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TRANSFORMATION OF THE LIFESTYLE AND HEALTH OF THE ARCTIC POPULATION AS THE CONSEQUENCES OF INDUSTRIAL DEVELOPMENT IMPACT

***Abstract.** Prospective large-scale projects for the development of the Arctic territories point to the need to identify and quantify the consequences that affect the socio-economic situation and different aspects of population life in this unique macroregion. The purpose of the study is a new understanding of the problem of developing the Arctic territories and searching of effective mechanisms for adapting the Arctic population to changing conditions. Basis of the study is idea of assessing the impact of socio-economic and environmental consequences of industrial development of the Arctic territories through the transformation of the way of life and health of the Arctic man as the main consumer of Arctic natural resources, as the initiator of development of Arctic territories and as the object of influence of these consequences. On the basis of the theoretical research authors propose the classification of approaches to the concept of a way of life and disclose the content of the way of life depending on the role of man in the Arctic. The author's typology of the consequences of industrial development of the Arctic territories is developed. Typology is based on such criteria as the scale and direction of influence, the source of the impact and the time period, the possibility of diagnostics and state regulation. The perspective influence of these consequences on the lifestyle and health of permanent residents and labor migrants is characterized. The obtained theoretical results will form the basis for working out of methodological approaches to assessing the integrated impact of industrial development on the socio-ecological and economic system of the Arctic territories through indicators of the transformation of the way of life and health of the population.*

***Keywords:** industrial development, consequences, way of life, Arctic.*

Currently, the Arctic territories are one of the least developed by man and at the same time the most resource-rich spaces. The interest of the world community towards the Arctic increases with the reduction of the world's non-renewable energy sources and other types of natural resources, and with

development of innovative technologies for extraction of hard-to-reach resources. New programs of active natural resources development and development of transport flows are accompanied by a number of specific risks and consequences for the livelihoods and way of life of the people living here, including small indigenous minorities of the North. Therefore, the need for a qualitative and quantitative assessment of the Arctic industrial development impact on the way of life of the people living here is obvious. Such investigations require a qualitative theoretical research of this problem, which resulted in a typology of the consequences of the industrial development impact on the way of life and health of different groups of the Arctic population.

Development of Arctic resource potential as a basis of its industrial growth is cyclical, staged and depends on such factors as exhaustibility, renewability, accessibility, uniqueness, scale of stocks, etc. This directly affects on population way of life, who involved in the process of development as a labor resources. Thus people will have a certain mode of work and rest, habits and behavior, the level and quality of life and so they also create their own standards of living, necessary for them to live in these conditions. Particular attention should also be given to the study of the way of life of people, involved in the process of development on the basis of permanent residence in the Arctic, and shift workers. These categories of people have a different sense of stay and residence in Arctic, which directly affects the formation of their way of life. For the indigenous peoples, the process of development of territories should be viewed from the point of view of the civilization benefits penetration into the traditional way of life. Among them are information technology, means of transport, food, clothing. The problem of the environmental consequences of industrial development, which is most significant in relation to the way of life of indigenous peoples is remained an ambiguous: the area of their traditional nature using is reduced, the volume and quality (due to contamination with harmful substances) of biological resources constituting the basic diet of indigenous people is decreasing. At the same time, from the point of view of the impact on the entire population of the Arctic territories, the environmental consequences of industrialization affect the human health, forming a special way of life, and forcing a man to transform habits and pay more attention to treatment and prevention, nutrition, rest, and limiting his ability to work. Hence, the way of life can be an integral characteristic, allowing to estimate the complex influence of the consequences of industrial development of territories. It is by transforming the way of life as an indicator of influence that one can determine the extent and nature of the impact of industrialization on man.

The category "way of life" in the original understanding was revealed as a certain way of people's activity [1], as a form of human existence, formed on the basis of value orientations [2]. In this case this

interpretation was used rather to understand the essence of man, because the way of life was a consequence of the consciousness manifestation of people, which was formed under the influence of the external world. So began to form an activity approach to understanding the way of life, which is represented as totality of such forms of human activity as work, rest and everyday life [3, 4, 5, 6], taken in unity with the conditions of this vital activity [7, 8, 9, 10]. As V.I. Tolstykh noted, a man forms his way of life on the basis of his belonging to a certain society and the conditions of his habitat [11]. L.N. Kogan, I.T. Levykin [12] singled out in the integral category «way of life» four sphere: labor, daily life, socio-political and cultural-educational activities, the number of which was subsequently increased to 14 and included family relations, national and antisocial phenomena.

Bestuzhev-Lada, whose works are of particular importance [13], proposed to consider the way of life as one of the parties of conditions of life, oriented to assessing the degree of satisfaction of needs that can be directly quantified (the level of monetary incomes and wage, consumption of food and industrial goods and etc.). An important scientific result of this scientist is the definition of the structure of a way of life, which includes level, quality, style, daily life, standard of living.

There are several approaches to understanding the way of life:

- activity approach, in which the person's way of life is considered in terms of the types of his pastime, embracing work, rest, daily life, cultural, political and social activities, family relations. At the same time, special emphasis is placed on the behavioral characteristics of people and their communities;

- structural approach, in which the lifestyle includes level, quality, style, way of life and standard of living;

- qualitatively-quantitative approach, that is different in methodological importance, which makes it possible to evaluate and classify the way of life of people according to the degree of satisfaction of their needs.

Thus, the way of life as a systemic concept, which is explored in the context of the impact of the environmental consequences of the development of territories, reflects how everyday human practices in various spheres of life in the Arctic relate with the state of highly vulnerable, weakly able to quickly restore Arctic ecosystems, which allows to spend comprehensive analysis of the interaction in the «Arctic man-Arctic nature» system, identifying the points of risk and safe interaction.

The study of the essence of the way of life of a person, acting as a consumer of the natural resources of the Arctic, is closed by considering it as a way of acquiring goods, and also as a way of satisfying the needs in the conditions of existing natural and social restrictions. Therefore, the way of life and the quality of life as one of its components can be considered as

a way of interaction between the Arctic environment and its use, which is reflected in the forms and types of human behavior.

Disclosure of the content of a person's way of life through an understanding of his role as the initiator of the development of the Arctic territories allows us to regard it as a source of self-development not only for man but for society as a whole, combining activities for managing territorial development, man's striving for wholeness, possession of meaning and goals, which together can provide effective human activity in everyday life in the Arctic.

In this context the transformation of the Arctic man way of life is a consequence of the social, economic and ecological changes that arise in the process of industrial development. There are groups of consequences of industrial development of the Arctic territories and the nature of their influence on the Arctic population way of life, identified on the basis of certain typological features.

In terms of the manifestation scale, the consequences of the impact of industrial development on the Arctic population way of life can be local, regional and planetary. Local consequences are manifested within the center of development, which can be considered city, municipality, and also territories of resources development (floating oil and gas platforms, shift camps). The object of influence, as a rule, is the permanent population of mono-specialized settlements and the population engaged in shift method. Feature of the population way of life in such settlements is manifested itself in close interconnection between people in various spheres of life (work, leisure, everyday life), uniformity of the way of life of different population groups. At the same time, territorial isolation and peripheral are determine low mobility of the population, which is the reason of the man's weak fitness to maintain ties, interaction, and cohesion. The structural component of the population way of life by types of activity (cultural, leisure, social) is determined by the opportunities and level of development of social infrastructure. The structure of the shift workers way of life is determined by the enterprise work schedule and working conditions. At the same time, such components of the way of life as a level life and lifestyle depend on development rates of enterprise.

The regional scale of social and economic consequences of industrial development of the Arctic territories is manifested in the form of a "scattered" effect, which consists in the development not only of a part of the Arctic subject of Russian Federation, but also territories neighboring to the Arctic through infrastructure, personnel and technological interaction. First of all, this will ensure employment of the population and a decent standard of living. Another aspect of influence is financial (tax) revenues to the regional budget as a result of industrial development, which also extends to the population of Russian Federation subject. The positive effect of the territory development is strengthened in the case of a large number

of natural resources, which reduces the risk of negative consequences.

The planetary scale of the consequences is primarily related to the environmental aspects of industrial development of the Arctic territories. Pollution of the northern sea waters by oil and chemical compounds, accumulation of industrial wastes in the territory of the enterprises, the toxic pollution of the atmosphere by associated gas, the flooding of nuclear waste are the greatest dangers at present time, which are ubiquitous because of the rapid transfer of pollution by water and air masses.

From the point of view of the study of the way of life, its transformation and differentiated influence of the consequences of industrial development, the socio-demographic groups of Arctic population are of particular interest. These groups are divided according to the principle of settlement and the degree of rootedness in the territory: the aboriginal population living in this territory permanently (small indigenous minorities of the North), the indigenous population living in the territory for several generations, for which the Arctic has never been a place of original residence, and alien population (shift workers). At the same time, differentiation of the population way of life in the Arctic will be manifested in relation to different age groups that perceive the consequences of industrial development: the working-age population, children, youth and pensioners.

In this case, we can talk not only about the different degree of influence of the industrial development consequences on the way of life of these categories of people, but also about different nature of influence (periodic and permanent, short-term and long-term) and about different directions of the influence of social, ecological, economic and other consequences on separate spheres of human life.

On the direction of influence, the consequences of industrial development of the Arctic territories can be divided into economic, social, ecological and technological. Economic consequences are related to the efficiency of enterprises activities, the receipt of taxes and investments into the region from the development of natural resources and the implementation of other projects for the development of the Arctic zone of Russian Federation. Social consequences will be related to the level of employment, the standard of living. Indicators of the transformation of the way of life will be a change in the structure of work and leisure, the emergence of new needs. Technological consequences are associated with the introduction of innovations in production and are associated with a change in the nature and content of labor, the determination of social and labor relations, the increased demand for qualified personnel. For example, the development of telecommunication technologies changes the principles of the organization of labor - attachment to the workplace, a rigid work schedule. In this connection, the structure of working time and, accordingly, the way of life are changing. The development of Internet

technologies also changes the culture of communication in general in the direction of the predominance of virtual communication over personal communication, that is a unifying factor in conditions of dispersed development of the Arctic. The environmental consequences of industrial development are manifested as a decrease of water and air quality, soil disturbance. Decreasing the quality of the environment reduces the territories of traditional nature management of small indigenous minorities of the North, that leads to change in their established way of life [14].

It should be noted, such consequences can be both positive and negative. The direction of the vector will depend on the dynamics of enterprises production, their competitiveness, the stage of exhaustible natural resources development. Considering the high share of monospecialized settlements, the depth of social and economic consequences for these territories is increasing.

The nature of the Arctic territories development determines the analysis of the consequences depending on the source of the impact. Mainly these are man-caused sources (effects and consequences are resulting from mineral deposits development) and infrastructural (the consequences of the construction and development of transport, energy infrastructure and logistics facilities, including critical infrastructure).

Depending on the time of manifestation and influence on the person's way of life, the consequences of development can be immediate and remote. The consequences that arise in the process of industrial development of the Arctic include the receipt of revenues in budgets, employment, flow of investments into the region. These consequences are immediately apparent. Remote consequences are manifested, for example, as a changes in demographic trends of this territory, and as form of adaptation of migrants, including labor migrants to the Arctic life and its harsh climate.

All the consequences of the impact of industrial development on the way of life of the population in the Arctic, depending on diagnostics possibility, can be divided into quantitatively evaluated and amenable to a qualitative assessment. The first type of consequences, obviously, includes the volume and rates of tax and investment revenues into the region, the level and rates of employment dynamics, and also costs of resettlement of citizens and the maintenance of infrastructure development. On the other hand, such components of a way of life as migratory moods, a level of social tension, labor motivation - are accessible for research basically by qualitative methods.

All the consequences of the impact of industrial development on the Arctic man way of life are amenable to state regulation within the framework of the current legislation. There are regulated and poorly regulated consequences. The first group includes such consequences as the increase in the level and quality of life of the population in the Arctic, the

level of pollution and waste generation. It should be said that the manageability of the impact of the industrial development consequences is determined not so much by quantity, but by the effectiveness of measures and mechanisms, which applied by the state. It is important to understand the significance of the institutional environment that ensures the implementation of state strategic landmarks in the Arctic [15].

In connection with the increase in the requirements for the skill level of employees, the high mobility of human resources in the Arctic, climate change, the requirements for the functional reserves of the body of persons making up labor resources are increasing. On the degree of preservation of the human health potential in the Arctic, the degree of implementation of scenarios of social and economic development of this region also depends. At present, the direction of neuroeconomics is developing on the basis of the synthesis of economic, psychological sciences and neurobiology. The possibilities of neuroeconomics can be realized in understanding the neurophysiological mechanisms of decision-making by a person in the socioeconomic sphere: the prevalence of rational approach or irrational-emotional, preference for immediate benefit or benefit in the long term. The methodology of physiological studies also allows us to propose the typology of psychoneurophysiological portraits of certain population groups from the point of view of both the nature of the response to the stress load and the position of the risk of reaching a psychoneurological pathology. The predominance of these or other types of neurophysiological portraits of the population in certain areas will allow to assess the potential of the population's readiness to accept a particular scenario of the region's development, and also to assess the «price of adaptation» of the population to industrial development of the Arctic territories from the viewpoint of preserving the health resources of the population.

The authors identified a scientific problem which is consist of search for adequate mechanisms for adapting a person to the changing conditions and consequences of industrial development of the Arctic territories by improving the way of life in order to increase the efficiency of using human resources and ensure the achievement of the Arctic's strategic development goals. In the course of theoretical and methodological research, an author's typology of the consequences of industrial development of the Arctic territories was developed/ This typology will be used as the basis for developing methodological approaches to assessing the impact of industrial development of the Arctic on the qualitative change in the economic, natural and social environments, within their influence on the transformation of the lifestyle and health of Arctic man.

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