and social progress, our necessity for available and accessible health care and education not only at the present moment but in the future as well lead towards the concept of sustainable development. Strategies and programmes within public health and health promotion should be, therefore, adapted to local needs and possibilities of certain urban surroundings and local communities taking into account different social, cultural and economic systems and in accordance of the principles of sustainable development.

Having recognized the importance of sustainable development, the World Health Organization dedicated the World Health Day 2010 to urbanization and health by organizing the campaign "1000 cities – 1000 lives" and bearing in mind the important impact of urbanization on the health of individuals and population in general. Thereby, cities all over the world were asked to intensify health activities related to impacts of the urban environment exerted on the quality of life and health of mankind.

There is a measure in the optimal size of an urban environment related to the functionality and a hint that multi-million inhabitant cities cause alienation and reduce the opportunity of having the optimal organization and providing intra-structure to the extent necessary for the complete functioning of a city. They are also said to host higher health risks. A part of the mankind is probably facing and will be undoubtedly facing serious challenges and decisions regarding the organization of life in cities in order to provide for all basic needs and then to preserve and promote the population health [53,54].

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