



INFRASTRUCTURE FACILITIES AND SUPPORT FOR STABLE DEVELOPMENT

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Abstract. A complex and systematic analysis of the world experience is carried out. The experience of Russia in the field of the development of innovative systems possessing specific characteristics, inherent in national institutes, features of historical development, the transformation and self-organising of national systems under the control of the state are considered. The author generalises world and domestic experience in the formation of an infrastructure and presents the perspectives of the use of mechanisms of state-private partnership in the sphere of innovations in national economies. The level of human and scientific and technical potential and its modern development in Kazakhstan is studied, possible ways of the increase in and the realisation of the given potentials from the position of an incentive system are presented, the role of the state and its functions in a context of development of the human and scientific and technical capital is considered.

JEL classification: O180, O200.

Introduction

In Kazakhstan (R.K.), the Strategy of Industrial and Innovation Development of the Republic of Kazakhstan for 2003-2015 provides for the creation of the conditions for the development of: innovation and high-tech and science intensive industries in the medium and small-scale business due to the acquisition of equipment and technologies by leasing, the widespread franchising, and the cooperation of the small-scale business with large-scale enterprises. To activate a real innovation process, the Program of Formation and Development of the National Innovation System for 2005-2015 is being implemented by the R.K. Government [10]. The National Innovation System is subdivided into the following four subsystems:

- 1) Scientific potential,
- 2) Innovation business,
- 3) Multilevel innovation infrastructure. This is a system consisting of interrelated production,

consulting, educational and information structures that provide and ensure conditions to realize innovation activities. The innovation infrastructure includes the following elements: national and regional technoparks, business incubators, venture funds, etc.

4) Financial infrastructure is a subsystem intended for a complex financing of research-and-production and educational processes in the field of innovation and technological development. It is based on the combination of different mechanisms of direct and indirect state support of innovation business and infrastructure.

The Program of Formation and Development of the National Innovation System lays emphasis not just on the acquisition of equipment and the transfer of advanced technologies from abroad, but, first of all, on the production application of domestic developments. Thus, appropriate measures to increase the efficiency of the training of technicians

in domestic and foreign research institutions and institutions of higher education are being taken in the R.K..

The analysis of the world practice proves that the national innovation systems have, as a rule, a number of specific characteristics peculiar to the national institutions, the features of historical development, and the transformation and the self-organization of national systems under the state control. The control is intended for a further development of the regulatory basis and the matching with new conditions of such development, for the formation and improvement of the mechanisms of financing and the stimulation of innovation processes, and the adaptation of institutional structures to the changing conditions. An important line of development of the National Innovation System is to form the so-called network economy. The basis of such economy is the transnational corporations and small venture firms serving such corporations. The state support for the small innovation business promotes the said transnational corporations.

1. Russia's Experience

Let us consider the experience of Russia included in the **BRIC** (Brazil, Russia, India, China) group. Three stages can be mentioned in creating a national research and innovation complex in Russia (R.F.). [11, p.18-20].

The first stage (1992–1996) consisted of forming the regulatory basis of science and mechanisms of the adaptation of science to the market conditions. During the initial period of market changes appearing due to the collapse of financing, urgent measures were taken to preserve the major constituents of the scientific and technical complex, first of all, of the abstract science. At the same time, it was necessary to provide a basis of market mechanisms for the distribution of budgetary funds. The main normative document was the law of science and the State Scientific and Technical Policy.

The second stage (1997–2000) was the development of a concept and a plan for the reformation of the Russian science. The basic work in that field was carried out in 1997 and was related to the stabilization of economy and a substantial increase in the financing of science. The concept sets forth views on the reformation of the scientific and technical sphere. The plan was not implemented due to the crisis of 1998, but its basic approaches were preserved in the developed Fundamentals of the R.F.

Policy for Development of Science and Technologies as approved by the R.F. President on 30 March 2002.

The third stage of the said reformation (since 2000 until now) may be characterized as the transfer from the phase of survival to that of development. At this period, measures are being taken to prepare normative documents that determine development of the whole research and innovation complex including both scientific and innovation components. A perspective model of the state sector of science has been formed including organizations of public academies of sciences, reformed public research centres built by the principle of the head branch institutes, research and planning organizations and design bureaus for double and special purposes, scientific organizations controlling the performance of particular functions imposed on the federal bodies of executive power, and scientific organizations within the institutions of higher education. A Strategy for the Development of Science and Innovation in the Russian Federation until 2015 has been approved where the main problem of the Russian sector of research and development is emphasized; the problem arises due to the fact that the rate of growth and structure of this sector do not meet the needs of the society, the national security and the rising demand on the part of the business/enterprise sector for advanced technologies. The purpose of the strategy is the formation of a balanced sector of research and development and an effective innovation system that ensures technological modernization of economy and an increase in its competitiveness. The strategy of development of the Russian scientific and innovation complex is determined by a number of factors having a national economic importance. The factors are included, first of all, in the concept for a long-term social and economic development of the country, where a combination of the advantages of Russia (as a powerful player in the energy industry) with a transfer to the innovative development is underlined. To solve the set tasks, one should:

- build a management system for the scientific and innovation complex adequate to the market conditions subject to the Russian specificity;
- develop an infrastructure of innovation activities and mechanisms of the state support of innovations;
- develop methods of the distribution of exclusive rights to research and development subject to the fourth part of the R.F. Civil Code;
- make effective approaches to the stimulation of innovation activities and the transfer of technologies;
- form and put into practice a training model for managers and specialists for the applied scientific and technical and innovation activities, which would be

adequate to the market needs;
 -build a multilevel system of training and the generation of inclination to the innovation activities (infant schools → school → institution of higher education → occupational refresher).

The Practice of Kazakhstan

Similar tasks (but with more difficulties in their performance) should be considered in the R.K. So, a section of the Civil Code devoted to the matters of research activities (for stimulation of innovation activities) should be discussed. The generalization of the world and domestic experiences in creating the

infrastructure allows us to judge on the perspective use of the mechanisms of the public-private partnership.

The main point of our proposal is to use the abovementioned mechanism of the public-private partnership in the innovation sphere within the national innovation system. Here it is important to make a proper choice since each form of such partnership has its advantages and disadvantages (see Table 1). There has been no uniform interpretation of the public-private partnership in the innovation sphere in the R.K. legal system until now, and no official definition is suggested in the statutory acts.

Table 1. Basic advantages and disadvantages of the most commonly used forms of the public-private partnership

Forms of partnership	Description of forms of partnership	Advantages	Disadvantages
Service provision contracts	A private company is only authorized to maintain a state-owned facility (maintenance, process supervision, repairs)	A possibility to make professional technical appraisal by the private sector	It is undesirable if a substantial improvement in maintaining a facility occurs in case of a weak general management of the infrastructure available
Management & maintenance contracts	A private company manages a facility bearing responsibility to the state for the management and is given remuneration on the results of its operation	Benefits of the efficiency of management	Acquisition of benefits may cause difficulties since the state is still liable for investments
Operation & maintenance contracts	A private company takes the state-owned property on leasing, is liable for it, earns profit, and pays leasing payments	Commercial risk is borne by the private sector, which increases efficiency	An appropriate administrative structure is required as the state is still liable for investments
Research engineering and/or development contracts	A natural or legal person carries out research engineering and/or development, getting remuneration on the results of its operation	Risk is borne by the private sector, which stimulates research activities	A reliable regulatory mechanism and state investments are required
Contracts for designing, construction, financing and operation	The state transfers a facility for a period fixed by a concession agreement, and a company bears risk not only for its operation and maintenance, but for investments. Upon the expiry of the term of the agreement, the facility shall be returned to the state.	A company seeks to increase efficiency of its investments	A reliable regulatory mechanism and state investments are required
Contracts for construction, ownership and operation	A facility is transferred for an uncertain period. Such contracts differ from privatization as the responsibility for service provision is still borne by the state. Thus, the state may at any time terminate such contract.	A company seeks to increase efficiency of its investments	A reliable regulatory mechanism is required
Note – completed by the author with reference to [2. p.11, 12]			

We propose the following definition: *public-private partnership in the innovation sphere* is a peer partnership of legal and natural persons in the state and private sectors of economy on the mutually beneficial contractual terms to implement the key innovation objectives of the society.

The choice of a form of the public-private partnership depends on the purposes pursued

under a particular project and on the distribution of responsibility as per the duties of ownership, operation, risk and investments. Table 2 systematises the forms of the public-private partnership subject to these duties.

We have determined above that the key factor of economic growth is human capital.

Table 2. Distribution of responsibility in different forms of the public-private partnership

Forms of public-private partnership	Ownership	Operation & technical support	Capital investments	Commercial risk	Period of validity
Service provision contracts	State	State & private sector	State	State	1-2 years
Management & maintenance contracts	State	Private sector	State	State	3-5 years
Operation & maintenance contracts	State	Private sector	State	State and private sector	8-15 years
Contracts for research engineering & development, designing, construction, financing and operation	State & private sector	Private sector	Private sector	Private sector	20-30 years
Contracts for construction, ownership and operation	State & private sector	Private sector	Private sector	Private sector	Not fixed

Note – Completed by the author with reference to [2, p. 12]

State of the Human Capital in Kazakhstan

What regards the level of development of the human capital, the R.K. is among the average-developed countries holding 79th place by the world rating with **IHDP** (Index of human development and potential) equal to 0,774 [6, p. 284]. The qualitative composition of the R.K. population is characterized by highly qualified labour resources represented by research fellows and instructors of institutions of higher education. There are also cadres of the top and medium structural units in the industry, the sphere of the state control and private companies. We have succeeded in the preservation of the scientific and technical potential by organizing national scientific centres and providing the state support to the Academy of Sciences and higher education institutions. This potential is the creator of high technology and science intensive industries. For the

time being, the scientific and technical sphere lags in the transfer to the market basis, though there are necessary conditions: a legislative basis is created, necessary program documents are prepared and an appropriate legislative basis is developed. Thus, the Concept for Integration of Research Institutions and Institutions of Higher Education with Science Intensive Industries provides for the creation of an applied sector of science existing on the basis of the laws of market economy as well as for the creation of “point” centres of science intensive industries of the fifth process structure [3].

However, these science intensive industries of the fifth process structure have not been created until now. Even in Almaty where about 45% of the total intellectual potential of the country are concentrated, contribution of the fourth process structure does not exceed, according to the most optimistic estimations, 25-35%, and the third structure dominates (about 50-60%), the contribution of remains at the level of

5-10%. The fifth process structure is generated with difficulty. On account of the incompleteness of the reproduction contour, science intensive products of this structure are manufactured in single pieces of low quality and for a high cost [18]. In those regions, where there is no scientific and technical potential, the situation is worse. However, here one may act by establishing particular science intensive enterprises, i.e. branches and subdivisions of the R.K. national scientific centres. Then one can form clusters. The cluster approach can radically change the content of the industrial policy, as here the traditional division into branches fails.

The Kazakhstan model of education is being developed according to the State Program of Development of Education in the Republic of Kazakhstan for 2005-2010. Subject to Article 12 of the R.K. Law of the Republic of Kazakhstan On Education, the following multilevel structure of education is in force:

- pre-school education and teaching,
- elementary education,
- basic secondary education,
- secondary education (general secondary education, technical and vocational education),
- post-secondary education,
- higher education,
- post-graduate education [12].

Adults are taught in educational institutions, and also in legal entities having structural subdivisions that realize additional educational programs. There are different ways to obtain higher education: full-time courses, instruction by correspondence and evening courses as well as remote courses and external studies. Educational institutions of the R.K. higher education system are divided into three types: classical university, specialized university or academy as well as institutes referred to as the institutes of higher education of a university type.

One of the functions of the credit system of education is to apply an interstate quality assurance system for education services, as the system is one of the basic elements of the Bologna Process. In the world practice, the educational programs (curriculums) of institutes of higher education have to be certified for the quality of services rendered. In Kazakhstan, internal and external assessments of the quality of education are being applied; standardized assessment means and instruments that determine a level of the progress of students are improved; organizational structures are set up. The system of the state grants and credits gives positive results: admission of entrants is protected from corruption.

The following two key problems in the system

of higher education exist:

- Disbalance of the manpower training structure in the context of specialities. As a result, there is an excess of specialists of liberal education and a lack of technical education specialists;
- Low quality of training of specialists due to the ineffective state control.

Economics and law are the basic disciplines in private institutes of higher education.

In case of a low population and an average birth rate, the health of people is of great importance for the economic growth. Unfortunately, the state of the health protection in R.K. leaves much to be desired, i.e. the protection of health and the reproduction of population are not ensured. The birth rate acquired a positive tendency only in 2002 (227117 infants) and in 2005 (278977 infants, while in 2001 221487 infants were born) [4, p. 202].

The legal basis for the R.K. health protection system includes the Law on Health Protection in the Republic of Kazakhstan of 19 May 1997, Law on Health Protection System of 4 July 2003, the State Program of Reformation and Development of Public Health in the Republic of Kazakhstan for 2005-2010 of 13 September 2004 [13, 14, 19]. To realize the State Program of Reformation and Development of Public Health in the Republic of Kazakhstan for 2005-2010, target transfers are provided for. The problem is not in developing such transfers. The current target transfers are allocated to provide particular categories of citizens, who are treated as out-patients, with medicines on preferential terms.

At the Alma-Ata Conference of the WHO in 1978, the first medical aid system in the USSR was acknowledged as the most thought-out and was recommended to all countries for implementation. At that time R.K. held the first place worldwide regarding the number of doctors per one inhabitant (40,0 per 10 000 persons). Even in 1996, the index was 35,3 doctors per 10 000 persons, which was higher than the similar indices in Great Britain (25,9) and the U.S. (28,8). During the years of the crisis, there was a tendency of reduction in the number of doctors (33,9 doctors per 10 000 persons in 1999). Such a situation was regarded as an approach to the world standards. Then, when the private sector became engaged in the Public Health system, there has been a growth since 2000. The index was 55,5 doctors per 10000 persons in 2005 [1, p. 82].

Now the first medical aid system is the basis of the WHO's Strategy "Health to everybody" and the main instrument in reforming national health protection systems. Many countries applying the principles of the first medical aid system have suc-

ceeded in developing health protection. According to the WHO's experts, up to 90% of the population in the advanced countries are mainly treated in the institutions of the first medical aid system and the network of such institutions increases.

Presently, more attention is paid to the rural health protection. A clear relation is seen between the state of health of the rural population and the economic growth in agriculture. Earlier rural inhabitants were given medical aid through occupational medical examinations once a year. The lack of prospects, low wages and bad living conditions deprive doctors of any motivation to work in the countryside. In the course of optimization, the number of rural medical institutions was reduced, a part of them was reorganized into rural ambulance stations and medical assistant's and obstetrician's stations. The situation was threatening to the national security of the country [5, p. 13].

In the National Report on the Human Development for 2005 two important factors that threatened the stable human development in the country were emphasized. They were related to the following changes in the structure of economy:

1) Almost a fivefold reduction of the share of agriculture in the GDP, as related to 1990, affects the capabilities of development of agricultural regions that requires further measures for the development of the agricultural food complex of the country, and of the production and social infrastructure in the countryside;

2) The expansion of the raw material industry in Kazakhstan threatens the economic security and prevents a stable economic development of the country. A level of expenses for education and health protection in percentage to the GDP is 1,5 – 2 times lower than that of 1991 and of the level in the advanced countries and a number of countries of transition economy; that sets a task of a further increase in the expenses of the state budget for these two major spheres of the human development [8, p. 29].

We think that by 2030, IHDP (Index of human development and potential) of Kazakhstan shall be reaching the level of 0,96 - 0,97. At present, Norway and Iceland have such level being listed in the first and the second position in the rating made by the program of development of the organisation of the incorporated nations. For this purpose, investments are required in the TCP (the target complex program) of the social sphere (education, public health, preservation of the environment and others).

Scientific and Technical Potential of Kazakhstan

The scientific and technical potential is important for the industrial and innovation development. The scientific and technical potential includes many components: research-and-production infrastructure, volumes of financing of research engineering, quantitative and qualitative cadre potential of science and many others. In 2008 there were scientific 421 organizations in the R.K.. The number of such organizations increased mainly due to the establishment of small enterprises. At the same time, a number of organizations in the scientific and technical sphere greatly reduced the scope of research, and some organizations suspended their scientific activities completely (Table 3) [16, p. 458]. The number of employees engaged in scientific research was 16304 at the end of 2008. The cadre potential is concentrated in the institutions of higher education, the national research centres and academic institutes. For the last five years, there is a stable tendency for increase in the number of individuals engaged in research, mainly in the non-state sector.

The basic provisions of the concept for the increase in efficiency of the use of human capital under the conditions of the industrial and innovation development are as follows [15, p. 307-325]:

- Development of a human being as a purpose and means,
- Social and political stability,
- Stable economic growth based on the innovation changes, the ecologically safe nature management, and the entrance into the world economic system.

Under the conditions of the global competitiveness, countries modify their man power continuously. The main requirement is to redistribute resources to the human capital improvement programs. The R.K. exports natural raw materials; that does not require a high qualification of employees. In order to develop the human capital, a set and a structure of incentives with regard to the manufacturers and the consumers must be suggested. In the market economy such incentives may be described in terms of prices. However, the prices are only a part of the incentive structure. Besides, such barriers are of importance as they exclude participation in some markets and cases of economic activity without any intermediation and an explicit assessment (for example, work of housewives producing goods and services not estimated) are not considered.

Table 3. Basic indices of the state and the development of science in Kazakhstan

Scientific Organizations	2001	2002	2003	2004	2005	2006	2007	2008
The number of organizations having conducted research, total	259	267	273	295	390	437	438	421
Internal costs for research and development, in millions of KZT.								
In % to GDP	0,22	0,24	0,25	0,25	0,28	0,24	0,21	0,22
Fixed assets of the organizations involved in research and developments, in millions of KZT.			9037,3					
The number of the personnel involved in research at the end of the year, persons			16578	16715	18912	19563	17774	16304
Note – Designed by the author with reference to [20, 21]								

Non-price aspects of the incentive system are of great importance. It is important because the existing incentive structure in the R.K. is concentrated towards the objective of reception of investments for minimum interest; this does not allow for a successful human development. So, here the obstacles to the increase in the efficiency of the human capital exist as well. Generally, at the national level, the efficiency of the human capital would increase if the highly skilled labour remuneration was fair. Discrimination restricts the labour market, and well-paid and desirable jobs are available for the privileged minority, while some groups of people constrained to do the low-paid and undesirable work. Discrimination restricts choices and possibilities. The incentive structure leads simultaneously to the ineffective use of labour and the unequal distribution of income. The greater part of manpower, especially in small towns and villages, have insufficient means of subsistence, sometimes get no remuneration. Thus, radical changes in the optimization of the ways of the state budget redistribution are required. Expenses for education, health, and occupational safety shall be considered as means of the human capital development. All this is impossible without the active participation of the state, the civil society and the people themselves. The state must increase the amounts of investments in research, education, health and ecology. This can be achieved through:

- The reduction of investment programs that make no contribution to the human development;
- The redistribution of budget funds in favour of the programs covering the maximum number of people;
- The uniform distribution of resources per large groups of the population, (instead of their concentration in the small ones) that will result in a higher rate of return on investment in future;

- The refusal of a complex and expensive social security system peculiar to the advanced countries, as in R.K. it is oriented mainly towards the urban population and is beneficial to the urban elite, i.e. it is not justifiable within the concept of the human capital development;

- The proper monitoring of an idea of selectivity in social expenditure in favour of the concept of the human capital development human potential development.

The formation of a contingent of the highly skilled manpower is connected with the mastering of knowledge of nanotechnologies. At the same time, one should remember the role of universities in the preparation of highly qualified instructors for work in primary and secondary education.

The development of electronic education provides for large educational capabilities. Therefore, the Internet is indispensable to the rural places. The electronic education strategy, its formats, curriculums and certification documents promotes a further employment of graduates and development of villages. At the same time, electronic education increases the inequality of opportunities, since it is not available to everybody [7, p. 211-216.]. In this respect, one should use remote education within reasonable limits. Since students are not physically present in education institutions, instruction by correspondence should be developed. One must develop the Internet education standards and make available free internet to the backward regions and the unemployed.

The rate of return on educational investment is attractive as benefits are high and costs are low. In the public health, emphasis should be shifted from the hospitals to the first medical aid programs, from the therapeutic medicine to the preventive one. The budget redistribution in order to allocate larger resources to the development of public health

and education has a positive influence. However, financing from the budget usually is not enough for the achievement of a proper level of the human capital development. It should be combined with the use of internal reserves.

The state ensures that the human capital is developed using organizational and economic mechanisms. As is well known, the state is a system of governmental, quasigovernmental and nongovernmental organizations that regulate activities of the society. All political, economic and legal actions of the state (budget), regional (tax), scientific and technological, monetary and credit, and demographic policies, etc. impart the human capital. The problem is to determine the scope of the state's intervention in the human capital development.

The Role of the State in the Control of Economic Growth

It is impossible to quantitatively determine the role of the state in the control of economic growth. The need for the re-comprehension of the role of the state and its functions in the context of the human capital development is still urgent. As a proof of it, there is a report of the World Bank specially devoted to the discussion of the role of the state in the world development [22]. The World Bank has changed its opinion about the role of the state regarding two issues: development without the support of the state and an auxiliary role of the state. They are close to each other and supplement each other. The state creates public goods. These goods are conventionally divided into the following three groups. The first group includes creation and matching a new order, which provides the operation of the national economy in combination with the formation of the civil society. The objective of the second group is to create material and cultural conditions for a stable economic growth by developing economic and social infrastructure, i.e. transport, communications, education, science, and public health. The objective of the third group is to replenish the shortages of the market mechanism. An increase in the role of the state can be reached through the following four measurements and processes: differentiation of its functions, integration of the society, institutionalization of power and universalization of the state as a supreme form of organization of societies on a global scale [15, p. 323-324].

At present, the reformation of the processes of the state control of the human development is based

on the participation concept where the right to such participation is one of the basic human rights set forth in the General Declaration of Human Rights (Article 21, Part 1). The involvement of citizens in the process of the state control is especially important, where decisions concern the compliance with the human rights and freedoms. A peer dialogue between the population and the state is a form of the control of activities of governmental bodies by the population. Thus, participation of the population in such control is important detail for the development.

The R.K. research-and-production associations and the non-governmental organisations carry on their activities guided by the experience of the foreign countries; that can be explained by the lack of traditions of the functioning of public organisations. Such research-and-production associations and the non-governmental organisations unite the most active part of the population with a higher level of education. Economic problems are dealt with by approximately 15% of all research-and-production associations and the non-governmental organisations; remedial problems are dealt with by 8%; problems of gender inequality and those of children and youth are dealt with by 14%; medical problems, and those in the sphere of culture, arts, science and education are dealt with by 13%; problems associated with social support and invalids are dealt with by 7%; problems regarding social initiatives are dealt with by 6%. Such distribution strikingly differs from the U.S. where 25% of research-and-production associations and the non-governmental organisations operate in the sphere of social service provision, 19% in the sphere of public health, 14% in the sphere of culture, 12% in the sphere of charity, 10% in the sphere of assistance and development, 9% in the sphere of religious activity, 6% in the sphere of education, 5% in the sphere of conservancy [17, p. 46]. The level of the development of the civil society is evaluated by the two basic indices: a) membership in trade unions, b) the number of nongovernmental organizations. The first index is determined in percentage to the total number of manpower in non-agricultural sectors. In Sweden it is 77%, in Iceland 71%, in Finland 60%, in China 55%, in Hungary 52%, in Slovakia 52%. The maximum number of research-and-production associations and the non-governmental organisations are 3551 in France, 3505 in Germany, 3388 in the United Kingdom, 3257 in Italy, 3203 in the Netherlands, 3116 in Spain, 2685 in the U.S., 2122 in Japan. In the CIS countries, the numbers are much lower: 474 in Belarus, 1752 in the Russian Federation, 274 in Kazakhstan, 890 in the Ukraine, 130 in Kyrgyzstan. The lowest numbers are in Iran,

Eritrea and the Maldives [9].

The increase in the human capital level shall become a strategic direction of the activities conducted by research-and-production associations and the non-governmental organisations. In order to fully use human resources it is desirable to refer to the experience of Russia. In the R.F. this factor is realized as “national projects”. The main point of such national projects is to create a modern and effective human development system. The following two groups of arrangements may be mentioned in the national projects: the allocation of additional budget resources to increase labour remuneration to the employees of the respective branches and the implementation of structural reforms in the respective sectors. The two mentioned groups cannot be separated from each other: it is politically risky and economically ineffective to solve one task ignoring the other. However, the risks that events will develop just as planned are rather substantial. The increase in the salaries of doctors and teachers, investments and equipment, and other budget decisions are a necessary but insufficient condition for the implementation of a national project. The implementation of the social sector reform should not result in an increase in the budget expenditure, that is to say, the first step turns to be the last one. Moreover, an increase in financing without structural reforms is brings negative results. A higher salary will lead not to the renewal of personnel but to the cadre conservation.

To prevent that, one should put efforts to implement the structural social reform. The principal criteria, according to which the actions of the government in any country can be evaluated, are as follows: economic growth and increase in the living standard of the population.

Conclusion

Thus, the analysis of the world practice proved that national innovative systems, as a rule, possess a number of specific characteristics regarding the national institutes, features of historical development, transformation and self-organising of national systems under the control of the state. Management is directed towards the perfection of its standard-legal base and its reduced conformity with new conditions of development, towards the formation and perfection of mechanisms of financing and stimulation of innovative processes, adaptation of the structures to varying conditions. The important direction of development is the formation of so-called network economy. The basis of such economy are the multinational corporation and the

small venture firms serving these corporations. Thus the state support of small innovative business results in multinational corporation support. Problems of insufficient innovative activity are relevant for the R.K.. The key problem in the realisation of the given policy is concerned with questions of the perspective of the use of mechanisms of state-private partnership. The essence of the offer investigated in the present paper is the analysis of the use of the mechanism of state-private partnership in innovative sphere, as a part of national innovative system. It is necessary to make a correct choice since each form of partnership has its own advantages and drawbacks. In the R.K. legal system till now there has been no uniform understanding of the state-private partnership in innovation activity, and no official definition of is provided in statutory acts. Thus, the following definition is offered: *public-private partnership in the innovation sphere* is a peer partnership of legal and natural persons in the state and private sectors of economy on the mutually beneficial contractual terms to implement the key innovation objectives of the society. This partnership is based on equal rights of legal and natural persons of the state and private sectors of economy and on mutually advantageous contractual conditions with respect to the decisions regarding the key innovative problems of a society. In conclusion, it is necessary to emphasize the all-rounded use of the mechanism of state-private partnership in innovative sphere, as a part of national innovative system. Reforming the processes of a state administration by human capital development is based on the participation concept, where the right to participation is one of fundamental laws of the person. The systematic approach to efficient control of the development the human capital includes not only the reform of the system of public service, but also the reorganisation of the processes of the development and realisation of the decisions adequate to the requirements of social development.

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INFRASTRUKTŪROS PASLAUGŲ SUBALANSUOTA PLĖTRA

Asel Talapovna Uskelenova

Straipsnyje analizuojama infrastruktūros paslaugų subalansuota plėtra ir parama jai remiantis Kazachstano pavyzdžiu. Straipsnio autorė pateikia nacionalinės inovacijų sistemos dedamąsias: mokslo potencialą, verslo inovacijas, inovacijų infrastruktūrą, finansų infrastruktūrą. Straipsnyje aptariama Rusijos patirtis atskirais etapais kuriant nacionalinį tyrimų ir inovacijų kompleksą. Analizuodama Kazachstano patirtį kuriant inovacijų sistemą, autorė akcentuoja viešojo ir privataus sektorių partnerystę, aptaria šios partnerystės formas ir atskirų formų atsakomybę. Straipsnyje taip pat analizuojama Kazachstano žmogiškojo kapitalo būklė, atskleidžiamas šalies mokslinis techninis potencialas, diskutuojama valstybės vaidmens ir jos funkcijų klausimais vystant jos žmogiškąjį kapitalą.

Uskelenova Asel Talapovna holds the degree of Cand. Econ. Sci., is a senior lecturer of political science and social and economic disciplines. She has more than 30 publications in various journals in the Republic Kazakhstan, the Kirghiz Republic, the Russian Federation and has participated in a number of international conferences on regional economy.

Uskelenova Asel Talapovna – ekonomikos mokslų daktarė, išspausdino daugiau kaip 30 straipsnių Kazachstano, Kirgizijos bei Rusijos moksliniuose leidiniuose, dalyvavo tarptautinėse konferencijose regioninės ekonomikos tematika.