Modelling of the Virtual Macroregions in the Volga Region: Transport Aspect

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Abstract: The article covers the role of the transport component in the process of formation of the virtual macroregions that are a certain innovation in the regional policy aimed at sustainable socio-economic development and decrease of the level of differentiation of the Russian territories development.

Key words: Innovation techniques • Innovations • Modernization • Virtual macroregions • Macregion • Macrozoning • Sustainable development • “river” approach • International transport corridors • Intermodal transportations

INTRODUCTION

In 2000 the territory of the Russian Federation was divided into seven federal districts. The foundations for such a division were military districts. However, the process of delimitation of macroregions is not yet finished. Thus, in the beginning of this year there was specially allotted the North Caucasian Federal District, and in the nearest future, according to D. Kosak’s statement, Russia should expect more changes in zoning, according to which there is planned to allot ten macroregions: Central, Central Black Earth, Northwestern, Northern, Southern, Volga, Ural, West Siberian, East Siberian and Far Eastern macroregions. New zoning is grounded by the dominating economic specialization in each macroregion: primary products in the Far East, manufacturing in the Volga region and the Ural region, agrarian and industrial in the Southern and Central Black Earth regions.

But is there no alternative to such an approach? It is obvious that there are other methods of macroregions zoning, one of them is suggested in this article. The original motive for it is the fact that recently in the European Union there has been raised the issue of formation and development of some virtual macroregions substantiated by the basins of the big European rivers. It was the subject of the seminar devoted to the issues of sustainable development of the regions situated in the big European river basins and the European conception of public administration of such regions (European Big Waterways for sustainable growth of Regional and Local systems) held in October 2009 on the basis of the faculty of economics, University of Bologna, where the basins of three rivers were examined: the Volga, the Po and the Danube. The authors of the present article took part in this seminar.

Main Part: This approach represents the innovation techniques of macrozoning and has prospects, which supposes, first of all, the development of the broad conception of the region administration techniques and innovations in this sphere [1]. We understand the innovation techniques in the context of the ideas of M. Heidegger [2, P.53-59] and J.P. Grant, who writes: “When
the word “techniques” is used to denote actually existing devices that provide this or that course of events but not just systematic research of these devices, it reminds us of the fact that the new events went on that way because we, Europeans, wished to implement the new and unique sort of interrelations of arts and sciences, interrelations that had never existed before” [3, P.153].

Secondly, it should be assumed that such an approach is relevant to our country. To prove this hypothesis we raised the issue whether it is possible to administer the economy of the Russian regions, with its big rivers, from the point of view of the river basins, and if such an approach can be used in the Volga Region administration, which is divided by the functioning macroregional zoning between the Central, Northwestern, Volga Region and Southern Federal Districts.

From the point of the arguments “in favour” zoning on the basis of the “river” approach has great prospects for development in whole. One of the main arguments in favour of it is the fact that the problems of Volga, especially ecological ones, have not been paid proper attention since long ago. Indeed, in the last decades the Volga ecological problems have the tendency to increase. Thus, the average annual toxic load on the ecosystems in the river basin is 5 times as big as the average in the country [4], in the river there is the biggest drain of polluted waters in Russia, the quantity of mutating fish grows, blue and green algae appear, there is a problem of economic efficacy, high profitability [16]. Moreover, according to the results of the research carried out by the scientists of the California University in Santa Barbara (USA) published in the journal Conservation Letters in 2009 the outfall of the Volga river was included into the top ten most polluted rivers in the world [6, 7]. The main explanation for it is, as a rule, too high concentration of big industrial centres on the Volga banks. Thus, in the Volga basin there are about 45% of the industrial output and approximately 50% of the farming industry. Out of 100 cities with the most polluted atmospheres 65 are situated in the Volga basin. The amount of the polluted drainage flown down into the basins of the region is 38% of the all Russian [8-11]. Volga Interregional Environmental Investigative Department of the Investigative Committee of the Russian Federation only in 2008 determined the damage to the natural environment as more that 607 million roubles.

The second argument “in favour” consists in the fact that in the region where the influence of the river and its system forming significance are obvious, this resource is efficiently used, there are substantial prospects for sustainable socio-economic growth [5, 6] due to the more sufficient use of the shipping, fish, travelling and the other resources of the river basin.

Special attention should be paid to the development of the traffic component connected with such a big waterway as the Volga river. The reason for choosing transport is that it influences directly the effectiveness of functioning of the economic system, formation of the social sphere, consolidation of the political integrity and national security of the state, and this is the ground for many experts to consider it as the most important factor that stimulates the competition [12-15].

In the present context, the Southern water corridor that lies along the Volga-Don navigation canal and the Volga river is of particular interest. The development of this waterway as the priority one gives the possibility of connection with the world traffic infrastructure as it connects the international sea basins (Caspian, Azov and Black Sea, Mediterranean), inner waterways of Europe (the Danube and its interbasin joints) and provides interaction with other international transport corridors. In these directions the transportations can be developed by various schemes both in complex communications (transshipment from railways to ships and vice versa) at the turn of river and sea areas, and in the direct variant without transshipment with the use of ships “river-sea”.

Transportations without transshipment have great economic efficacy, high profitability [16].

The total transportation volume by the present waterway, according to the estimations of the Central Scientific Research Institute of Economics and Water Transport in 2015 will be 16 million tons. The main growth will be in petroleum transportations from the Caspian region, Kuzbass coal, timber cargos in the directions East-West and transit cargos in the directions West-East.

The above mentioned determines the important role of the Volzhsky transport junction, situated at the cross of the international corridors, in providing international transportations. At that, it should be stated that there are “narrow places” expressed by the fact that the Volga-Don navigation canal and Volga and Baltic waterway practically exhausted its carrying capacity, which leads to the reduction of fright turnover (the total transportation volume by the Volga river reduced from 150.3 million tons in the 1990 to 25 million tons in the 2012), although the Volga and the Don have the regulated channel and possess considerable guaranteed dimensions of the waterway. It allows using ships of the mixed type “river-sea”, which greatly increases the potential of foreign trade and interregional relations.
If we continue the more thorough consideration of the water resources in the context of the geopolitical and economic interests of Russia, special attention should be directed at the prospects and the potential of development of the international transport corridors (ITC), which are of great importance both for the economy of the country as a whole and for the economies of the territories where they extend. The ITC situated at the territory of the Southern Federal District “North-South” may be extended by a number of new routes that expand the zones of corridors functioning and increase their efficacy as a result of fuller coverage of the international and inner correspondence. Such expanding routes are formed within the united deep-water system of the European part of Russia (including the Volga-Don canal and the Volga-Baltic waterway), where the transportations by the inner water transport are carried out between the Baltic and the Azov and Black Sea basins, from one side, and the Caspian basin, from the other side.

In our view, the strong impulse for the “new” stage of the region’s water resources use would be the development of intermodal transportations, in particular, building of a transport intermodal terminal on the basis of the Volzhsky river port. It is exactly the point where the水way to the Caspian Sea, the Mediterranean and the northern seas converge. Taking into consideration the special efficiency of the geopolitical position of Volzhsky, which takes the key place in the junction of transport communications of the districts of the Urals, Kazakhstan and Zavožlhye with the southern regions of Russia and North Caucasus, and the fact that the Volzhsky river port has motor and railway roads, the necessary production and technological basis, as well as spare territories for further development, the present object may aim at the right to be the primary link of the transport terminal infrastructure in processing the containers, grain, metallurgy, oil and chemical cargos in the Southern region. The port may become the transport logistic complex where customs procedures would be held, cargos would be processed and redistributed, classified and tinted, by the primary international operator at the North Asian corridors “North-South”, “East-West” and further Kazakhstan and China.

Building of the terminal would solve a number of problems related to the development of the transport corridor “North-South”, serve the key purpose in further improvement of trade between Russia and the Caspian Sea coast states, as well as India and other states of the Indian Ocean basin.

It is our firm belief that the forestalling development of the transport infrastructure based on the Volzhsky intermodal terminal would help to overcome the negative centre oriented tendencies of the regional development and move the whole macroregion to the new intensive development stage. Transport infrastructure is just the link that is “able to extract” the whole chain of successive stages of economic growth and social development, distribution of the innovative and investment activity [17].

Based on the water resources, the transport system of the South of Russia can in prospect create stiff competition to the project “TRACECA” conditioned by certain adjustment of areas and tempos of its development due to the use of appropriate economic, legal, social and political mechanisms of intensification of investments and the process of building the objects of transport infrastructure and increase of their exploitation effectiveness [18].

It should not be disregarded that during cargo transportations within the present ITC the distances and the periods of transportations are reduced, in a number of cases, more that 50% in comparison with traditional shipping. It is the corridor “North-South” that may become the transport axis of the Russian-Iranian union and structure forming origins for the economies of a number of geographic regions. The influence of the southern transport corridor allows establishing order on the federal river pathways, which sluice and hydroengineering constructions are gradually falling into decay because of lack of demand. A highly important consequence would be the load increase at the enterprises of middle and heavy engineering industry, shipbuilding and ship repair plants. It is a matter of building and maintenance of a considerable number of ships “river-sea”, as well as of demands of transport infrastructure modernization. Besides, the project will allow solution for people’s employment problems, since the need for highly qualified specialists will increase [19, 20].

The third argument “in favour” is that the “river” approach makes it possible to form the strategies of Russian regions development and determine the administrative policy more exactly, taking into consideration the existent natural resources and the potential of socio-economic growth; that is, not standardized but “directed, addressed” approach in territories administration, which is more important in the conditions of inequality and differentiation of socio-economic growth of the Russian regions.

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1This project has been considered for 10 years, but still has not been implemented.
CONCLUSION

In conclusion it should be mentioned that the river approach maintained by the authors is not opposed to the existent approaches to administrative zoning. The issue is that along with the geographically customary forms of technologies there are other innovation technologies that are developing, to which the complex approach to “virtual river macroregions” administration can be referred based on the conception of sustainable growth [21-23]. Development of such an approach allows achieving the new stage of implementation of the regional policy: it means the integration development of regions (and macroregions) and helps to solve complex issues: development of clusters, growth of ecological safety, level of social development, development of the transport and transit infrastructure, touristic and recreation resources. It is also important that it favours the development of the G2B markets as important for innovations development in the country [24, 25]. At the same time the main direction and the result of the integration approach to zoning should be development of the civil society, demonstration of the civil viewpoint in relation to the river development, private and state partnership, which is connected with the river basin exploitation, and with solutions of other social and economic problems. The river system and the regions situated in its basins may become a significant foundation for formation of certain civil community, and its institutionalization and development would make it possible for economy to follow the path of sustainable innovation growth.

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