The Strategy of Territorial Organization of Higher Education in China

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Abstract—The contemporary territorial and sectoral aspects of higher education advancement in China are considered. The factors of territorial organization of higher educational establishments are highlighted for different periods of development. A territorial analysis is made of the clusters of professional education through long-term programs in support of the country’s strategic development. The technique of calculating the potentials of educational centers in accordance with the rank of the higher educational establishments (HEE) involved in them, is used to determine the potential of the long-term model for higher professional education as well as of the scientific-educational clusters. A number of development trends of professional education in China are compared with those in Russia.

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FORMULATION OF THE PROBLEM

National education systems constitute a crucial factor influencing the countries’ capacity for post-industrial development and, accordingly, their positioning in the world. On the other hand, today’s professional education is an effective sector of the world economy which is shaping such concepts as the “knowledge economy” and the “innovation economy”. Many leading countries are drawing up and initiating programs in order to promote exports of educational services as an important source of income and employment of people. The key precondition for success of national educational systems implies a well-thought-out territorial strategy of their realization in accordance with the objectives of a country’s socioeconomic development. Russia is modernizing its higher education system according to the Anglo-Saxon education model which worked well in practice in many countries of the world. However, the influence of the Chinese reforms makes itself quite evident from the perspective of the territorial and sectoral development factors for higher education. Because of this, our interest in them is understandable.

RESULTS

The main reforms of the socioeconomic life of China were started almost coincidentally with the period of Perestroika in the USSR and under its influence. In 1986, China announced the task of creating an economy of the new type foreseeing the construction of key projects, renewal of technologies, the development of intellectual resources, the openness of foreign investments, and the entry into the World Trade Organization. All-round modernization was defined as the goal of China’s economic conversion [1]. The guideline is the first place in the world in GDP output, and in the living standard of the moderately developed countries of Europe. To achieve these goals, current, medium-term and long-term plans into 2050 were elaborated. According to forecasts, China’s GDP structure will undergo radical changes until 2050: while 20.6% of the gross national product corresponded to the primary sector of the economy in 1995, its proportion will make up 6% in 2050; the contribution from the secondary sector will decrease from 48.3 to 34%, while that from the tertiary sector will increase from 31.1 to 60%. Of course, this will involve a switch-over in the structure of employment of people from model 52:23:25 to 10:30:60 [2].

In accordance with the plans of the country’s economic development, a crucial precondition for the attainment of the tasks undertaken is modernization of education. A key element of reformation of the PRC’s education must involve raising the performance of HEE in the production–education–science system. Within the framework of such restructuring, the following directions were adopted: a deepening of the reform of the higher education management system toward its decentralization, an expansion of the scopes of HEE through their optimization, the creation of state and non-state HEE, and introduction of the latest teaching technologies [3].

The main elements of the reform of China’s higher education include decentralization of the management system for HEE, and the division of powers between the center and the provinces. As a consequence of this,
80% of HEE found themselves to be subordinated, to some extent, to the provinces by the year 2007 [4]. There emerged a distinction between groups of central HEE, central-regional (central-provincial) and regional (provincial) ones. The outcome of such reforms in Russia implied that universities were granted a special status (leading, federal, national research universities, and others) (Table 1). Over the last 30 years, the PRC saw the emergence of a significant number of private HEE, located mainly on the eastern coast in large cities with a developed economy (Beijing and Shanghai – 91 and 177 institutions, respectively) [5].

The most substantial systemic alterations to higher professional education (HPE) of the country are documented in the Knowledge Renewal Program (1998–2010), Program 863, Project 211, and in Project 985. Their strategic goal is to build the innovation economy through training the country’s own highly skilled personnel. Program 863 was instrumental in creating 43 science and technology parks in the country before 2003 [6]; Project 211 – 100 leading (key) HEE in the country were selected to receive largely budgetary funding (70%, or 2.2 billion US dollars for 1996–2000) [7]. Furthermore, unlike Russia, in order for a Chinese higher educational establishment to be granted the relevant status, it has not only to have qualified teachers, state-of-the-art equipment, and teaching aids as well as promoting highly critical, scarcely available directions but also be located in a border area or in areas inhabited by national minorities [3].

Comparison of the programs of state support of HEE with the programs of development of China’s economic areas (Dalian, Qinghuangdao, Tianjin, Yantai, Qingdao, Lianyungang, Nantong, Shanghai, Ningbo, Guangzhou, Fuzhou, and Zhanjiang) also shows a clear correlation of the relevant processes. Nowadays, 109 universities of the PRC are participating in Project 211 [7]. The process of modernization of the education research system (since 1993) is attendant with an optimization of the country’s HEE: 708 establishments were merged into 270 comprehensive universities, with 16 of them under central jurisdiction [4, 7]. This aided in more effectively using the financial and teachers’ resources, and in upgrading the quality of the teaching process [8]. The selected HEE are up to the world standards and serve as the base institutions for training elite specialists for implementation of national projects in the socioeconomic sphere. According to our estimate, most of the HEE are concentrated in four cities under central jurisdiction: Beijing (27), Shanghai (9), Tianjin (3), and Chongqing (2). This amounts to nearly 38% of all establishments of the country. Prominent among

Table 1. Contemporary level structure of higher education of China and Russia

<table>
<thead>
<tr>
<th>Levels</th>
<th>Higher educational establishments of China</th>
<th>Number</th>
<th>Higher educational establishments of Russia</th>
<th>Number</th>
<th>Missions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central (federal)</td>
<td>Project 985</td>
<td>39</td>
<td>Leading normal universities</td>
<td>2</td>
<td>Establishment of the core of centers of global excellence, national centers for innovation development, ranking among 100–500 world’s leading universities, knowledge and technology transfer, export of educational services</td>
</tr>
<tr>
<td></td>
<td>Project 211</td>
<td>70</td>
<td>National research universities</td>
<td>29</td>
<td>Establishment of national centers for innovation development in separate technology niches, ranking among 500 world’s leading universities, knowledge and technology transfer, export of educational services</td>
</tr>
<tr>
<td>Central (federal)-regional</td>
<td>Educational clusters of programs for strategic development of territories</td>
<td>4 central, 27 regional</td>
<td>University district (cluster)</td>
<td>9–10 federal, 28 inter-regional</td>
<td>Establishment in the country of new centers for economic development that realize the competitive potential of the territory; implementation of strategic development programs for macroregions, ranking among 500 world’s leading universities, export of educational services</td>
</tr>
<tr>
<td>Regional</td>
<td>Provincial higher educational establishments and colleges</td>
<td>2100</td>
<td>Regional higher educational institutions</td>
<td>150 state-operated, about 700 non-state-operated</td>
<td>Dealing with socioeconomic issues of a macro- and mesoregional level</td>
</tr>
<tr>
<td></td>
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<td>Dealing with socioeconomic issues of a meso- and microregional level</td>
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