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HUMAN CAPITAL DEVELOPMENT IN THE AGRICULTURAL ECONOMY SECTOR

Об'єктом дослідження є людський капітал аграрного сектору національної економіки. Вивчення наукових праць виявило, що у визначенні сутності людського капіталу як економічної категорії вчені не досягли спільної думки. При всьому різноманітті теоретичних підходів недостатньо дослідженою залишається проблема особливостей формування людського капіталу в аграрному секторі економіки. У методологічних підходах до трактування його сутності існують значні відмінності на різних рівнях прояву та визначеності. В ході дослідження використовувались методи системного підходу та структурно-функціонального аналізу, абстрактно-логічний, монографічний та графічний методи. В результаті дослідження авторами визначено сутність і особливості формування людського капіталу в аграрному секторі економіки та з'ясовано функції людського капіталу аграрного сектора та фактори, які сприяють його розвитку.

У роботі на основі узагальнення теоретичних досліджень щодо ролі людського капіталу в економіці, проаналізовано його стан та перспективи розвитку в аграрному секторі економіки. Проаналізовано фактори, які впливають на рівень формування і розвитку людського капіталу. Охарактеризовано функції людського капіталу та запропоновано шляхи вдосконалення наявного людського капіталу в сільській місцевості.

Виявлено особливості людського капіталу аграрного сектора економіки, основними з яких є:

- тісний зв'язок людського капіталу аграрного сектора з сільським способом життя, аграрної праці та побуту;
- значне соціальна і професійна однорідність;
- велика залежність його використання від природних ритмів і циклів;
- значна територіальне розосередження людського капіталу аграрного сектора, відносно низька його мобільність в порівнянні з людським капіталом в інших секторах національної економіки;
- необхідність формування і розвитку в умовах обмежених можливостей через більш низький рівень і якість життя в сільській місцевості тощо.

Ключові слова: людський капітал, аграрний сектор економіки, фактори розвитку, сільська місцевість, трудові ресурси.

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1. Introduction

One of the strategically important directions of development in the XXI century is the formation of the economy of innovative development, the basis for which must be knowledge, professionalism of employees, creative potential and innovation. The development of an innovative society depends primarily on investments invested in human capital.

It should be noted that human capital is both a factor and a result of the development of the agrarian economy. The development of human capital in the agricultural sector of the economy is a difficult task in the conditions of technological modernization of agricultural production. The solution of which requires elaboration of a number of theoretical and practical questions. These issues are aimed at ensuring the food independence of the country, increasing the competitiveness of agricultural products, improving the quality of life of the rural population, stimulating innovation and innovative development of agro-industrial

production, ensuring the growth rate of agricultural labor productivity.

A lot of scientists contributed to the development of the theoretical foundations of human capital [1–3]. In recent years, the problems of development and effective use of human capital in the agrarian sector have not been adequately reflected at the theoretical level in the context of aggravation of the demographic situation [4–6].

Today agriculture is not sufficiently attractive sector of the Ukrainian economy, which leads to imperfection of personnel policy and ineffective development of human capital of the agricultural sector, and domestic science lags somewhat in the study of problems of development of human capital of the village [6, 7]. However, the successful solution of the problem of innovative development of the agrarian sector is determined by the quality of the labor force employed in it, the degree of its mobility, motivation to work and innovation, the matching of supply and demand in the labor market. Since the increasing complexity of agrarian labor sets high requirements for the

qualitative side of human capital, there is a need for research in the field of human capital development of the agricultural sector of the economy. All this determined the choice of the topic of research, *the purpose* of which is to deepen the theoretical positions and substantiation of practical recommendations for the development of human capital in the agricultural sector of the economy. Thus, *the object of research* is the human capital of the agricultural sector of the national economy.

2. Methods of research

The theoretical and methodological basis of the study are theoretical and methodological developments, presented in the work of leading economists, in particular, the concept and position of human capital and foreign experience in the field of development and use of human capital in the agricultural sector.

The apparatus of the study consists of methods of systematic approach and structural-functional analysis, monographic, abstract-logical and other methods of economic research.

3. Research results and discussion

The founder of the theory of human capital is rightly considered to be an American economist, winner of the Nobel Prize for Economics «for the innovative research of the economic system of developing countries» T. Schultz. He was optimistic about the development of poor peasants and noted that:

- there are no fundamental differences between human and material capital – both one and the other brings income;
- the growth of investment in a person significantly changes the structure of wages: the main part – income from human capital;
- investments in human capital outstrip investments in real capital, so ownership of real capital becomes secondary;
- society, investing more in a person, can achieve not only the growth of the product, but also a more even distribution of it [1].

Although earlier the term «human capital» occurs in [8]. These works are the first to define the social value of labor and characterize the role of man in the economy. According to the authors of the works [2, 9] «human capital, the set of skills, knowledge, capabilities, and other attributes embodied in people that can be translated into productivity».

Modern «theory of human capital» is the direction of economic science, within which the human component of economic systems of various sizes is considered in terms of cost and price, and varies by definition into three levels:

- on a personal level, human capital refers to the knowledge and skills that a person has acquired through education, training, practical experience (while using its natural abilities) and through which it can provide valuable productive services to other people. At this level, human capital can be compared with other kinds of personal property (property, money, securities) that generates income, and we call it personal or private human capital;
- at the microeconomic level, human capital represents the aggregate qualifications and professional abilities of all employees of the enterprise, as well as the achievements of the enterprise in the efficient organization

of labor and personnel development. At this level, human capital is associated with the production and commercial capital of an enterprise, since profits are derived from the efficient use of all types of capital; – at the macroeconomic level, human capital includes accumulated investments in such fields of activity as education, vocational training and retraining, vocational guidance and placement services, health improvement, etc., is an essential part of the national wealth of the country. And we call it national human capital. This level includes the entire amount of human capital of all enterprises and all citizens of the state (without re-account), since national wealth includes the wealth of all citizens and all legal entities [10].

The theory of human capital was formed in parallel with a number of related fields, including human development, human potential, human resources, human resources management. After all potentially human resources can turn into human capital, provided that they will generate income, that is, when man's ability to take himself in the process of production, organization of its labor, the sale of its work opportunities.

Such socio-economic phenomena as human capital and human potential, along with their specific features, have much in common. On the one hand, human capital is used productively by entrepreneurs to generate profits, and on the other hand, it forms the socio-economic form of the current quality of human potential on the scale of society as a whole [11].

Some scientists characterize the category of human capital as a new scientific and social phenomenon. It is based on the initial methodological position of investing in a person, forming its knowledge, abilities and practical skill, and source of economic growth. And investment in human development has a long-term effect and impact and guarantees both socio-economic and socio-political results [12]. Others believe that «human capital is a reflection of man's productive abilities to work, which bring income to its owner and other economic subjects involved in its reproduction» [13].

With respect to the human capital of the rural population approach seems quite promising. It characterizes this economic category not only as an awareness of the crucial role of a person in the economic system of society, but also in recognizing the need to invest in a person, because the human capital increases and gives lasting economic effect only through investment [4, 14].

The differences between the concepts of «human potential», «human development» on the one hand, and «human capital» – on the other, are as follows. Indicators that characterize human potential or human development are calculated, as a rule, in the aggregate of people living in a certain area. There are cases of estimating the value of human potential of individual enterprises. Indicators characterizing human capital are calculated primarily for individuals. Efforts are being made to estimate the magnitude of human capital in relation to a group of individuals and even to the population of the country, but the practical value has only individual estimates of human capital.

Some scientist notes that «human capital is the very man-employee, the subject of economic activity, its ability to work, that is, the labor resource, under certain conditions, acts as capital for its employer» [7, 15]. Others think that human capital is the stock of abilities, knowledge,

skills and motivation embodied in man, and the ability to use them through participation in social production [5].

Herewith human capital can be defined as formed or developed as a result of investments and accumulated by a person a certain stock of health, knowledge, skills, abilities, motivations and other productive qualities. They are purposefully used in a particular area of economic activity, contribute to the growth of labor productivity and thus affect the growth of income of its owner [16].

Measurement of human potential (human development) is carried out with the aim of comparing in the space or times the basic socio-economic indicators on the macro- and meso-levels.

Measurement of human capital is carried out for making managerial decisions at the micro level, and at meso- and macro levels, only in relation to certain sectors of the national economy.

In general, the use of the term «human capital» should be seen not as an attempt to protect «real capital», but as a desire to form a more progressive relationship between employers and employees.

Of course, the situation in which an employee leases its human capital is more progressive than the situation in which an employee sells its labor. It is also superfluous to remind the employer that human capital moves along with the employee. In the assessment of human capital, one can not underestimate the fact that the efficiency of the use of human capital and, accordingly, investment in it, largely depend on a complex of subjective and objective, economic, social factors that determine the structural relation, the correspondence of human capital to the needs of social production. It is necessary to take into account the specific conditions for the implementation of human capital, the structural correspondence of the stock of productive abilities of man and its general culture to the level of development of technology, technology and organization of agricultural production.

In addition, structural contradictions may be manifested in the discrepancy between the different characteristics of human capital and the production needs, both on the macro and on the mesoform. At the same time, there are no conditions, on the one hand, for the realization of human capital, on the other hand – to meet the objective needs of the economy in the specialists of the respective training direction and level of qualification.

Moreover, further investment in the conditions of structural mismatches, promotes deepening of structural deformations and inhibits the economic growth of one or another sector of production.

Thus, investment in human capital is a factor in the sustainable development of production, and its effectiveness depends on solving the structural contradictions between accumulated and realized capital, on the one hand, and also on the correspondence of the available capital to the needs of social production, on the other.

It should also be borne in mind that, on the one hand, there is a close relationship between the structure of consumption and the educational capacity of man, and on the other – employment and labor, in turn, affect the structure of its consumption. After all, in accordance with the theory of human capital, it is not only about the possibility of receiving paid education, but also about the loss of possible earnings through the diversion of potential labor, including from work in its own household.

Authors of the theory of human capital consider «capital» as the part of the living productive forces of an individual and the entire population, which is placed on the market as a special commodity and is acquired by entrepreneurs, as well as that which remains outside the capitalist market and capitalist production. Under the category of human capital some understands the complex of acquired and inherited qualities, such as education, knowledge acquired at work, health, and others [3]. Others think that education is one form of human capital. It is human because it becomes a part of man, and it is capital because it represents the source of future pleasures or future earnings, or both [1].

The notion of «human capital» means not only awareness of the decisive role of man in the economic system of society, but also the recognition of the need for investing in a person, because it increases only through investment and gives a long economic effect. Thus, according to the calculations [17], investments in man give a return of 5–6 times more than the investment in material production. And the World Bank, in the process of surveying 192 countries, came to the conclusion that only 16 % of economic growth in countries with economies in transition is due to physical capital, 20 % is natural, the other 64 % is related to human and social capital [14]. It is noteworthy of note and characteristic of human capital, which is regarding it as a set of human properties. These properties are revealed in the labor process, are in demand in the labor market and include qualifications. These characteristics are: level of education, intellectual potential, knowledge, skills, work experience, personal characteristics: physiological and social and psychological characteristics (health status, mental capacity, talent, initiative). All characteristics are shaped by investments in formal and non-formal education, health care, both in-house and public, with the ability to accumulate and generate income for the owner during his or her employment [18].

This approach is the most comprehensive, since it covers the main components of human capital to the greatest extent, and the methodology of the idea of a holistic approach to the analysis of the economic category under study is most fully realized in it.

Such an approach to the characterization of the category of human capital, reflecting the interconnection of economic and social components, is most consistent with the realities of socio-historical development, in particular, the emergence of new forms of production and consumption.

Generalization of research makes it possible to define human capital as an intensive dynamic factor of economic and social development. It consists of the enlightened part of the labor resources, their knowledge, skills, creativity, health, culture, traditions, experience, as well as communication and psycho-physiological potentials. It is used in the process of economic activity in agricultural production, and provides the emergence of synergistic effects and income generation by its owners, individual enterprises, agricultural sector and society as a whole.

The economic essence of human capital lies in the fact that the knowledge, skills and abilities that man possesses are characterized by the following features:

- serve as a factor and result of the production process. The production process consumes human capital and in parallel directly or indirectly contributes to the development of human capital. It replenishes the

stock of knowledge, skills, revealing the abilities of workers, generates demand for high-yielding capital, which stimulates investment in it by both employees and employers;

- are subjected to physical and moral depreciation. At the same time, the most obvious is the moral deterioration of human capital, since knowledge, skills and abilities in most workers, as a rule, eventually become obsolete. And physical deterioration is connected, first of all, with the decrease of health resources and deterioration of abilities. In this case, the physical deterioration is distinguished within the entire life cycle of human capital and physical deterioration within the working day, changes, etc. If the first type of physical deterioration is restored mainly due to health care investments, then the second type of wear can be restored as a result of natural biological processes and scientifically sound labor organization;
- have their own cycle and life cycle. The circle of human capital takes place in various spheres. In the field of commodity-money relations, the owner of human capital receives for its use tangible and intangible benefits, means of payment, which are spent on personal consumption and development of human capital. As a result, between the owners of human capital is the exchange of values, and human capital, changing its shape several times, returns to its biological carrier. The circle of human capital in the intellectual-information sphere is described by the concept of intellectual capital, according to which human capital acts alongside social capital and organizational capital as an integral part of intellectual capital. A skilled worker contributes to the formation of social capital of the team, while finding a part of that capital. Similar processes take place in the relations of an employee with organizational capital. Therefore, the life cycle of human capital may have wider boundaries than the limits of the worker's life cycle;
- serve as an investment object. Investments take place both from employers and employees. From the side of employers, investments are predominantly in cash, on the part of workers, investment is primarily carried out in the form of psychological and social costs.

In general, the economic essence of human capital lies in the fact that it is formed as a result of the use of economic resources, acts as an economic resource and serves to achieve the economic goals of its owner.

With regard to economic objects (enterprise, agrarian sector of economy), the value of human capital is determined by the individual characteristics of carriers of human capital (qualitative component), as well as the number of the latter (quantitative component).

The study of the processes of formation and development of human capital in the agrarian sector implies a comprehensive consideration of factors and conditions that influence its formation and development. A detailed analysis of the factors and conditions of human capital development in the agricultural sector allows to iden-

tify the reserves for improving the efficiency of human capital use.

The factors of development of human capital of the agrarian sector of the economy from the point of view of influence on its components can be divided into two large groups:

- intensive factors – provide for the improvement of qualitative characteristics of human capital (raising the level of education, qualifications, level of personal interest and motivation of employees) and lead to increase of productivity at the decrease of the working time fund;
- extensive factors – related to the quantitative increase in labor resources and an increase in the working time fund [10, 12, 19].

From the point of view of the source of influence, one can distinguish the following factors of the formation and development of human capital in the agricultural sector of the economy (Fig. 1).

Most of the listed factors in their orientation are both intense and extensive. Only environmental and demographic factors are predominantly extensive.

Socio-economic factors play an important role in the development of the human capital of the agricultural sector. First of all, such factors are: the level of socio-economic development of a specific territory and the country as a whole, the structure of inter-sectoral exchange and distribution of economic resources, regional features of agriculture, and the level of development of social and engineering infrastructures. This largely determines the availability of efficient jobs in the agro-industry, the level of remuneration and the potential for realizing human potential.

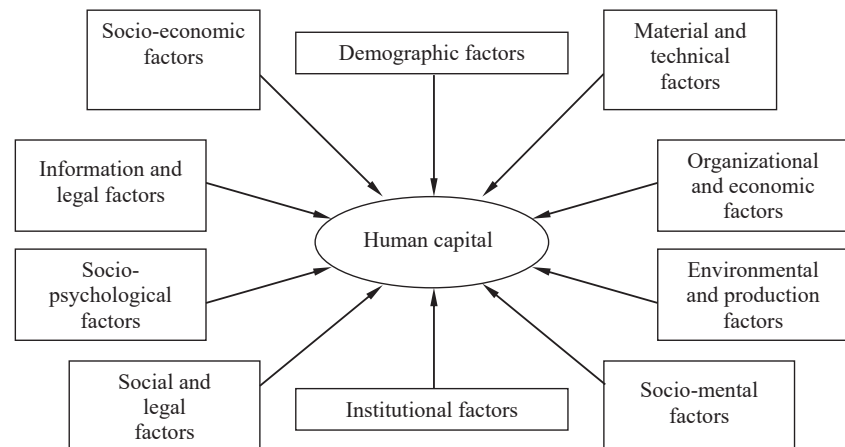


Fig. 1. Factors of development of human capital in the agrarian sector of the economy

Demographic factors (migration, fertility, mortality, age-sex structure of the population, etc.) determine the qualitative and quantitative parameters of human capital, its socio-demographic characteristics. Thus, one of the peculiarities of the agricultural labor market in rural areas is the fact that the main employer – agriculture is mainly male by gender, although 52.6 % of women now live in rural areas.

Material and technical factors are very important from the point of view of the processes of using and developing human capital, since they directly affect the level of development of agrarian production, production technology, ensure the saving of labor costs and affect the productivity and quality of products produced. These include, first of all, the state and technical level of machinery and

equipment used in the agricultural sector, investments, provision of material and technical resources.

The organizational and economic factors determined by the level of organization of production, labor and management in agricultural production have a significant impact on the state of human capital in agro-industrial production. These include:

- development of the organization of management of agrarian production: optimization of the management structure; improvement of production management systems; improvement of operational management of the production process; introduction and development of automated control systems; use of precision farming systems;
- rational organization of production: improving the organization of logistics processes at the level of individual production, production complexes, at the industry level, in general in agro-industrial production;
- improvement of the organization of auxiliary services and sectors: transport, warehouse, power, instrumental, economic, etc.;
- improvement of labor organization in the agrarian sector:

1) creation of conditions for the division and cooperation of labor, expansion of the sphere of combining occupations and functions;

2) implementation of advanced methods and methods of work;

3) improvement of the organization and maintenance of workplaces, introduction of technically-justified norms of labor costs, expansion of the sphere of standardization of labor of seasonal workers;

4) implementation of flexible forms of labor organization;

5) professional recruitment, improvement of their training and professional development, improvement of working conditions, rationalization of working regimes and recreation of workers in the agrarian sector;

6) improvement of remuneration systems, etc.

Economic and production factors characterize the labor market (type of market, infrastructure and conjuncture), personnel strategy of the organization, competitiveness of the organization, system and efficiency of personnel management.

Obviously, without taking into account these factors, it is impossible to get the full effect from the factors of demographic and logistical.

Socio-psychological factors determine the motivational characteristics of the workers of the agrarian sector, the level of labor activity and creative initiative, the system of value orientations, the style of leadership in the divisions and the enterprise as a whole.

The institutional factors that determine the priorities of agrarian and socio-economic policies of the country and the region, the perspective directions of the development

of industries and complexes, the level and quality of life of the rural population make a significant impact on the processes of formation and development of human capital in the agrarian sector.

The informational factors have a great influence on the processes of formation and development of human capital in the agricultural sector:

- insufficient information provision;
- lack of mechanisms for the transfer of knowledge and information in the system of agro-industrial production;
- lack of a well-established open access system for obtaining relevant information on the territorial and industrial markets of agrarian labor;
- advanced training in the industry;
- imperfect ways of disseminating information resources limit the potential of people Skog capital hinder its effective use and hinder its development.

Socio-mental factors characterize the dominant social values and norms of behavior, social value of knowledge, orientation to self-realization, recognition, social consciousness, social psychology, social organization and social norms, value of knowledge, attitude to work and labor traditions.

In turn, socio-legal factors include the constitution, labor legislation, employment of the population, labor contracts and agreements, social protection of labor, social and pension provision, and also have a significant impact on the development of human capital in the agricultural sector of the economy.

Each group of factors can exacerbate, or vice versa, to balance the influence of others. The study of factors for the formation and development of human capital in the agrarian sector, an assessment of the influence degree of each of them is a prerequisite for scientifically substantiated proposals on the efficient use of human capital in the agricultural sector. Consequently, one of the main tasks of modern economic science is to create a theoretical basis for the proper development of human capital, adequate to the level of economic development.

It can now be argued that the human capital of the agrarian sector fulfills a number of basic functions (Fig. 2).

Production-economic function is primarily ensured through its participation as a subject of production and economic relations in the agro-industrial complex, which is one of the key places in the field of rural economy. Agriculture, as the main core of agricultural production, is one of the most important sectors of the national economy of Ukraine. It produces food for the population, raw materials for the food and processing industry and provides other needs of the society. The development of agriculture largely depends on the standard of living and well-being of the rural population, which forms the basis of human capital in the agricultural sector.

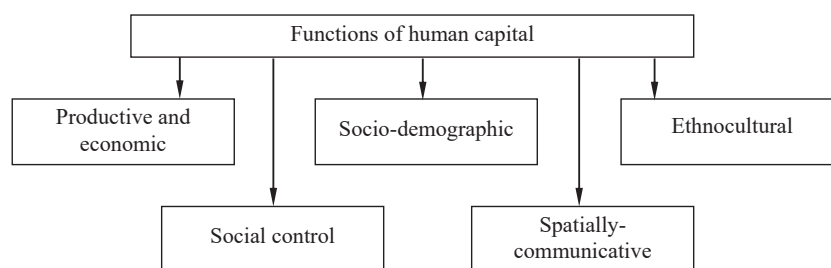


Fig. 2. Functions of human capital in the agrarian sector

Dependence is obvious: human capital, its qualitative and quantitative characteristics largely determine the level of agro-industrial production, which in turn affects the level of socio-economic development of rural areas. Proceeding from this, the importance of the productive and economic function of human capital in the agricultural sector is to create conditions for the socio-economic development of the village and the country as a whole.

The socio-demographic function is to restore the rural population and to provide the main sectors with labor resources, preserve the rural lifestyle and traditional norms and values, as well as improve the quality and standard of living of the peasants. For many decades, one of the main directions of this function is the reproduction of the population in rural areas and the provision of basic industries with labor resources. In addition, large agricultural enterprises, which are the main consumers of rural human capital services, are the organizational and economic base on which, based on the productive use of land and labor of the rural population, social and economic issues of support and development of rural areas are addressed. It should be noted that the full implementation of this function by human capital is directly related to improving the quality of life of the rural population. It is currently far behind the urban population. This leads to much worse indicators of peasants' health status, life expectancy of human potential development as a whole.

Ethnocultural function is to restore and preserve culture, traditions, and way of life of the rural population. During the implementation of this function there is a transfer from generation to generation of skills of nature management and agricultural production, reproduction of the rural way of life, traditional norms and values. Industrial production in the countryside involves the active involvement of children and thus solves the problem of socialization of the younger generation. Taking part in early childhood work, children gradually accumulate knowledge, skills and abilities necessary for independent living, form a culture of work and labor relations.

The spatial-communicative function has certain significance when considering the multifunctional of human capital in the agrarian sector. Indeed, for the countryside, permanent labor movements, which manifest themselves both in labor migration and in daily trips to work, are characterized by a growing scale, resulting in one of the closest types of urban-rural links.

Meanwhile, the huge territorial space of the country underdeveloped market, social and engineering infrastructures cause significant difficulty in their development, differentiation of regions in terms of socio-economic development and determine their significant differences in living standards and income. The uneven development and degradation of large rural areas is a very urgent problem, which is currently one of the most important for the reproduction and development of human capital in the agrarian sector.

The function of social control is also important in the development of human capital, because with the loss of human capital in the countryside, society loses control of its territory. This threatens the territorial integrity of the country in conditions of scarcity of land and natural resources in the neighboring states at high density of their settlement. This also leads to a sharp reduction in the recreational resources that are used, which is an additional

factor in the worsening and already unfavorable demographic situation in the country [6, 20].

The implementation of the social control of the developed geographic space should be based on the doctrine of national security of the country, according to which it is necessary to develop an adequate system of rural settlement, which ensures the social order and territorial integrity of the country. The main function of the arrangement and development of rural settlements, above all, should be taken by the state. There is a close connection between these functions, because each of them, being part of a single whole, not only assumes the presence of other parts, but also contains their elements. For example, such functions as reproductive, stimulating, regulating simultaneously fulfill the social role, and the regulatory function is realized in the reproductive and stimulating function of investment in human capital.

The above shows the necessity to develop a coherent state policy in the field of development and use of human capital in domestic agriculture.

4. Conclusions

The study is revealed, today, in all developed countries that human capital determines the pace of economic development and scientific and technological progress. The most important role is played by human resources, knowledge, experience, professional training. Therefore, in order to develop human capital in rural areas, it is necessary:

- to increase the level of remuneration of highly skilled workers;
- to ensure decent working and rest conditions;
- to stimulate the motivation of employees to self-development and to improve their qualifications;
- to introduce institutional changes in the field of provision of educational and consulting services;
- to adapt knowledge and skills through advanced training to modern business requirements.

The accumulation and effective use of available human capital not only allows for high competitiveness, but also ensures:

- rational and efficient use of all production resources;
- possibility of introducing new technology and technology;
- mastering the production of new types of agricultural products;
- production of high-quality products and products of its processing;
- high productivity and quality of labor;
- ability to carry out various types of innovative activity.

For qualitative improvement of available human capital in conditions of reduction of its physical volumes it is necessary:

- formation of social and individual preferences for the priority of a healthy way of life;
- social and personal motivation for preservation and strengthening of health;
- implementation of institutional changes in the provision of educational services in terms of expanding the system of continuous education;
- systematization of the provision of advisory services;
- adaptation of knowledge and skills through advanced training to modern business requirements.

The research results will be useful the implementation of competitive advantages of domestic agrarian production in world markets, not only through the use of favorable natural and climatic conditions, but also by increasing the efficiency of the industry due to its continuous modernization, expansion of the implemented cycles of food production, saturation of the market by domestic products with a high level of processing. The agrarian sector of the countryside should become not only the center for creating new jobs and overcoming unemployment in the countryside, but also an engine for an innovative restructuring of the entire livelihood of the peasants.

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