
Concept – Strategy “Green Cities” on the Basis of Medium Industrially Developed Cities of Russia and CIS Countries

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Abstract:

The work is oriented at conceptual and methodological substantiation of the strategy of formation of “green cities” on the basis of medium industrially developed cities of Russia and post-Soviet countries, which provide new ecological and socio-economic standards of living standards of population. The concept of “green city” has not only to correspond to imperatives of competitiveness, sustainability, and security of economy, but to form mechanisms of creation of material and informational, humanitarian and technical, institutional and organizational, commercial and financial conditions for effective realization of potential of medium cities. In order to substantiate the results of the research, the following methods of scientific analysis were used: systemic, situational, historical and logical, typological; methods of structural & functional, subjective & objective, descriptive, comparative, expert, statistical, graphic, and table analysis, and economic & mathematical modeling. Study of the processes of transformation of socio-economic system of medium cities on the basis of developed institutional criteria allowed expanding methodological basis of strategic management – in particular, substantiating the totality of methodological and methodical decisions, related to conduct of the analysis, substantiation of goals and mission, development and realization of strategy. Analysis of external and internal possibilities and limitations of medium city development allows determining factors which influence its state and trajectory of development positively and negatively: organizational & managerial (dominant of local authorities’ focus at cooperation with regional and federal structures), technical and technological (orientation of vector of industry modernization), infrastructural (imperative of implementation of resource-saving technologies), ecological (recession of ecological culture of population), tourist and recreational (slowdown in development of recreational resources and creation of tourism industry), informational and communicational (priority of creation of “E-city”), and social (horizon of new social standards).

Key Words: *Medium Industrially Developed City, Ecological Management, Green Index, Secondary Urban Resources*

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1. Introduction

Nowadays, success of a city depends on the living standards of its citizens – such is the reality of the global economy. The cities, in which educated, creative, and successful people would like to live and work, win. Most of the Russian cities are industrial cities with certain standards of transport services, accommodation, healthcare, and education. A modern man wants to live in a unique environment with many equal functions and individuality in everything. This need leads to creation of post-industrial cities, cities in the scale of man, in which management, economy, and environment are viewed through the prism of citizen's interests. Russia needs such cities.

According to modern typology, cities are divided into global, large, medium, and small [Lynd, 1929; Lynd, 1937]. Modern state of urbanization processes cannot be described from the point of view of one main trend – domination of the role of global cities, and the global crisis of 2008-2010 proved that sources of economic growth can include other groups of cities, including medium ones. Authorities of the EU, taking into account the fact that by 2030, 80% of the Europeans will be living in cities, focus on the development of small and medium cities, as it is "easier to realize new initiatives and check their viability" in them; authorities of China, taking decisions on support of medium cities, explain it by the fact that "moderation and small scale of medium cities" provide better conditions for life of the population. In Russia, there are 90 medium cities with population of more than 15 million people, which are parts of territorial & economic structures of all regions, possess special institutional nature and mentality of population, but have comparatively low living standards [Buchwald, 2007]. Main criteria of medium city development should be the following: quantitative parameters of urban product growth, index of human potential development, technologies progress, and successive observance of ecological norms. In order to realize a huge total potential of medium cities, it is necessary to revise starting conditions, involve population into economic process, and provide local authorities with larger autonomy and responsibility for unification of efforts of all levels of management and business for creation of conditions for safe and comfortable life of all social groups [Friedmann].

Functions of the state are divided into traditional (defense, public order, state management) and modern (education, science, culture, healthcare, economic development). Globally, 5.3% of GDP is spent for traditional and 17.8% - for modern functions of the state. On the contrary, in Russia, 7% of GDP is spent for traditional and 4.7% - for modern functions of the state. Probably, traditional

functions of the state in Russia should be performed by means of budget, while modern – by means of public consumption funds.

At present, there are 90 medium cities with population of more than 15 million people in Russia, which are peculiar for institutional nature and mentality of population. Sixteen medium cities of the RF (with population around 5 million people) and four medium people of the CIS countries (with population of more than 1.5 million people), which initiate economic growth, are a part of the group of industrially developed medium cities. Ecological environment in medium industrially developed cities is still evaluated as rather tense, which is caused by high level of technological load on natural environment (from enterprises of energetics, industry, and transport) and lack of “green thinking” and careful attitude to living environment with most of Russians [Ennker, 2006; Friedmann]. Green economy of cities is a direction in economic science which has been developing over two recent decades. Supporters of green economy are M. Bookchin, J. Jacobs, R. Carson, E. Schumacher, R. Costanza, L. Margulis, H. Deli, D. Meadows, P. Hawken, etc. Organizations which conduct intensive research in the sphere of “green cities” are: Association on sustainable economy KOVET (Hungary), Association of international network of ecological management INEM (Germany), Institute of passive house of Darmstadt (Germany), World Green Building Council), Green Institute of Warsaw (Poland), International Initiative for Impact Evaluation,

The New Zealand Association for Impact Assessment (NZIA), International society of ecological economy supported by Charles Stewart Mott Foundation, Michigan USA [Medvedeva, 2013]. In Russia, green economy is supported by: Institute of program systems of RAS, Institute of management problems of RAS, Center of preparation and realization of international projects of technical support, and Russian society for ecological economy (RSEE) [Inshakov, 2008; Belkina, 2011].

According to classification of the Organization of economic cooperation and development, green technologies cover general ecological management, production of energy from renewable sources, reduction of polluting emissions, increase of fuel use effectiveness, energy efficiency of lighting devices, and development of parks and green landscapes [Hall, 1996].

Many cities of the world implement nature protecting programs, green up urban territories, and use ecologically effective and resource saving technologies. According to the data of a researcher from South Korea, Jung-Hoon Lee, there are 143 projects of “clever (green) cities” of various level of completion in the world. They are accounted for the following way: North America – 35, South America – 11, Europe – 47, Asia – 40, Africa – 10. Large interest for realization in medium industrially developed cities is posed by experience accumulated by administrations

of Reykjavik (Iceland), Portland (USA), Malme (Sweden), Vancouver (Canada), Curitiba (Brazil), Copenhagen (Denmark), Bogota (Columbia), New Sondo (South Korea), Masdar City (UAE), Almere (Netherlands). Transformation of industrial areas was conducted in Ille de Nantes in Nantes, Lyon Confluence in Lyon, Cite de Designes in Sainte Ettiene in France; Haffen City in Hamburg, Emscher Park in Essen, Germany [Hall, 1996]. At present, no single city in Russia conforms to the standards of "green cities".

Concept-strategy of "green cities" model, adapted to specific group – medium industrially developed cities of the RF and the CIS countries – is not only a real step forward to improvement of quality of living of population, but a path to increase of competitiveness of this category of cities and practical use of ecological, institutional, material, and informational resources. The most important element of methodology of concept-strategy "green cities" on the basis of medium industrially developed cities is a system of existing federal, regional, and municipal planning for promotion of resource-saving technologies on the basis of principles of coordination, complexity, and balance; strengthening of social & political and ecological & innovational functions. An integral expression of expected efficiency of urban authorities for development of "green model" should be the index of population's satisfaction with life.

The main goal of the concept-strategy is to promote the "green cities" model in Russia, as the most favorable for life, labor, and health of population, and development – for public authorities of medium cities – of methodologies for calculation and comparison of quality of urban environment; green cities index; index of population's satisfaction with life; methodological recommendations for development of the "Green city" program.

Medium city should provide to its inhabitants the necessary level of service, municipal development, and ecologically clean living environment. Establishment of "green cities" is supported by existing and new laws and regulations in the sphere of city development, municipal housing economy, and ecology. Observance of new laws and regulations in these spheres guarantees provision of norms of green economy in living environment. Apart from that, there are leading developments, progressive ideas, and technologies on development of intended for building and greened territories, public transport, green economy, consumption of natural resources, and ecologically safe processes in industrial production, including cleaning of emissions and discharges of polluting substances, which should be a part of management practice [Global Power City Index 2009].

Main directions of the concept-strategy of green cities include green energetics which provides promotion of renewable energetic, with heat loss prevention. Second

direction – preservation and recovery of urban lands, and taking measures aimed at improvement of ecological state of soil, its protection from further pollution, and recovery of damaged lands. Third direction – deactivation of city waste. Solving this task requires practical implementation of ecologically safe and low-waste technologies of deactivation of city waste; construction of plants for full recycling of urban waste and use of modules for afterpurification of sewage water. Fourth direction – provision of cities with green planting. In urban environment, green planting is one of the most effective means of increase of comfort of living environment. They perform sanitary & hygienic, architectural & aesthetic, emotional & psychological functions. The concept-strategy “green city” wants to bring green planting closer to urban inhabitant. Fifth direction – water supply. During creation of green cities, quality of drinking water is very important.

It is advisable to use constant monitoring for preservation of hydrological, biological, and chemical features of water, reduction of risk for population’s health, and creation of favorable conditions for development of recreation areas at water objects. Sixth direction – transport and complex of measures aimed at improvement of car fleet, increase of their electrification and gasification level; observance of nature protection requirements in the process of exploitation and maintenance of motor transport vehicles. Seventh direction – use of production areas. In the USSR, the main direction of industrial districts formation in medium cities was creation of industrial areas. The concept-strategy supposes reconstruction of such areas, increase of intensity of their use, development, and greening. Eighth direction – ecological indicators of city environment. Main goals of ecological policy in a city: creation of favorable environment, improvement of living conditions and population’s health, and provision of ecological safety. Development of the process of urbanization in most cases leads to negative ecological and social consequences: pollution of environment, uncontrolled growth of waste of production and consumption, degradation of vegetation and, therefore, aggravation of health of population in urbanized districts.

Economic policy in medium cities in post-crisis period is largely caused by resurrection of industry and increase of rates of production of goods and services, which is connected to tasks of socio-economic development of the country, set in the “Concept of long-term socio-economic development of the Russian Federation until 2020”. The most important factors which ensure competitiveness of medium cities in post-crisis period are: provision of the policy of modernization of industrial sector of economy with strengthening of the role of processing sectors. Budget policy is one of the most effective mechanisms of urban economy development. On the one hand, it should support priorities of city development, and, on the other hand it should minimize budget expenditures, preserving the quality of received result. The issue of the selection of budget policy priorities, finding new sources for budget

replenishment, and solving problems related to post-industrial transformation of cities – these are all the challenges faced by many medium cities. In order for cities to develop, each region has to have its taxation system: a factor which stimulates development of economy, while transfers should be in the form of stimulation of economic activities through infrastructural projects. Distribution of income between levels of management should be built in the way to provide regional and local budgets with sustainable independent sources of income in order to stop the practice of formation of these budgets by means of inter-budget transfers from the federal budget which do not guarantee performance of expenditure liabilities of local and regional budgets. Medium cities can and have to be independent in their development – and they even can change city limits if required.

Industrial production preserves its role as a main factor of development of the global economy, and industrial production accounts for 16% of the global GDP, which provides 14% of the total number of jobs and 18% of jobs at service market. In Russia, industrial decline continues for 3rd year in a row: 2010 – 8.2%, 2011 – 4.7%, first half of 2012 – 1.9%. The number of personnel in industry decreased by 35% over 20 years. Machine building industry decreases with catastrophic rates – manufacture of bearings and metal-cutting equipment reduced by five times. Expenses grow: gas recovery – by 6 times, coal recovery – by 4 times, petrol production – by 3 times. One of the reasons for that is tax burden. For average entrepreneur it is by four times lower than in the U.S., where income tax is not imposed on income up to USD 8,500 per year, social fee rate constitutes 13%, expenses for equipment up to USD 500,000 per unit are written off for amortization, and there is no VAT but low tax on sales instead which is not reflected on manufacturer.

On the whole, tax burden in the West is higher than in Russia – but it is imposed on the rich and high-profit business. It is possible to stimulate with taxes the processing spheres, including machine building. Expenditures for production should be included into production cost. If VAT, income tax, and social fee were reduced to 10%, losses would not exceed 3% of the consolidated budget. The main disadvantage of modern taxation system is that it does not stimulate modernization; only progressive taxation is a necessary condition for growth of labor efficiency and economy development. Second reason is ineffective monetary policy. It is necessary to increase accessibility of credit and financial resources for real sector and reduce interest rate to 5%. As the global economy develops, trajectories of entering the production of innovational chains will reduce, thus toughening the competition between cities for possession of investments and sales markets. Medium cities, with formed class of modern workers, group of engineering and technical employees, and developed industrial & innovational complex can be centers of innovational

development, under the conditions of adoption of the federal program of support for their socio-economic sphere and program for industry development.

City authorities face the problem of transformation of industrial areas – productions age, production areas reduce, and new productions require less localization. Part of industrial objects should be modernized, and others will become a part of adjacent districts or of public areas. Creation of startup programs will stipulate the development of medium cities' industry.

The future of medium cities is connected to provision of conditions for scientific & technological foresight – a tool of forecasting and design of technologies; functioning of objects of innovational infrastructure: innovational elevators and areas (green fields), small innovational enterprises, engineering centers, specialized technological parks, inter-modal terminals, “clever” ecological transport, consulting and engineering companies, and venture funds. Formation of favorable business climate in medium cities will allow increasing the inflow of investments and developing competitive advantages of industrial sector of economy and SME; providing further integration of urban economy into meso-economic system with the use of the mechanism which initiates growth of innovational products. Main stratagems of modernization of industrial sector of medium city: modernization, restructuring, and systemic integration through development of scientific & industrial complexes with new types of business (“collection points” of urban environment) and transport & logistics schemes.

Global standards of consumption quicken the processes of invention of new productions and services (including household outsourcing); change infrastructure of higher education, and attract high-quality specialists, creating comfort conditions for their life. Comfort of urban environment is one of the key factors in the increase of city attractiveness. Enlargement of consumers' markets leads to appearance of many-functional complexes with trade dominant and “storage areas”. Global practice includes a lot of examples of successful projects in such spheres as city transport, housing and public utilities, and social sphere. Thus, issue of drivers of modern medium city development acquires special topicality.

Experience of recent 20 years showed interesting regularity – appearance of new public environment, which is very small as compared to total territory of the city (0.01%), but capable of changing the city image. Residential districts of the Soviet type – main housing fund of the most cities – lose their primary value. City inhabitants need good and diverse public areas, landscapes, and streets. Areas for meetings and demonstrations should be many-functional. Market of children services grows in cities: museum programs, leisure centers, children's lectures. At the same time, forms of socializing marginalize: street children's culture does not develop. Most of cities of the world give high priority to development of inter-modal

transport infrastructure. Creative class quickens development of city economy. For example, more that 22% of GRP of Berlin accounts for creative sector [Ennker, 2006].

Prosperity of medium modern city largely depends on its capability to keep and attract the most educated and creative people. Success in this case depends on two main factors: availability of decent job and friendly urban environment. Nowadays, it is difficult to imagine urban economy without small and medium entrepreneurship. In the EU, small business' contribution into the city budget reaches 70%. For Russian small business to develop, taxes should be reduced by half. Losses from that will be very small: according to the Federal Tax Service, only 0.8% of consolidated budget. In developed and developing countries, creative class is the people of creative work which create innovations during their usual work. In medium cities, this class should be created and supported. As new economic history shows, creative class' producing innovations happens regardless of institutional environment. Russia has certain advantages over the countries of similar level of development in the sphere of formation of human capital.

Our system of education and culture is still among the leaders, but this resource is being spent. Tax on labor payment fund, which exceeds 30%, does not stipulate the increase of living standards of the Russians (wealthy Russians use special schemes and pay 9% from dividends). Formation of the system of social taxes is aimed for leveling the social inequality and stipulation of creation of equal starting positions for each man and of human potential development. Formation of state order of innovational infrastructure for incubation and development of subjects of small and medium business quickens the rates of growth of elite housing, establishment of municipal suburban districts which combine conditions of urban and rural environment; necessity for increase of volumes of urban product simulates cooperation with other territories and quickens the process of branding.

City economy is a socially organized and institutional process, conducted by people for the purpose of provision of better living environment. In order to substantiate the green cities model, authorities have to evaluate existing resources. In particular, integral indicator of evaluation of the state of medium cities for implementation of the green cities model should include evaluation of: production & industrial, infrastructural, budget & financial, demographic & social, and innovational & ecological aspects according to the formula:

where; – production & industrial potential;
– infrastructural potential;
– budget & financial potential;
– demographic & social potential;

– innovational & ecological potential.

Practice shows that there is a necessity for development and use of criteria of evaluation of the quality of city environment and development of methodology of Green City Index. The use of these ecological indicators and criteria of evaluation of the quality of urbanized territories will allow determining the most urgent problems which have ecological foundations and scientifically substantiating ways of overcoming the difficult situations. Substantiation of solving the problem issues of urbanized territories needs evaluation of ecological risks related to functioning of industry objects, housing and utility sector, transport, and energy networks.

Methods of evaluation of ecological risks are developed, but recently the development of methodology for evaluation of ecological risks especially for a group of medium industrially developed cities became actual. In realization of goals and tasks of the Concept-strategies, an important role should belong to issues of economic evaluation of taken measures, which, in its turn, requires ecological and economic evaluations of various aspects of formation and state of urban environment. Further research is required for approaches and methods of use of bio-energetics and technological bio- and eco-platforms.

Thus, in XXI century, Russia will continue developing under the conditions of strong socio-economic asymmetry of environment. Under such tough limitations, the most important institutional task of federal authorities is to stimulate the use of objective competitive advantages of not only spheres but regions and cities, including medium cities. Growth of competition between cities, which stimulates spatial modernization, requires decentralization of management, change of proportions of distribution of tax revenues to the favor of regions, and within them – to the favor of cities. There is a need for regulations and laws which provide favorable financial & credit, tax, and administrative conditions for resurrection and development of real sector of medium cities' economy.

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