Formation of Strategic Directions of Regional Development Ensuring its Economic Stability

Case study of the Mari El Republic

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Abstract—This article considers the issues of developing strategic directions for the region's growth, which aim at achieving economic stability. The study has selected key industries and revealed industrial clusters of the Republic of Mari El as well as found industrial groups with significant growth indicators. In fact, these groups can set a base for cluster initiatives insuring economic stability of the region.

Keywords—region; strategy; cluster; economic stability.

I. INTRODUCTION

Sustainable, integrated and systematic development of the subjects of the Russian Federation and efficiency of its regions ensure national security of the country, including its economic aspect. Economic stability of a region is a potential and ability of its economy to gradually improve population's quality of life within generally accepted standards, to resist the influence of internal and external threats at optimum spend of all types of resources and sustainable use of natural factors, to provide socioeconomic and sociopolitical stability in the region [1].

It is relevant to align development strategies of the regional economy with the Strategy of spatial development of the Russian Federation—2025 in order to establish a regional policy of economic stability as a part of the general socio-economic policy providing independence of the economy and opportunities for sustained improvement of people's wellbeing.

The goal of this study is to develop theoretical and methodological approaches to formation of strategies of regional development for ensuring its economic stability.

II. METHODS

The research methods of this study include both systematic and integrated approaches applied to studying the region's capacity as a dynamically growing system and to shaping strategies of its development. The study uses empirical, theoretical, and quantitative methods, namely: abstract logical, historical, monographic methods, deduction, induction as well as a statistic and economic method, cluster analysis, and an expert method.


This article presents the results of modeling strategic development of the region; the model is created by selecting key industries and revealing regional industrial clusters with their potential growth points, which can ensure the region's economic stability. The results of calculation constitute economic justification for the strategy of the regional development in the long-term perspective.

III. RESULTS AND DISCUSSION

The study has shown that the economy of Mari El has an agro-industrial orientation, with a processing industry prevailing. According to the sectoral classification of the industry and agriculture, Mari El is not a mono-specialized region [18].

Development of the regional policy of economic stability is based on clusterization of the industries and sectors of the regional economy. To reveal regional industrial clusters of Mari El we selected key industries using a location quotient and a regional input of an industry, or its regional shift (TABLE I).

TABLE I. SELECTION CRITERIA OF REGION'S KEY INDUSTRIES

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Condition for Inclusion in the Further Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location Quotient</td>
<td>(LQ \geq 1) not less than 2 times over the analyzed period</td>
</tr>
<tr>
<td>Regional Shift (Shift Share analysis)</td>
<td>Annual (R\geq 0) not less than 2 times over the analyzed period (5 years)</td>
</tr>
</tbody>
</table>

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Nearly 70 types of activity that constitute specialization of the regional industrial sector show either a significant growth of quality or an increase in production volumes.

Within this study, based on commonality of products, technologies and value chains, we selected 13 production groups which are interpreted as potential clusters (TABLE II). A cluster structure comprises (i) a type of economic activity representing a cluster core and (ii) related manufactures of the processing industry that supply raw materials and components.

### TABLE II. INDUSTRIAL CLUSTERS OF MARY EL AND THEIR ELEMENTS

<table>
<thead>
<tr>
<th>Production Group</th>
<th>Group Level*</th>
<th>Group Element (Type of Economic Activity)</th>
<th>1st tier</th>
<th>2nd tier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wood processing and manufacture of wooden products</td>
<td>1st tier</td>
<td>Wood sawing and planing; wood treatment</td>
<td>Veneer-sawing industry, plywood industry, board industry, panels industry</td>
<td>Wooden building structures and joinery products</td>
</tr>
<tr>
<td>Furniture</td>
<td>1st tier</td>
<td>Furniture production</td>
<td>Sawing and planing of wood</td>
<td>Veneer, plywood, boards, panels manufacture</td>
</tr>
<tr>
<td>Paper</td>
<td>1st tier</td>
<td>Pulp, ground wood pulp, paper and paperboard production</td>
<td>Paper and paperboard goods production</td>
<td>Publishing</td>
</tr>
<tr>
<td>Building materials and constructions</td>
<td>1st tier</td>
<td>Extraction of other minerals</td>
<td>Sawing and planing of wood; wood treatment</td>
<td>Production of wooden building constructions and joinery</td>
</tr>
<tr>
<td>Industrial</td>
<td>1st tier</td>
<td>Manufacture of basic chemicals</td>
<td>2nd tier</td>
<td>Manufacture of other chemicals</td>
</tr>
</tbody>
</table>

*Manufacture of paints and varnishes | Manufacture of soaps, detergents, cleaners and polishing agents | Manufacture of rubber products | Manufacture of plastic products |
| Food | 1st tier | Production of meat and meat foods | Processing and canning of fishery products and seafood | Processing and canning of potatoes, fruits and vegetables | Manufacture of vegetable and animal oils and fats | Dairy production | Production of flour and cereal products | Production of other food products | Beverage production |
| Machinery | 1st tier | Manufacture of mechanical equipment | Manufacture of other equipment for general use | Manufacture of machinery and equipment for Agriculture and Forestry | Production of machines | Manufacture of other machinery and special equipment |
| Paper | 2nd tier | Manufacture of automobile bodies, trailers, semi-trailers and containers | Manufacture of auto parts and accessories and its engines | Building and repair of vessels | Hammering, pressure molding, stamping and forming; manufacture of goods by using the powder metallurgy method |
| Building materials and constructions | Instrument engineering, radio, electrical and electronic equipment | 1st tier | Manufacture of electronic components and accessories for radio, TV and communication equipment | Manufacture of medical products and orthopedic appliances |
| Electrical and power equipment | 2nd tier | Manufacture of devices and tools to measure, control, test | Manufacture of optical devices, photographic and film equipment | Manufacture of office and IT-equipment | Watch making and production of other horological instruments |
| Manufacture of electric motors, generators and transformers | Manufacture of electric lamps and light equipment |
| Manufacture of other electrical equipment | Manufacture of insulated wires and cables | Manufacture of precision instruments and measuring devices | Manufacture of printed circuits and electronic equipment | Manufacture of precision instruments and measuring devices | Manufacture of printed circuits and electronic equipment |

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The activity types of the third tier (service organizations that constitute an economic infrastructure) cannot be referred only to one group and cannot be quantified.

The cluster of wood processing and wooden products includes the biggest number of enterprises (370), which are mostly concentrated in the cities of Yoshkar-Ola and Volzhsk (62.5% of the total volume of the cluster's shipped products). The enterprises of furniture and paper clusters are also concentrated in these cities.

Enterprises of the building material and construction cluster are located in the cities of Yoshkar-Ola (43.7% of the total output), Volzhsk (39.5%) and also in the Medvedevo municipal district (15.9%). The main volume of aggregate output of the industrial and household chemicals, pharmaceutics clusters is manufactured in the capital city of Mari El.

The largest cluster of Mari El by the volume of output is food production. It includes well-developed production of semi-finished meat, sausages and bread products, dairy products, butter, cheese, and confectionary. The largest output is provided by Yoshkar-Ola Meat-Processing Plant, Meat-Processing Plant Zvenigorovsky, Republican Dairy Plant, Sunvenir Firm, Sernursky Cheese Factory.

Machine building is the major direction of the specialization of the real sector of Mari El’s economy, which employs about one third of the economically active population of the republic. The industry includes defense contractors (MMZ), enterprises producing electrotechnical and electronic equipment (ZPP, Nata-Info, Kopir Plant, Chromatec), electric equipment and power equipment (Krasnogorsky Plant of Electric Motors, Tavrida Electric).

The cluster core of ferrous and non-ferrous metal processing consists of enterprises manufacturing powder metallurgy parts and iron castings: Kristall, Impuls, Volga Plant of Precision Casting, and Kupol Plant of Powder Products. Production of the cluster of the household appliances and products for home includes refrigerating and heating appliances, locks and hinges, and metal-cutting tools. The leading companies are located in the cities of Volzhsk (Ariada, SoftTerm) and Yoshkar-Ola (Inreko Production Association, Tiara). The cluster of textiles and clothing specializes in production of clothes, knitted, hosiery and fur products and includes such companies as Iskozh Plant, Marital Factory, and Maritex.

The dynamic analysis of enterprises’ financial and economic indicators revealed a steady increase in production and product sales in such directions as instrument engineering, metallurgy, food, and wood processing. The stagnating sectors are machine building, pharmaceutics, production of household appliances and products for home, industrial and household chemicals, electric and power equipment, building materials and construction. Production of furniture, textiles and clothing is decreasing by a number of different criteria.

Visual representation of strategic positions of the processing sectors (Fig.) applies a matrix of “group size – group growth rate”.

IV. CONCLUSION

The proposed model of regional strategic development is based on establishing regional industrial clusters. The selected clusters have their individual structures determined by historic, geographic and institutional conditions. For example, proximity to the natural resources and adequate sales markets allow such production groups as Food and Construction Materials to concentrate their manufactures in all the municipal districts of Mari El. Alternatively, the largest cities,
Yoshkar-Ola and Volzhsk, historically became centers of development of machine engineering, paper, metallurgical and textile industries and woodworking.

The dynamical analysis of financial and economic indicators of enterprises forming a cluster allowed us to conclude that the clusters include production groups with significant growth indicators and actually representing a base for development of the cluster initiatives ensuring economic stability of the region.

REFERENCES


