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Population Allocation in Resource-Based Economy Areas and Entrepreneurship Support

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Key words: distribution of productive forces, territorial asymmetry of economic development, urban and rural areas, population allocation pattern, urban agglomerations, territorial clusters

The key trend for Russia resource territories development appeared within the last decade – i.e. creation of conditions for changing raw orientation of regions development towards a resource-processing strategy, based on the introduction of a system for deep raw materials processing and producing the final products with a high value added. The development of resource regions will take place together with some background tendencies typical for modern Russian economy:

- Increasing competition for human resources, where “the main competitors are megacities, which attract the major part of labor migration”¹.
- Low mobility of Russian population, which “is supported not only by economic, but social reasons as well, since the majority of Russians want to create jobs at the places of their residence, regardless of how competitive the area is. Nevertheless, most families support their grown children`s intentions to migrate to a metropolis to study and search for better-paid jobs”².

At the same time there are some problems typical for Siberian resource regions:

1. Increasing time of natural resource potential transformation, as expressed in the fact that only the most available and high-quality part of each resource is extracted, which requires the least mining efforts and becomes a ready product after it has been minimally processed.

¹ Report on Human Development in the Russian Federation for 2011. / edited by A..A..Auzan, S. N. Bobylev. - Moscow: PROON, 2011. - 146 p.; - P.140

² *ibid.* - P.141

2. Decreasing the population quality of life due to a conflict of obsolete nature management methods and resource potential transformation versus a significant spatial asymmetry of socio-economic development of the territory which is typical for such regions.
3. Growth of costs related to the management of vast territories; this trend has been traced within the last years to shift the economic development center of gravity to the European part of Russia, based on metropolis and developed scientific and technical centers with an emphasis on modern high technologies.
4. Deficit of labor force due to the natural decline in the population, lowering of prestige in some branches related to nature management, low population mobility and some peculiarities of population allocation.

Theoretical justification of approaches to strategic planning and resource region`s development management is reflected in fundamental papers of A.G. Granberg, V.V. Kuleshov, M.K. Bandman, V.E. Seliverstov and other representatives of Novosibirsk scientific school of spatial planning³.

In their investigations they paid great attention to a strategic role in providing economic and resource safety of the country via distribution of productive forces and development of socio-economic complex of the Krasnoyarsk Krai.

The basic problems of social-economic development of Siberian resource regions, including Krasnoyarsk Krai, can be divided into three groups.

The first group is defined by **severe natural climatic conditions** followed by high capital intensity of production, increased current production costs and a higher cost of living. The second group of problems is conditional on **peculiarities of economic development and the population allocation system of Siberia**, which significantly affect the development of the Krasnoyarsk Krai. Depopulation, low density and localized nature of settlements are among key factors of risks for the perspectives of the Krai development. An excessive focus on the regional economy of its external markets, high territorial differentiation of socio-economic indicators, the weakness of internal integration relations and low development of transport network along with the fragmented economy and underdeveloped common economic environment are observed. The third group is related to

³ A. Granberg, Yu. Zaitseva Growth in the National Economic Space // Problems of Economics, 2002 (9). –PP. 4-17; The Analysis and Modeling of Economic Transition Process in Russia. Issues 1,2 Novosibirsk: Institute of Economics and Industrial Engineering, Siberian Branch of the Russian Academy of Sciences, 1997; M.K. Bandman Territorial&Manufacturing Networks: Theory and Practice of Pre-planning Decisions, Novosibirsk, Nauka, 1990.

the **institutional environment** of business activity, provoking export of earnings and capital from the Krai to the European part of the country and abroad.

An important internal barrier in the development of the Krasnoyarsk Krai is also connected with the significant **lack in technology** of the most economic sectors. Production facilities in the coal industry, power industry and heat economy as well as in mechanical engineering, chemical industry are extremely outdated and need to be replaced.

A typical **external barrier** for the integrated development of the Krasnoyarsk Krai is described, on one hand, by an objective contradiction between the necessity to form a strong complex of processing productions followed by export of high value added products to other regions and abroad and, on the other hand, by existing interest (especially on the part of China) in exporting raw materials, fuel and timber from the Krai, and then domestically produce final products having high value added.

Future development of the Krasnoyarsk Krai will substantially be determined by new external challenges, which under the current development trends contain the threat of losing competitiveness in both regional and all-Russian economy. Among these new challenges are:

- changes in the world economic order under post crisis development; waiting for the second wave of global economic crisis; instability in demand and prices for natural resources in the world markets;
- strengthening the socio-economic activity of Asian countries, formation of eastern potential for growth potential, development of new economic and financial centers, followed by changing world trade pattern, capital and labor force flows, financial and monetary spheres;
- transformation of economies in developed countries under the influence of post-industrial transition to a knowledge-based economy, the rapid development of new technologies in both real and public sectors; the necessity to create conditions for the innovative development of base materials and power-generating sectors of Russian economy;
- transition to new ecological standards for preserving the biosphere providing potential for a global sustainable development.

The defined challenges, hazards and barriers for an effective socially focused development of the Krasnoyarsk Krai should be taken into consideration while selecting strategic alternatives for its prospective development. These problems are undoubtedly extremely serious but there is a real chance to overcome them provided focused and

purposeful interaction of federal and regional authorities, business and population while searching for a "balance of interests" and its reflection in specific strategic decisions.

Therefore, the task to diversify the existing "colonial" economics pattern of Siberia and its regions followed by the development of a strong complex of processing productions is considered to be an exclusively in-Russian task, based on its own capacities. Scientific-resource potential of the Krasnoyarsk Krai is one of the most powerful in Russia. Its territory has nearly all kinds of mineral resources (coal, oil, ore), used in the present-day production. The Krasnoyarsk Krai has proven reserves in 83 kinds of mineral raw materials. There are more than 1400 mineral deposits (about 7% of the total Russian Federation deposits) on the territory of the Krasnoyarsk Krai.

More than 80% of the Krai territory is covered by forests; the total timber resources are 7,8 billion m³ (9,4% of all-Russian resources). Forest resources of the Krai by rock-quality characteristics are among the best in the world. Total area of the Krai forests is 155 781.2 thousand hectares (45.1% of the total forest area Siberian Federal District). Krai occupies the first place in the Russian Federation by probable reserves of mature and overmature stands (8 billion cubic m.).

Water and hydropower resources which are already mastered in the Yenisei and Angara regions are essential. Krasnoyarsk Krai is a potentially energy-surplus region. Only in the Lower Angara a hydropower potential is 100 billion kW/h, including those technically applicable - 80 billion kW/h.

Krai territory stretches from north to south through several climatic zones (from the polar areas with low temperatures to the steppe zone), which objectively explains a significant differentiation of conditions for doing business. Currently, a large-scale development of natural resources in Krai has shifted to the northern areas with harsh climates.

To talk in more detail about the current system of spatial displacement of population in Krai it should be marked that it substantially determines the territorial asymmetry of its economic development. Modern Krasnoyarsk Krai is the largest region of the Siberian Federal District by its area and population (2.4 million square km. and 2.8 million people). Krai can be considered as a sparsely populated territory with an **areal type of settlement**. The main settlement skeleton has two lines: mainly latitudinal (Transsiberian and highway Moscow - Irkutsk) and meridional – the Yenisei river.

Spatial pattern of population displacement of the modern Krasnoyarsk Krai was the result of interaction of two different settlement patterns: agrarian, which has being formed during four centuries and an industrial, developed within XX century.

Resource and transportation factors were always among the decisive for the Krai development. There is also one other peculiarity of the development- perennial forced engagement of human resources.

A skeleton of displacement of population was formed by 2 stages. During the first period (1890-1920 years- mainly agrarian type of productive forces development) changing of displacement structure goes in the direction of southern part of the Krai. Within this period one-dimensional pattern of population displacement was developed

The mass migration of peasants (in 1897-1914 years) is related to the formation of a kind of displacement structure in agricultural zone typical for the area habitation. Northern and eastern regions for a long time remained under the influence of primary forms of habitation (this is the way of military expansion followed by the attachment to the territory via erection of a stockade town - "centering").

Southern regions at this stage failed to form any developed and stable displacement pattern and only with the construction of Transsib they were involved in the uniform system of population displacement in Siberia.

During the second stage (1930-1990 years) industrial development has dramatically changed spatial social organization of the territory. Urban structure of production and displacement was formed within the short period (twenty years) in the northern part of Krasnoyarsk Krai on the sparsely populated area.

It was stipulated by industrial expansion of mineral resource province, where the basic development factor is the placement of static productions, connected with natural resources deposits and people are regarded as resources liable to mobilization and allocation to provide its due operation

A corporative-cellular pattern of productive forces distribution was founded during an industrial stage, focused on technological and organizational scheme for natural resources mining and processing. Settlement topology became a projection of this scheme, reproducing production standards even in the part of the social infrastructure.

With the development of surface transport and passenger traffic the process of spontaneous hail growth has been accelerated. Many settlements, initially planned as temporary grew into permanent. Initially, they were grouped around the intra-field network, and then connected to chains, forming a qualitatively new displacement patterns – one-dimensional territorial structure of development-settlement.

So, at the end of 20th century a corporative-cellular structure of settlement distribution was formed which had a tendency for uncontrolled hail growth against the background of one-dimensional territorial settlement structure connected to the “centered deposits”

The period of industrial expansion is always followed by the population growth (due to a migration growth mainly). Displacement pattern corresponds to the rout of "demographic expansion". The demographic route pioneers promising directions for land transport. Climatic, economic, socio- cultural factors, the history of Krai territory development have determined the trend for its development - Krasnoyarsk Krai` urban settlement pattern agrees to a greater extent to geological matrix of the territory .

Labor-intensive industrial projects in the Krasnoyarsk Territory were developed and will be developed within the nearest 15-20 years mainly in places with a high concentration of natural and mineral resources and where there is a notable shortage of labor resources. Specificity of the socio-economic development of Krai identifies the necessity to concentrate population and resource-technological base in the Krai regional urban “locomotive settlements ”.

Displacement pattern in the future will be modified under the influence of the following tendencies:

- the necessity to form large urban agglomeration according to modern formats;
- development of new urban industrial zones as the result of large investment projects implementation;
- strengthening migration flows of rural population to metropolis

The share of urban population in the Krai is 75, 9%, which exceeds the average Russian share by 3%. The number of rural dwellers has decreases significantly within the last 20 years — more than by 15,1%, and rural displacement became even more sparse. However, the major of urban settlements (40 from 63) — were medium and small cities and towns, unable to surround themselves by vast economic space.

These tendencies along with some other factors will determine urban regions within the Krai:

The first type of resettlement area – areas of the Krasnoyarsk agglomeration where the active inflow of migrants and the development of the economic base allow development the most of settlements, including poorly populated. There is a center within the agglomeration - the city of Krasnoyarsk; recreation area which is 10-15 km. from the city boundaries; an external zone, which involves nearby Krasnoyarsk territories, including the city of Sosnovoborsk and the city of Divnogorsk, Yemelyanovsky, Berezovsky, Mansky,

Sukhobuzimsky territories. In order to develop commuters Krasnoyarsk plan to create a common sintering engineering, transport and social infrastructure, creating a country of resettlement zones with high-quality, low-rise housing mainly.

In order to develop the suburban area of Krasnoyarsk it is planned to create common agglomerative engineering, transport and social infrastructure, creating a belt of rural resettlement zones with high-quality, low-rise housing mainly.

At present more than 40% of residents live in Krasnoyarsk and suburban area. Actually the city of Krasnoyarsk and the surrounding agglomeration is the only business center concentrated large and small enterprises, managing companies, financial structures of the Krai and Russia, educational and social-cultural facilities. Krasnoyarsk being the large megacity is the stimulus to scientific-technical progress due to some specific properties of highly urbanized environment. Largest programs, required the consolidation of large groups and combined efforts of science, technology and production are appeared and designed in the leading scientific centers of the city, possessing due scientific, technical and production potential. Multiplicity of the environment of a large multifunctional city and its integrative properties are crucial here. Therefore, not just the concentration of activity is observed in Krasnoyarsk, as in the large city, but the concentration of development and development terms as well. Concentration of population, resource and technological base in the major centers creates conditions for innovation - in science, technology, production. The scale of development of economy in the Krai, its central localization on the map of Russia determine the development of Krasnoyarsk agglomeration as the center of urbanization in Siberia.

The second type of resettlement areas are small towns - "growth points" in which investment projects have higher rates of permanent employment, stimulating the economic development of the territory. Changing settlement patterns influenced by the implementation of major investment projects leads to the following fundamental transformation of the spatial organization of economic life in the Krai associated with an increase of approximately 30% of the share of territories of the Krai, which are actively involved in economic development on the basis of large-scale development of new natural resource zones of diverse specialization.

The Lower Angara Area acts as a core zone of this new industrialization region. This largest industrial area of the Krai is characterized by the most complex multi-functional structure. The development of the area will take place in connection with the development of the raw material zone of the south of Evenkia and Turukhansky territory. The development of the industrial area involves the construction of railways, hydro and thermal power plants, oil, gas and ore deposits exploration, large-scale development of forestry activities.

To a large extent, prospects of the resettlement system in areas of the new development will be determined by the strategy of labor attraction for the development of the new areas: the application of the core settlements pattern in new areas of economic activity concentration or application of the shift method. The formation of optimal spanning system of resettlement in these areas using intraregional shifts is determined by the need of involvement in the process of economic development of the population of the Krasnoyarsk Krai territories with the existing system of resettlement. Using intraregional shifts will reduce the costs of deploying the excess of housing and social infrastructure directly in the territories - "growth points" and will promote the involvement of the working population of cities and settlements in economic activities in old resettlement areas of the Krai. The implementation of these two schemes: as the creation of core settlements and the use of the shift method would require the incentive system in order to attract workers, including the provision of high-quality environment and infrastructure development of the new territories.

3. The third type of resettlement areas include areas of risk, in which the population will decrease. The network of these settlements will shrink, and mostly this process will occur with small (up to 300 inhabitants) and isolated settlements. Processes of migration of the rural population in the long term will lead to the fact that the Krai will continue the process of forming unpromising settlements.

An important task in terms of improving the distribution of productive forces of the Krai is the choice of the model of Krasnoyarsk agglomeration formation as a driver of economic growth and increase of the investment attractiveness of not only the city of Krasnoyarsk, but all of the Krasnoyarsk Krai.

Starting from 2007 the formation of Krasnoyarsk agglomeration has been taking place. We can identify some basic characteristics which determine its image. First, Krasnoyarsk agglomeration is located inland with no direct access to the transoceanic transport corridors. Second, it is planned to include both urban and rural territories in Krasnoyarsk agglomeration. Besides, it should be noted that due to the low number and density of population of the future agglomeration, from OECD typology point of view which considers production structure and employed by economic activities⁴, it can be considered to be both an urban and rural area. This fact also determines territorial asymmetry of the development even within the frames of one agglomeration.

⁴ As a rule, primary sector enterprises are dominant in rural areas: agriculture, forestry, mining and primary processing of resources.

Economic growth and effectiveness of development of Krasnoyarsk Krai territories as a whole, and agglomeration area as well, are largely due to the forms and mechanisms of entrepreneurship (SME) and large businesses activity within the territories.

Development of entrepreneurial sphere is localized within a certain territory: subject of Federation, municipality, city, settlement. Under the terms of market and competition of regions for human resources and investments, institutional provisions for doing business are determinative. Entrepreneurial environment as a combination of factors, determining dynamics and scale of entrepreneur's development in the region are substantially determined from one hand- by a supporting strategy of territorial authorities, on the other hand- by existing socio-economic conditions, internal and external disproportions. Let's take as an example the policy of supporting small-scale and middle-scale entrepreneurship in Krasnoyarsk Krai and developing Krasnoyarsk Agglomeration.

Strategic goal of supporting small-scale and middle-scale entrepreneurship in Krasnoyarsk Krai is creation conditions for sustainable development of small-scale and middle-scale businesses, which provide improvement of Krai population's life level and quality, creation of workplaces, income growth, consumer's market satiety with goods and services, alignment of asymmetry of socio-economic development in the territory of Krasnoyarsk Krai.

Among supporting actions of public authorities are: providing stable conditions for entrepreneurial activity through enhancement of Krai legislative and normative documents, reduction of administrative barriers, ensuring an excess to infrastructure facilities, suppression of growth rates for products and services of monopolies; strengthening small-scale business positions in Krai first-priority economic activities via stimulation of integration with large-scale business enterprises, including mechanisms of sub-contracting and supporting cluster initiatives; promotion of produced services and goods to regional, national and international markets; implementation of specific programs for innovative and youth entrepreneurship supporting; contribution in the development of entrepreneurial personnel potential.

Among the regional priorities in the development of small-scale and middle-scale entrepreneurship are such activities as: innovations commercialization, energy saving technologies, sub-contracting with large-scale business enterprises (engineering industry); foodstuff production; equipment after-sale services; vegetable growing, vegetables processing; wild plants harvesting and processing; deep processing of timber; low-rise housing; industrial facilities construction; tourism activities.

As of the end of 2011 there were around 251 thousand employees involved in the sphere of small-scale and middle-scale entrepreneurship of the Krai, which is 17,2% of the total employed in economics of the Krai. Most of them are engaged in retail and wholesale trade (31%), real estate transactions (19%), construction (12%), processing productions (12%), agriculture and forestry (7%).⁵

Some of Krasnoyarsk Krai entrepreneurial activity indicators have certain deviations from due Russian and Siberian Federal Okrug (SFO) indicators. However, the level of entrepreneurial development in Krai can be evaluated as relevant to average Russian and SFO`s levels.

Krai corresponds to SFO and Russia by the number of small-scale and middle-scale businesses (including micro enterprises) per one thousand inhabitants (13.0 units), and yields by the share of employees engaged in small and medium businesses enterprises in the average total number of employees of all companies and organizations - 24.0% (SFO – 24,8%, Russia – 25,1%) as well as by investments in fixed capital of small business (excluding micro enterprises) - 1,9 thousand rubles per capita (SFO - 2,6 thousand rubles, Russia – 2,0 thousand rubles).

At the same time small enterprises turnover per capita (excluding micro enterprises) in Krai significantly exceeds the average meanings in SFO approaching to the average Russian indicator (Krai- – 87,0 thousand rubles, SFO – 69,0 thousand rubles, Russia – 90,3 thousand rubles.).

The level of entrepreneurship development varies considerably by Krai territories. 74% of all small-scale entrepreneurship subjects (69% in Krasnoyarsk city) are concentrated in the Central area (including the Krasnoyarsk Agglomeration); in West area – 6,8%, in East area – 4,9%, in South – 3,9%, in North - 5,5%, in Angara River region – 4,9%. The most intensively small and middle entrepreneurship is being developing in cities and large municipalities.

At the same time on 26% of Krasnoyarsk Krai territory where almost 30% of population reside, supporting of socio- economic equilibrium is possible only through the development of small-scale business, which provides workplaces, stable income, filling of local customer`s market ².

Within the certain year period financial measures are being applied in Krai for supporting small enterprises. Costs for supporting small and middle-scale entrepreneurship

⁵ Calculated on the basis of continuous statistical monitoring of small-scale and medium-scale enterprises in 2010, available at: <http://www.gks.ru/>

are being increased annually; the number of financial assistance recipients is growing, supporting infrastructure developing. Financial support per one small and middle enterprise has increased in Krai from 1, 7 thousand rubles to 22,2 thousand rubles (considering federal budget funds) within the period 2008-2011.

In the framework of strategic trends of socio-economic development of the Krai and its industrial and social policy for the period up to 2020 it is projected that for small and middle- scale business support the following indicator`s level will be reached: the share of employed in the sphere of small and middle entrepreneurship in the total number of employed in economics will increase up to 30%; turnover of small enterprises per one inhabitant of the Krai will be double increased, turnover of middle enterprises – will increase by 1,5 times; the share of production segment in small and middle entrepreneurship will come up to at least 35 percents.

The most important element of entrepreneurial development strategy in the region is the reduction of spatial inequality under the conditions of forming of entrepreneurial environment and socio-economic development asymmetry. Mechanisms of Krai agglomeration processes development and management can be such an element. Agglomerations formation is an objective and actively developing process in the Russian reality. However, along with the evident positive economic, social, infrastructural and town planning effects, which appear in the process of agglomeration establishment, it is necessary to evaluate possible negative influence of agglomeration processes on entrepreneurial environment development. It is connected with the fact that agglomeration as a compact combination of settlements, mainly urban, been integrated in a complicated, multi-component dynamic system with an intensive production, transport and cultural interconnections, can have a deep internal territorial differentiation. Settlements proximity determines an agglomeration effect as an economic and social benefit due to reduction of expenditures coming from spatial concentration of productions and other economic facilities within agglomeration frames, thus creating prerequisites for further establishment of businesses.

However, the nature of influence of world and Russian urbanization processes on the entrepreneurial environment and economics of the territory could not be described by a definite socio-economic trend as different regions have both various t levels of industrial development and differentiated conditions.

Agglomeration processes in Russia are tightly connected with an interaction of two types of territories: urban and rural areas. Herewith, 10 to 80 % of different Federation subject`s territory is mainly rural areas. The problem is how to adjust the existing all-Russia

strategies for entrepreneur development which are often branch-wise and uniformly applied in the whole country excluding established trajectories for rural and urban areas development.

The Krasnoyarsk Agglomeration with its center in the city of Krasnoyarsk, which potential significantly exceeds municipalities incorporated in Agglomeration, is considered in the boundaries of the following municipalities: the cities of Krasnoyarsk, Sosnovoborsk, Divnogorsk (urban areas); municipalities- Berezovsky, Yemelianovsky, Mansky, Sukhobuzimsky (rural areas).

Key conditions for entrepreneurial environment development in Krasnoyarsk Agglomeration are accumulated economic and labor potential of the Agglomeration in whole, the depth of asymmetry of socio-economic development of territories incorporated in agglomeration; entrepreneurial activity by types of economic activity in territories; the possibility of large industrial facilities placement on the existing production sites within agglomeration territory; availability of relatively cheap electric energy; transport potential; institutional mechanisms providing coordination of territory cooperation⁶.

Gross value added (GVA), generated within the Krasnoyarsk Agglomeration, exceeds gross regional product (GRP) in number of SFO regions. Along with the fact that the gross value added (GVA) of Krasnoyarsk agglomeration is more than in some Siberian regions, GVA per employed or working in the agglomeration is also higher than the average in SFO regions.

So, in 2010 GVA in current prices per capita in the agglomeration was 1,2 times higher than the average in SFO regions and GVA in current prices per one worker was 1,4 times higher compared to SFO and 1,2 times higher compared to average Russian indicators in RF⁷.

The level and scale of Krasnoyarsk Agglomeration development is significant for Krai economics by number of all-Krai socio-economic indicators.

The Krasnoyarsk Agglomeration is one of the key sources for generating value added in Krai. However a pattern of the produced value added by the agglomeration territories varies. (See Table 1).

Table 1. Gross value added pattern by economic sectors in 2011⁸.

⁶ Investment Passport of Krasnoyarsk Krai, available at: <http://passport.krskstate.ru/kras-region/territory/transport/>

⁷ Federal Statistics Service, available at: <http://www.gks.ru/>

⁸ Svetlana À. Samusenko, Evgenia B. Bukharova, Vladislav N. Rutsyki and Dmitry À. Maslodudov, Trends for the Development of Entrepreneurial and Innovative Activity in Krasnoyarsk Agglomeration // Journal of Siberian Federal University, Issue 5 (10), 2012. – PP. 1492-1499.

Sectors	Krasnoyarsk Krai, %	Krasnoyarsk Agglomeration, %	Added value of the Agglomeration added value in the Krai, %
Agriculture, hunting, forestry and fishing	3,90%	0,94%	7,5%
Mining and quarrying, manufacturing, electricity, gas and water supply	55,83%	43,49%	24,2%
Construction	7,30%	7,79%	33,2%
Wholesale and retail trade, repair of motor vehicles, motorcycles and personal and household goods; hotels and restaurants; transport storage and communication	16,32%	30,96%	60,0%
Financial intermediation; real estate renting and business activities	5,95%	5,89%	30,8%
Public administration and defense, compulsory social security; education; health and social work; other community, social and personal service activities; private households with employed persons	10,70%	10,93%	31,8%
TOTAL	100,00%	100,00%	31,1%

In spite of unfavorable demographic trends, the agglomeration labor potential is much higher than that in Krai due to a high economic activity of population and low unemployment level in the territories incorporated in the Agglomeration.

Krasnoyarsk city has a determining impact on the number of economically active population of the Agglomeration. It is a center of attraction of migration flows from Krai cities and territories, including agglomeration municipalities.

Migration processes with the migration inflows prevailing are an important factor of changing the total number of urban population and the number of its economically active share. The urban share in agglomeration workforce number was being increased from 82% in 1999 to 84% in 2011. Resultant effect of other agglomeration territories does not exceed 18%.

The level of economical activity of population was relatively high starting from 2007 by all agglomeration territories, and it slightly varied by territories due to a commuting. The

low unemployment rate is also due to a commuting as the share of employed by place of abode in the total number of labor force is increasing.

The number of employed by place of abode in 2010 has exceeded the number of employed by main workplace. The growth rate of employed by place of abode also exceeds the growth rate of employed by main workplace⁹.

The basic trend of changing production pattern in the Krasnoyarsk Agglomeration within the last decade within the framework of three-sector model, is connected with the increase of tertiary economic sector up to the level of secondary sector¹⁰ (See the Table 2).

Table 2. GVA pattern by agglomeration economic sectors (million rubles/%)

Sector	2007	2008	2009	2010	2011
Primary	0,88%	0,88%	1,42%	3,83%	4,16%
Secondary	36,43%	36,43%	35,17%	42,24%	42,49%
Tertiary	62,69%	62,69%	63,41%	53,93%	53,35%

Regional production pattern by economic sectors and by activities has one common feature – the dominance of the city of Krasnoyarsk and existing differences by other municipalities.

Economic structure by agglomeration cities and municipalities in the context of sectors in whole and sub sectors differs significantly. The major part of GVA by all sectors is produced in the metropolitan area of the Krasnoyarsk city. In primary economic sector less than 1% of GVA is produced in three municipalities and only in three territories: Berezovsky (6,4%), Yemelianovsky (4,85%) and Sukhobuzimsky (1,65%) GVA volume is 1,65% to 6,4 % due to the development of agricultural sector. These three territories are suburban and the development of entrepreneurship in agricultural sector is aimed at supplying the city of

⁹ Irina P. Vorontsova, Alexander N. Pozdeev and Tatiana A. Samylkina, Evolution of a Large-Scale Agglomeration Labour Market (Based on the Example of the Krasnoyarsk Agglomeration)// Journal of Siberian Federal University, Issue 5(10), 2012. – PP. 1465-1474.

¹⁰ Three-sector model of economy considers economy as a combination of branches (enterprises), conventionally divided into three sectors. **Primary sector** integrates industries related to raw materials extraction and its processing into semi-products. **Secondary sector** integrates productions of industries dealing with final products manufacturing. **Tertiary sector** includes services (transport, communications, trade, tourism, healthcare etc.).

Krasnoyarsk with. So, the primary sector – Berezovsky and Yemelianovsky territories is focused at the development of agro- industrial complex. Secondary economic sector is concentrated in the city of Divnogorsk (production of electric energy and processing industries) and in Berezovsky territory (timber processing and food industry). Yemelianovsky territory, where transport and logistics hub is developing on the basis of existing airport, is the most distinctive territory among the other territories except for Krasnoyarsk in tertiary economic sector (services, including transport).

Differentiation of the examined summarizing indicators can be a measure of asymmetry of socio-economic development of agglomeration territories.

Analysis of indicators distribution by territories shows that agglomeration processes have a positive influence on the position of Krasnoyarsk city and Yemelianovsky territory both in economical- entrepreneurial and social sense, characterized by the level of socio-economic development which is higher than the average of the Krai. Berezovsky territory also favorable preconditions for entrepreneurship development. So far agglomeration processes has negative consequences for the other territories. There are two tendencies. First of all, the ongoing agglomeration process smoothes socio-economic asymmetry as the agglomeration labor market is under the positive pressure of the city of Krasnoyarsk. Against the background of high level of able-bodied population of neighboring territories mobility the entrepreneurial activity, labor productivity, and incomes of the population is growing by agglomeration in whole and by separate territories as well. Secondly, a redistribution of the skilled labor force from municipalities into Krasnoyarsk city takes place followed by reduction of investment attractiveness for entrepreneurs.

Due to that it is necessary to pay attention to additional mechanisms for regulation of agglomeration processes with an accent to a differentiated economical policy of rural and urban areas incorporated in agglomeration. The development of entrepreneurship for urban areas of Krasnoyarsk agglomeration should focus on the growth of secondary and tertiary sectors of economics. Within the last time the world practice creates new approaches in respect of rural areas, aimed at mixed industrial and agrarian development of entrepreneurship in primary and tertiary sectors of economics.

One of the effective forms of territorial organization of middle, big and small businesses is the creation of industrial clusters¹¹. There is a good economic basis and favorable environment for the industrial clusters' formation in the territory of the Krasnoyarsk Krai, which are

¹¹ Competitive Strategy: Techniques for Analyzing Industries and Competitors. — New York: The Free Press, 1980 (2nd ed. — New York: Free Press, 1998. - 397 p.

expected to be the innovations carriers. The Krasnoyarsk agglomeration is the centre of formation of the number of key regional clusters. The structure of the cluster is represented in Fig. 1.

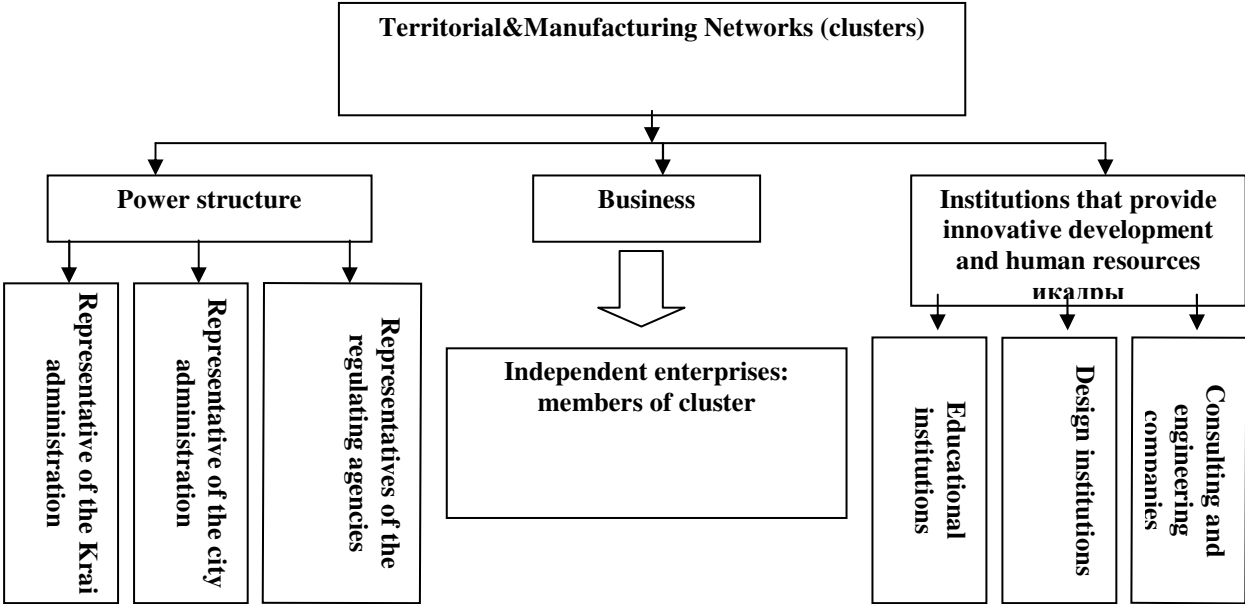


Fig. 1. The general structure of the cluster¹².

The basis for the Siberian regions’ clusters formation was made in the Soviet period within the framework of doctrine for formation of territorial-production complexes. In fact, the planned territory of the Krasnoyarsk agglomeration complies with Central Krasnoyarsk territorial-production complex, within the framework of which the unified complex of interrelated productions was formed. Nowadays there are 8 clusters in the territory of the agglomeration. The key clusters are: metallurgical cluster, energy cluster, food&flavor cluster, wood-processing cluster, cluster of precision and civil engineering, construction cluster, transport and logistics cluster and recreation and tourism cluster¹³.

1. **Metallurgical cluster** is characterized by the high concentration of production volumes in value terms within one enterprise – JSC “Krasnoyarsk Aluminium Plant” the second largest aluminium smelter in the world. The main power source for the enterprise and cluster is JSC “Krasnoyarsk Hydro Power Station”. Major technological and innovative development of the cluster is aimed on reduction of negative impact on environment and primecost. In 2004-2009 in the largest enterprise of the cluster - JSC

¹² I.S. Ferova, S.A. Samusenko and others. Evaluation of Strategic Competitiveness of Innovative Potential of the Krasnoyarsk Krai in the Context of Global Trends of Innovative Technological Development. - Krasnoyarsk. Siberian Federal University, 2011. - PP. 420, 157

¹³ ibid, - PP. 165-178

“KrasnoyarskAluminiumPlant” large-scale ecological modernization was carried out, as a result, dry anode technology is used in the major part of production.

2. **Wood-processing cluster** includes productions from special purpose machine building to added-value wood processing. Major technological and innovative development of the cluster is aimed at implementation of the new technologies of production output , that, first of all,contribute to wastes reduction and development of new productions which help to achieve the higher level of wood processing and increase the quantity of production of the cluster’s final product.
3. **Energy cluster** of the Krasnoyarsk agglomeration fully supplies the territory`s needs in both electrical and heating energy. The main direction of technological development is modernization of the existing capacities and reduction of the energy loss in power lines.
4. **Cluster of precision and civil engineering** is represented by the enterprises that manufacture means of communication and space systems. It is characterized by the high level of technological development, providing leading development of the Russian Federation in its fields. In precision and civil engineering enterprises functioning small scale of enterprise activity in value terms, high diversification of output and technologies used, low level of cooperation within the complex should be noted. Developing engineering companies are becoming important elements of the cluster.
5. **Transport and logistics cluster** in its development I saimed at creation of one of the largest transport and logistics centers of Siberia within the city and surrounding territories. Location and developed infrastructure on the basis of the Krasnoyarsk transport hub helps to provide transport corridors to West-East and North-South, connecting different regions of the Russian Federation and the world (European, Asian and North American regions).
6. **Food & flavors cluster** is characterized by the high degree of cooperation with the local supplies of raw materials from the agricultural territories of the agglomeration and the Krai: Berezovsky, Yemelianovsky and Mansky, as well as high degree of integration with commerce.
7. **Recreation & tourism cluster** takes advantage of the geographic position of Krasnoyarsk, Divnogorsk and Manskyterritory, that combine availability of recreation natural resourses and functions of the transport hub. Priority direction for the cluster development is economic reclamation of the natural potential of the agglomeration under the terms of effective environmental management and development of different kinds of tourism and sport.

8. **Construction cluster** is the most developed cluster from the technological and organizational points of view. The structural chain of the cluster effectively operates in the territory of the city: planning and design organizations, construction companies, manufacturers of the construction materials and educational institutions that provide training of the professional staff.

Special characteristic of formation and development of the Krasnoyarsk agglomeration clusters is strong geographical connection with the other regions of the Krasnoyarsk Krai that are not included in the agglomeration. For the major clusters of the Krasnoyarsk agglomeration (metallurgical cluster, energy cluster, food&flavors cluster, wood-processing cluster, cluster of precision and civil engineering, construction cluster, transport and logistics cluster and recreation and tourism cluster) resources and production base is widely represented out of the boundaries of the agglomeration territory. Due to these factors Krasnoyarsk and its satellite towns are centres for formation of the regional clusters on aforementioned spheres. An example of such cluster is creation of the new Angaro-Yeniseisky cluster that covers the territory of the Angara adjacent area, Sayanky territory and Krasnoyarsk city. Within the framework of the cluster projects on gold and lead mining, electricity production and creation of engineering infrastructure will be carried out¹⁴.

It was historically so, that in Siberian regions, such as Krasnoyarsk Krai, the distribution of productive forces had cellular nature. Development of nature resources on the vast Siberian territory has lead to areal population displacement with the great number of locally urbanized areas, which significantly differ by the level of social-economic development. Resource regions are characterized by regional asymmetry under the conditions of human resources attraction and development. The modern stage of industrialization of resource regions will be carried out under severe competition for human capital, labor power industrial intake in new areas of advanced development. To solve a twofold task of development resource regions: increasing natural resources mining and processing volumes on one hand and converting to a deep processing and technological innovation on the other hand; urban agglomeration and small cities development trends were considered.

Implementation of big investment projects in extractive industries of Siberian regions will be supported by the development of towns and cities with resident population and intra-regional shift teams to attract labor force. Innovation vector of resource regions development can be connected with the formation and development of urban agglomerations as centers for highly

¹⁴ Investment Passport of the Krasnoyarsk Krai, available at: <http://passport.krskstate.ru/investment-projects/nizhnee-priangarie-2/>

skilled human resources training and concentration. Wherein agglomerations can develop in large resource cities, connecting both urban and rural territories – as it is in the case of Krasnoyarsk agglomeration. Among important components providing an effective development of urban settlements of resource regions are mechanisms and institutional conditions for doing business, which are being formed within the region as well as a cluster form of interaction of different businesses, education, infrastructure branches, associations, institutions for realization of investment projects.