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FORMATION OF SUSTAINABLE SYSTEMS AS A COMPONENT OF THEIR SOCIO-ECONOMIC INNOVATIVE DEVELOPMENT

Modern socio-economic development is characterized by increased attention to quality components both on the part of resource providers and consumers. In turn, this formed the basis for specialized and sustainable forms of business and social processes. The growing environmental awareness of business entities, the aggravation of the consequences of socio-economic changes and the development of the technocratic system orients all participants in social processes to a balanced position regarding the use of available resources, the formation of production cycles, implementation and consumption with a priority direction of environmentalism.

Extremely urgent at the moment are the problems of finding mechanisms for achieving higher quality indicators, promoting the restoration and protection of socio-cultural, natural and innovative investment resources from excessive exploitation and destruction due to the spread of technocratic influence on the environment. Analyzing the results of research [1–3], it was established that the basic approach for this is a strategic focus on the directions of sustainable development, which represent advanced forms of the natural and cultural formation of society, a thrifty attitude to resources concentrated in the territory, as well as biomimicry of natural processes in society as keys to multiplying nature's resource potential and restoring the multi-functional nature of relations between individual subjects and objects of these relations. The practical experience of the activities of numerous Ukrainian communities in meeting the needs of the population on the basis of sustainable development demonstrates great potential for restoring the nature of expedient activities. This is a positive experience and a great opportunity for the development of territories and the formation of their quality brand. Along with taking into account the trends in the development of socio-economic systems at the international level, it is necessary to take into account the specifics and natural basis of the local environment of communities and subjects of economic activity that operate on their territory. The optimal combination of social and cultural heritage, as well as economic and educational processes will allow not only reach self-improvement and self-expression of certain individuals, their groups and associations, but also contribute to the multi-vector manifestation of their participation against the background of historical development. The cooperation of science, education and practice, in particular in the format of production associations, will provide additional value to both aesthetic values and the formation of a higher quality offer [4]. In other words, the

integration of social, economic and ecological components will be ensured by worldview, cultural and spiritual enlightenment (informational and explanatory work regarding the Laws of the Universe and the dominance of natural values, which requires compliance with a number of rules).

In general, the formation of sustainable systems as a component of socio-economic innovative development is conditional on the promotion of human-centric ideology with the promotion of natural and aesthetic values in combination with archaeological, historical, cultural and ecological interests. The latter provide for ecological growth and natural preservation, taking into account each specific destination with all its natural and anthropogenic components. Orientation is aimed at integrative thinking as additional elements of socio-ecological systems and their economic development are considered by us from the position of ensuring the integrity of the environment and expanding the potential of its cultural, spiritual and economic spheres. It can be said that the interpretation of a set of means for the production of values and the provision of services is carried out on the basis of the acquired knowledge regarding the understanding of natural processes in a given place, including the anthropogenic contribution.

Reconsideration of human behavior takes place on the basis of understanding peculiarities, promotion of values and social advantages, and also as a result of ensuring their preservation and multiplication [5]. On the other hand, the level of consciousness and responsibility for oneself and the surrounding space acts as a mechanism and motivational factor for promoting ecological and social understanding, respect and conservation. In other words, management of sustainable development, information activities (in particular, introduction of educational materials, information panels or seminars, promotion of high-quality local brands, local business activities), awareness of local advantages and, on this basis, the formation of satisfaction, become the key principles as the fundamental basis of the strategic management of the territory needs. In this way, the experience of common interests is created, including through education, and from the standpoint of practice, the process of community management is implemented, which involves the creation of new business entities and jobs for the local population, which, in turn, leads to various types of effects, in particular economic, technological, social and environmental.

The initially determined assumptions of the model of formation of sustainable systems as a component of their socio-economic innovative development are as follows: a defined territory that develops the local economy and realizes its own heritage, including demographic, ecological, historical and cultural, through the interaction of all participants in the territory and social

entrepreneurship. The synergistic effect of such integration is multidimensional, including as a result of obtaining economic, socio-cultural and environmental benefits due to sustainable development; creation of new enterprises and jobs; raising awareness of local biodiversity and geodiversity, their preservation for both tourists and the local population; involvement of scientists, researchers, practitioners, leaders of local territorial communities, who will contribute to increasing the level of protection of values, preservation of the environment as a whole; cooperation between different stakeholders; creating a recognizable brand, etc. The main factors that determine the socio-economic development of systems include the following: natural resource potential, infrastructural support, human and technical-technological (including innovative) capital. Based on the above, the original research model of the formation of sustainable socio-economic innovation systems (Pr) can be presented as follows:

$$P_r = a_0 + a_1 P_1 + a_2 P_2 + a_3 P_3 + rv, \quad (1)$$

where P_1, P_2, P_3 – general variables; a_1, a_2, a_3 – coefficients that reflect the strength and direction of relationships between common variables; a_0 – free term; rv – random deviation. Determining the efficiency and stability of the directions of socio-economic development of the system was carried out in accordance with the principles and conditions of optimization modeling, which reflects socio-economic development and criteria for its change with general indicators. According to the optimization modeling algorithm, the following formula can be applied:

$$\begin{cases} PY_s = G_{0s} + G_{1s} P_r + rv_s \\ PY_c = G_{0c} + G_{1c} P_r + rv_c \\ PY_e = G_{0e} + G_{1e} P_r + rv_e \end{cases}, \quad (2)$$

where PY_s, PY_c, PY_e – explicit variables; $G_{1s} P_r, G_{1c} P_r, G_{1e} P_r$ – potential components; G_{0s}, G_{0c}, G_{0e} – free application; rv_s, rv_c, rv_e - random deviation. The optimization model was formed on the basis of statistical reporting (Table 1).

Table 1

Internal consistency of the elements of the socio-economic system

Factors of socio-economic development	Criterion of			
	Cronbach	Dillon and Goldstein	Eigenvalue	Eigenvalue
Natural resource potential	0.89	0.95	4.16	0.76
Infrastructural support	0.83	0.91	1.82	0.28
Human capital	0.71	0.90	1.87	0.29
Technical and technological capital	0.81	0.92	2.62	0.44
Innovative capital	0.78	0.91	2.10	0.34

The obtained values confirm the fact of the correctness of the applied optimization model with the priority of sustainable development and the priority of its elements as a mechanism for ensuring sustainability. Thus, it can be concluded that sustainable development, communication and international cooperation based on common interests are socio-economic and political parameters that provide for the equality of parties, responsibility of partners and holistic development.

Therefore, the goals of the research on the formation of a model of sustainable consistent development meet the requirements and prerequisites defined by the UNO as priority tasks until 2030. In particular, it covers the use of local resources and their exploitation in accordance with the strategic management plan in the state. Important aspects of the formation of sustainable systems as a component of socio-economic innovative development are the direct involvement of the local population (on the terms of inclusion and participation) and other interested parties both from the position of obtaining economic benefits from cooperation, as well as in the format of the opportunity to form a worldview through the education system for sustainable development, approval of regional and local strategy, implementation of appropriate public management practice.

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