Ways of Effective Use of Territorial Resources in Industrial Enterprises

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Abstract: This article highlights the theoretical aspects of using the regional resource potential in industrial enterprises, assesses the use of resource potential by the method of a survey of experts, analyzes the state of using the resource potential in the regions and gives recommendations for improving the efficiency of their use.

Keywords: Resources, economic potential, resource potential of the region, expert survey method, effective use of resource potential.

I. INTRODUCTION

Today, the experience of developed countries shows that achieving sustainable economic growth depends primarily on the level of effective use of available resource potential in the regions. In the priority direction of economic development and liberalization of the "Strategy of actions for further development of the Republic of Uzbekistan" of the President of the Republic of Uzbekistan dated February 7, 2017 to maintain high economic growth in the country and comprehensive and balanced development of regions, districts and cities.

Particular attention is paid to ensuring the comprehensive and effective use of natural, mineral, industrial and labor potential of each region to accelerate economic development and improve the living standards of the population [1].

Efficient use of resource potential in industrial enterprises is always important, and its comprehensive analysis and study of opportunities for efficient use of existing natural resource potential is one of the urgent problems.

Analysis of the relevant literature

Many scientists in our country and abroad have conducted research on the economic potential and the use of resource potential in regional industrial enterprises, and have studied this issue in detail. In particular, according to professors Sh. Shodmanov and U. Gafurov, the ability of a society to produce is called economic potential. This ability is determined by the quantity and quality of production resources, expressed by the quantity of products and services created [2].

M.R. Rahimova and A.E. According to Ishmukhamedov, the resource potential is the most important source of wealth for any country. The products obtained from it meet the various needs of man. Once the resources are mined underground, the mineral will have the appearance of a raw material. Minerals of economic importance, extracted from the earth's crust, are called mineral raw materials [3].

Russian economist R.N. Nureeva distinguishes between geological, industrial and exploited types of natural resources. The demand for mineral resources varies over time and depends on the level of development of the society, the needs of production, as well as technical progress and economic opportunity. The higher the level of technical armament, the higher the demand for resources and many new types of natural raw materials are attracted to industrial production [4].

N.V. Pakhomova and K.K. According to Richter, the development of natural resources in industry depends on their assessment (research, exploration and geological exploration) and their volume, the specifics of industry and socio-economic development of society, the role of the economic sector in the country's economy includes enrichment and processing. Circumstances such as non-renewal of mineral resources, the need for their rational use, prevention of losses in mining, processing and transportation imply the need to follow an ecological approach to their use [5].

Professor D.V. on the use of available economic resources in the regions. "Industrial development in the regions should be carried out in accordance with the state industrial policy, the main purpose of which should be to
optimize the use of resources through the application of the latest innovations in the organization of industrial production," Trostyansky said. In this regard, the identification and development of the potential of the industry will serve as a basis for the effective implementation of industrial policy in the country and its regions "[6].

K.M. According to Mix, regional resource potential represents the satisfaction of different needs of society as a result of efficient use of available resources in the region. The efficiency of use of each type of resource is determined by the characteristics of the production process [7].

L.D. According to Badrieva, the effective use of regional resource potential means the level of resource attraction of the region and the efficiency of technological processes that occur as a result of the use of these resources. The use of regional resource potential is carried out in three stages:

- in the first stage, the regional resource potential is formed, its composition and the number of founders are determined;
- in the second stage, resources will be directed to the production process;
- in the third stage, the process of resource utilization takes place in the production process [8].

I.M. Ganiev shows that each of the above stages is characterized by specific factors that determine the level of effective use of its specific resource potential. It divides factors into internal and external factors. Internal factors include the technologies and equipment used, the skills of workers and managers, innovative activity, the raw materials used, and the products produced. External factors include product service delivery, regional industrial policy, market infrastructure, and technological infrastructure [9].

II. ANALYSIS AND RESULTS

Resource reserves created in the regions are a key factor in achieving the strategic goals of industrial development. At the same time, it shows the capabilities of the region, and the resource reserve of the regions acts as a limiting factor of the target function.

We propose to use the method of expert evaluation to determine the impact of factors on the development of regional industries. Experts in the field of industry, economists are involved in the assessment of factors through this method. Experts divide the internal factors affecting the activities of enterprises into groups. Once the factors are grouped, the key factors of high importance are identified. To quantify the impact of factors, specific, seasonal and integral indicators are used, and a multifactorial assessment model is used, which takes into account each factor that allows to assess the organizational and economic potential of the enterprise [10].

The model is based on the following components: labor potential $Q_1$, financial resources $Q_2$, infrastructure $Q_3$, production environment $Q_4$, information environment $Q_5$, market infrastructure, regional industrial policy, technological infrastructure $Q_6$, production process $Q_7$, intellectual potential $Q_8$.

The proposed model assesses the economic potential of industrial enterprises and is expressed using the following formula:

$$K_p = \alpha_1 Q_1 + \alpha_2 Q_2 + \alpha_3 Q_3 + \alpha_4 Q_4 + \alpha_5 Q_5 + \alpha_6 Q_6 + \alpha_7 Q_7 + \alpha_8 Q_8$$ (1)

$K_p$ – economic potential of industrial enterprises, points;

$\alpha_i$ – the share occupied by the factor;

$Q_i$ – factor value, points.

The share of factors is calculated using the following formula:

$$\alpha_j = \frac{\sum_{i=1}^{m} \alpha_{ij}}{\sum_{i=1}^{m} \alpha_{ij}}$$ (2)

$n$ – number of experts;

$m$ – the number of shares held;

$\alpha_{ij}$ – by an expert $j$ – the coefficient given to the share of the object.

The concordance coefficient (W) was used to take into account the consensus of experts in assessing the factors affecting the activities of industrial enterprises. It was calculated as follows [11]:

$$W = \frac{12S}{m^2(n^3-n)}$$ (3)

$m$ – the number of rated options;

$n$ – number of experts;

$S$ – the difference between the total square of the sum of colors (layers) and the average square of the sum of the assessments of experts:
\[ S = O - C/\Psi \]  

(4)

\( O \) – the sum of the squares of the total points;
\( C \) – the square of the sum of the expert assessments;
\( \Psi \) – number of experts.

The concordance coefficient is usually in the range \( 0 < W < 1 \). When \( W = 0 \), there is no consensus at all, when \( W = 1 \), and the consensus of experts is high, and the experts unanimously support the applied factors.

The level of utilization of regional resource potential in industrial enterprises is determined using the following formula:

\[ Y_{\text{пред}} = \frac{K_u}{K_{\text{max}}} \]  

(5)

\( Y_{\text{пред}} \) – the level of utilization of regional resource potential;
\( K_{\text{max}} \) – the regional resource potential, which is the maximum capacity of industrial enterprises, according to formula 1 it will be 8.0.

When the level of utilization of the regional resource potential of industrial enterprises is \( Y_{\text{пред}} \leq 0,25 \), the enterprise can not continue its activities. When \( Y_{\text{пред}} \geq 0,5 \), enterprises will be able to invest in the efficient use of resource potential, improve technology, control product quality, increase its profitability and reduce costs. The level of utilization of resource potential \( Y_{\text{пред}} = 0,75 - 1,0 \) represents the stability of enterprises, profit growth, cost-effectiveness and maximum efficiency (Table 1).

Table 1: The main indicators of the level of utilization of regional resource potential of industrial enterprises

<table>
<thead>
<tr>
<th>Value</th>
<th>The main symptoms of the condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>0,75-1,0</td>
<td>high level of resource utilization in enterprises; stability of economic and social situation in enterprises; minimal additional production costs; minimum losses before production of the final product; high level of profit.</td>
</tr>
<tr>
<td>0,5-0,75</td>
<td>the presence of incremental costs and losses in production; average level of resource potential utilization in enterprises; competitiveness of enterprises; average level of stability in ensuring product quality indicators; average level of economic and social stability.</td>
</tr>
<tr>
<td>0,25-0,5</td>
<td>increase in production costs and losses; low level of resource use in enterprises; low level of competitiveness of enterprises; low level of product quality indicators; low level of economic and social stability.</td>
</tr>
</tbody>
</table>

The assessment of capacity utilization in industrial enterprises in the regions according to the above methodology is the basis for drawing conclusions about the use of available resources and factors in enterprises. If we analyze the level of use of natural resource potential in the region by industrial enterprises on the example of Bukhara region, the region has rich mineral resources and more than 49 mineral deposits in the region. Especially important are the deposits of natural gas and gas condensate, graphite, natural stone and marble, limestone, building materials in the future development of the regional economy. A clear example of this is the large-scale geological prospecting for gas and gas condensate deposits, and in 2018 the Kandym gas chemical complex for gas processing based on modern innovative technologies was launched. The amount of mineral resources and natural resources in Bukhara region is analyzed in Table 2.
Table 2: Use of mineral resources and natural reserves in Bukhara region (as of 01.01.2020)

<table>
<thead>
<tr>
<th>Regions</th>
<th>Building stone and cement raw materials</th>
<th>Limestone and graphite</th>
<th>Brick and tile raw materials</th>
<th>Gypsum and anhydrite</th>
<th>Natural facing stones</th>
<th>Mineral dyes are raw materials and iodine</th>
<th>Sand and gravel materials</th>
<th>Construction and silicate products</th>
</tr>
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<td>Olot district:</td>
<td>-</td>
<td>-</td>
<td>400</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Bukhara district:</td>
<td>31,9</td>
<td>-</td>
<td>962</td>
<td>58 183,7</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Vobkent district:</td>
<td>-</td>
<td>-</td>
<td>802</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Gijduvan district:</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>6 536,1</td>
<td>666</td>
<td>-</td>
<td>59,298</td>
<td>-</td>
</tr>
<tr>
<td>Kogon district:</td>
<td>-</td>
<td>-</td>
<td>6</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>61,416</td>
<td>-</td>
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<tr>
<td>Karakul district:</td>
<td>-</td>
<td>-</td>
<td>579</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Karavulbozor tum</td>
<td>15 659,3</td>
<td>13 006</td>
<td>30,4</td>
<td>-</td>
<td>-</td>
<td>4</td>
<td>-</td>
<td>10381</td>
</tr>
<tr>
<td>Peshku district:</td>
<td>2 143,1</td>
<td>805,9</td>
<td>737</td>
<td>24 342</td>
<td>450</td>
<td>1 512</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Romitan district:</td>
<td>-</td>
<td>-</td>
<td>4 306</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>1 276,7</td>
<td>-</td>
</tr>
<tr>
<td>Jondor district:</td>
<td>2 135,7</td>
<td>-</td>
<td>177,4</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Shofirkon district:</td>
<td>-</td>
<td>-</td>
<td>402</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>10,406</td>
<td>-</td>
</tr>
<tr>
<td>By region:</td>
<td>19969,8</td>
<td>13 811,9</td>
<td>8 401,6</td>
<td>64719,8</td>
<td>25 008</td>
<td>454</td>
<td>133,90</td>
<td>10 381</td>
</tr>
</tbody>
</table>

From the data in Table 2, it can be seen that the mineral resources in the region are unevenly distributed by regions. Mineral and natural resources are relatively abundant in Karavulbozor, Peshku, Gijduvan and Jondor districts, while mineral and natural reserves are less abundant in Vobkent, Alat and Karakul districts. During the analysis, it was found that the amount of unused mineral resources in the region is much higher than the used mineral resources and natural reserves. In particular, 82.5% of building stone and cement raw materials, 40% of limestone and graphite reserves, 35% of brick and tile raw materials, 94% of gypsum and anhydrite have not been used yet, other mineral resources have not been used yet. Therefore, for the development of industry in the region it is necessary to develop measures for the effective use of existing natural resource potential, without forgetting the future reserves.

In the example of industries in Bukhara region, 10 industries ($m=10$) in the region were selected to assess the level of effective use of existing resource potential using the method of expert opinion, and 5 expert ($n=5$) opinions were used in their assessment.

Experts assessed the level of use of resource potential in the industrial sector of the region on the basis of a "10-point scale", the scores of which are given in Table 3.

The results of the experts' assessment showed that their assessment of the level of use of resource potential in the region is a minimum of 5.0 points and a maximum of 9.0 points.
According to the analysis, the average value in the industry of coke and oil refining in the region is $8.4 (\bar{r} = 8.4)$ and the average price in the industry of production and publication of basic pharmaceuticals and drugs and written materials is $8.2 (\bar{r} = 8.2)$, expressed high performance.

Table 3: Expert assessments of the level of resource use in the industrial sector of Bukhara region

<table>
<thead>
<tr>
<th>Name of industries</th>
<th>Experts</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>№1</td>
</tr>
<tr>
<td>Manufacture of food, beverages and tobacco products (O1)</td>
<td>8</td>
</tr>
<tr>
<td>Manufacture of textiles, clothing and leather goods (O2)</td>
<td>5</td>
</tr>
<tr>
<td>Manufacture of chemical products, rubber and plastic products (O3)</td>
<td>7</td>
</tr>
<tr>
<td>Manufacture of basic pharmaceuticals and drugs (O4)</td>
<td>9</td>
</tr>
<tr>
<td>Metallurgical industry (O5)</td>
<td>7</td>
</tr>
<tr>
<td>Production of coke and oil refining products (O6)</td>
<td>9</td>
</tr>
<tr>
<td>Manufacture of wood and foam products, straw and textile materials, paper and paper products, furniture (O7)</td>
<td>7</td>
</tr>
<tr>
<td>Publication and reflection of written materials (O8)</td>
<td>9</td>
</tr>
<tr>
<td>Manufacture, repair and installation of machinery and equipment, manufacture of motor vehicles (O9)</td>
<td>7</td>
</tr>
<tr>
<td>Manufacture of other mirror mineral products (O10)</td>
<td>8</td>
</tr>
</tbody>
</table>

Source: The data were generated by the authors using the expert survey method.

Based on the results of the concordance coefficient, it was concluded that the assessment of the level of resource utilization in high-tech industries by experts was high. Based on the fact that the concordance coefficient is equal to $W = 0.84$, the consensus of experts in the assessment of the level of resource potential utilization in the industrial sectors of the region was found to be high.

III. CONCLUSIONS

As a result of studying the resource potential of industrial sectors in the regions, it became clear that in recent years in all regions of the country the share of industrial production is growing and they are trying to effectively use their existing resource potential. We believe that the main opportunities of regional industrial enterprises to use the resource potential today (factors that ensure a positive future) are:
- Increasing demand for local industrial products by the population of the regions;
- Increased opportunities to further increase the competitiveness of industrial products in the regions;
- Possibility to improve the production and technical base of industrial enterprises;
- Wide attention is paid to the use of local raw materials in industrial enterprises in the regions, etc.

In general, more efficient use of existing natural resource potential in the regions of the country will ensure the rapid development of industry in the regions in the future.

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