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PECULIARITIES OF THE NATURAL RESOURCES ECONOMIC ESTIMATION UNDER THE TRANSFORMATIONAL CONDITIONS

Abstract. *Introduction.* The resource consumption policy has to be built on the balance of economic, social and defensive public interests. Particularly, taking into account ecological factor helps not only to optimize problems, connected with environment pollution, but to introduce firmer requirements to enterprises as consumers of the environment, which have social responsibility.
The purpose of the article is to investigate the peculiarities of the nature resources economic estimation in conditions of social and economic transformations and man-caused impact on the environment.
Results. The article deals with methodological approach of the phased estimation concerning natural and ecological changes, and changes which appear in the social and economic spheres. The authors generalize practice of balanced approach usage to the investigation of the national economy's development perspectives after overcoming of the mentioned changes. The correspondent social and economic balance is reviewed on the example of the natural recreational resources usage. Man-caused impact on the environment is suggested to evaluate by estimation of the effect and losses, expressed in cost form and determined by comparing of the natural and resource factors before and after economic impact.
Conclusion. The described approach to economic estimation of the possible interrelated economic, social and ecological transformations allows taking into account dynamics of the nature elements resource value as the part of national wealth. The authors suggest three stages of algorithm of the social and economic changes estimation and connected with them natural and ecological changes: social and ecological estimation on the basis of the relevant natural indicators changes at different levels of influence to the national economy; ecological-economic and social-economic estimation on the ground of changes concerning the value of natural and social resources exploitation; calculation of losses and/or effects in the different branches of the national economy.
Keywords: natural resources; economic estimation; ecological factor; transformational conditions; balanced development.
JEL Classification: P48, Q01, Q56

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ОСОБЛИВОСТІ ЕКОНОМІЧНОЇ ОЦІНКИ ПРИРОДНИХ РЕСУРСІВ У ТРАНСФОРМАЦІЙНИХ УМОВАХ

Анотація. У статті досліджено особливості економічної оцінки природних ресурсів в умовах соціально-економічних трансформацій і техногенного навантаження на навколишнє середовище. Запропоновано методологічний підхід поетапної оцінки змін природно-екологічного характеру, а також змін, що відбуваються в соціальній та економічній сферах. Обґрунтовано доцільність застосування збалансованого підходу до дослідження перспектив розвитку національної економіки в результаті здійснення вказаних змін. Відповідний соціально-економічний баланс розглянуто на прикладі використання природних рекреаційних ресурсів. Антропогенний вплив на природне середовище автори рекомендують оцінювати шляхом обчислення величини ефекту чи втрат, що виражаються у вартісній формі й визначаються методом порівняння природно-ресурсних показників, зафіксованих до та після економічного впливу.
Ключові слова: природні ресурси, економічна оцінка, екологічний чинник, трансформаційні умови, збалансований розвиток.

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ОСОБЕННОСТИ ЭКОНОМИЧЕСКОЙ ОЦЕНКИ ПРИРОДНЫХ РЕСУРСОВ В ТРАНСФОРМАЦИОННЫХ УСЛОВИЯХ

Аннотация. В статье исследованы особенности экономической оценки природных ресурсов в условиях социально-экономических трансформаций и техногенной нагрузки на окружающую среду. Предложен методологический подход поэтапной оценки изменений природно-экологического характера, а также изменений, происходящих в социальной и экономической сферах. Обоснована целесообразность применения сбалансированного подхода к исследованию перспектив развития национальной экономики вследствие преодоления указанных изменений. Соответствующий социально-экономический баланс рассмотрен на примере использования природных рекреационных ресурсов. Антропогенное воздействие на природную среду авторы рекомендуют оценивать путем вычисления величины эффекта или потерь, выраженных в стоимостной форме и определяемых путем сравнения природно-ресурсных показателей, зафиксированных до и после экономического влияния.

Ключевые слова: природные ресурсы, экономическая оценка, экологический фактор, трансформационные условия, сбалансированное развитие.

Introduction. One of the most important factors of the national economy positive transformation is to create economically based approaches to the effective use of its natural resources. Therefore the quantitative factors of the nature management by no means always determine the direction of social and economic development vector. First of all, in order to avoid «resource curse», resource consumption policy has to be built on the balance of economic, social and defensive public interests. Particularly, taking into account ecological factor allows not only to optimize problems, connected with environment pollution, but to introduce more firm requirements to enterprise activity – consumers of the environment, which have social responsibility, out of business traditional frames.

Brief Literature Review. The theory of natural resources economic estimation is one of the most difficult and undeveloped problems in economic science. Fundamental researches of many scientists have formed great theoretical, methodological and methodic base of the natural resources economic estimation. That entails works of O. F. Balatsky (2006) [1], M. L. Bronstein (1968) [2], K. G. Gofman (1977) [3], E. S. Karnaukhova (1977) [4], S. G. Strumilin (1963) [5], T. S. Khachaturov (1982) [6], and many other researchers in our country and abroad, particularly, in works of R. Halvorsen, and D. L. Cheltenham (2006) [7], A. M. Hussen (2004) [8], R. Q. Grafton, W. Adamowicz, and D. Dupont (2004) [9]. At the same time the only one theory of such estimation has not been created. One should mention, that the problem concerning natural resources economic estimation has collective theoretical base to solve it. It concerns firstly the determination of essence, goals, tasks and estimation objects.

The purpose of the work is to investigate the peculiarities of the natural resources economic estimation peculiarities under social and economic transformation conditions and manmade load on the environment.

Results. So, it is unmistakable, that economic estimation of the natural resources is money consideration of the effect, which is brought by these natural resources while their complex and rational consumption. The goal of the economic estimation is to optimize costs, connected with nature management. Main tasks, solved by economic estimation, include: regulatory actions on costs size for develop, use and reprocessing of the natural resources; counting of natural resources use effectiveness on the national economy level; creation of the material and financial premises to reproduce natural resources; counting of losses size, caused by exploitation stopping or quality weakness of the natural resources through degradation; providing of the necessary correlation between different types of nature management, territorial location of enterprise, order to reclaim natural resources through territorial costs differentiation; stimulation of the rational nature management, use of little- and non-waste nature management. The objects of the economic estimation are single natural resources and nature management objects in form of joint used spatially confined territorial connections of single natural resources and environmental conditions.

Let us consider how characteristic features of the natural resources economic estimation are changed under national economy transformational conditions, which in its turn, are urgent to investigate [10]. The main feature of such conditions is appearing of new active participants in management process. Particularly, the role of regional authorities, commercial structures is increasing, public opinion becomes more important.

Different interests of the nature management process need to create the effective mechanism to interconnect economic, social and ecological aims of the national economy subjects. Certainly, compromise finding has to be done by the effective estimation of results to accept these or those strategic decisions. That's why, wide use of the economic estimation metric will allow to take into account the nature management subjects' interests and to accept an optimal decision.

Thus, the aim of natural resources economic estimation under national economy transformational conditions may be formed by such way – to optimize the processes of the productive and environment-oriented activity agreement of the nature management subjects.

In some degree current changes change the structure of tasks, decided through natural resources economic estimation. So, the factors, which form the base of nature management payments, become more important. At the same time market relations increase the role of theoretical and practical investigations through counting of economic rent. According to the paid nature management concept in Ukraine, the methodological ground to set payments for natural resources use is rent concept of their economic estimation. Therefore the pay for natural resources is a degree of the economic rent leakage, connected with the natural resources sources differentiations, degree of compensation for expenses on the natural resources protection and reproduction, way of the economic regulation and rational use.

At the same time, the role of nature management economic estimations is changed while coming to the market. It firstly concerns the marginal costs factors, which help to calculate the economic rent. National economy subjects with different property form, which turn out similar goods, lead to the fact, that the role of marginal costs as «severe» factor, characterizing the top limit of prices on nature exploitation production, is changed in some degree. The marginal costs may be observed in the new conditions as some initial terms of the negotiation process concerning all nature management subjects' interests.

In some degree new content gets in the modern conditions the concept of the natural management economic estimation

object. Earlier the estimation object was either natural or nature management objects. Therefore the natural resources were understood as separate elements of the environment (nature factors) and as their territorial combinations. At the same time, the market relations introduction provides «binding» of the natural factors complex to the concrete territory (land). Thus, the difference in the content of «natural resource» and «nature management object» in the modern condition disappear. While characterizing the natural resources the first place is taken by functional peculiarities of the nature factors territorial combinations and sizes of the entire territory. The last characteristic is connected with realization of the right to property on the concrete natural resource through possessing of the concrete territory.

Any commercial event to any extent will touch the environment, leading to the ecological systems changes. It its turn the changes in ecosystems through difficult back connection mechanisms are reflected on society. That's why the estimation of impact on the environment should be the constituent of the economical activity planning and should be held simultaneously with technical, economic, social and political basis. At the same time due to the background of such estimations, the applied methodic approaches, assignment and use of the estimation factors are far from being decisive. So natural, pointed, value factors of the environment changes estimation are widely used in the economical practice.

Although different approaches to estimation are fully lived up (they reflect various meanings of the ecosystems changes in this or that relation system in society) the problem to strengthen their relations is too difficult.

We suggest the 3-leveled model of changes estimation in environment and social sphere (Figure 1).

The first level means to conduct social and economic estimation that is the process to form the system of the natural ecological and social factors. The second level is the ecological and economic (social and economic) estimation, reflecting resources changes, i.e. the changes of the natural resources, material values, «quality» of the labour resources public use value. And finally, the third level concerns the economic estimation, connected with determination of losses and effects in the national economy brunches, at the enterprise level.

The economic changes content in the environment is in value form of the natural resources state changes (quantity and quality) and conditions (possibilities) of their use. State and conditions changes of natural resources use, expressed in run-up factors of decrease of their economic estimation, allow to decline economically insignificant changes and to decide the only one resource approach to these changes estimation.

Thus, to define the resource importance of changes in the environment allows setting the only one methodic approach to their estimation, moreover due to the one criterion – nature environment resource value, limiting the changes within public production.

The choice of estimation direction should be earlier than analysis concerning changes of the environment resources value after man-made actions. Firstly, it is necessary to distinguish the most exposed natural resources.

After that, one should define the economic weight of natural resources changes, caused by man-made load. The estimation should be made in all directions of the public value changing resources.

Thus, man-made impact on the environment may be estimated by the size of effect or losses, expressed in value form and defined through economic comparing of the natural resources before and after this impact. Generalized economic characteristic reflects the importance of the natural resources – their economic estimation, changes of which are connected with their quality changes, amounts and terms of exploitation. The losses are equal to the factor of the natural resources economic estimation while their full losing. Therefore it is not important, if we use the estimating natural resources now or will use in future. As the element of the national wealth the natural resources need the constant national as authentic and concrete economic estimations, reflecting their public utility.

The examined approach to the economic estimation of the possible changes, while realization of economic events, will allow taking into account the dynamic of the natural elements resource value changes as the part of the national wealth. At the same time, cost estimation of the resource changes will be limited with scales to involve natural resources into the public production process.

That is why together with changes of the natural resources cost estimation, based on their maximum possible use (theoretical economically important losses or profits), it is necessary to use real economic losses factors, reflecting public costs and benefits such costs may be treated as the real economic loss, benefit as the real effect.

The suggested model to estimate changes in the environment, social and economic spheres while observing the further prospects to develop the national economy needs to use balanced approach to our mind. Therefore the correspondent balances (balanced conditions) traditionally consider to even 2 sides, usually the set of resources (one side) and the sources

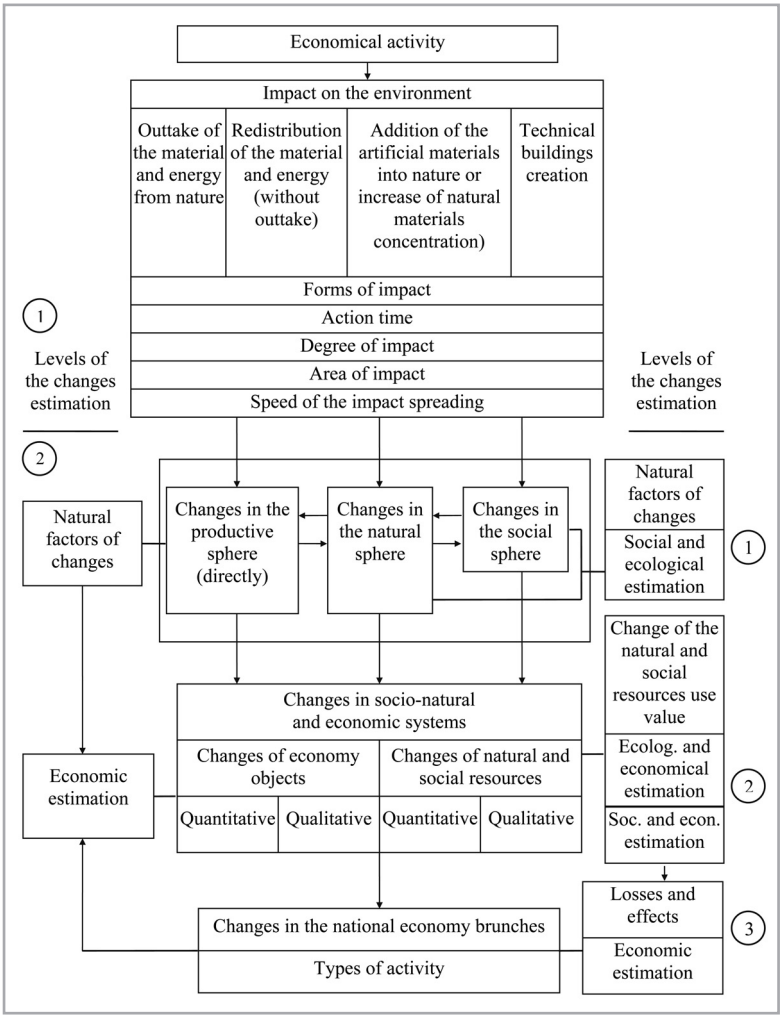

Fig. 1: **Scheme of the stages concerning ecological and economic estimation in the environment, social and economic spheres**

Source: Own research

of their forming (the second side). While observing the separate spheres, firstly the most popular sustainable development concept nowadays (system «society + economy + environment»), balanced approach supposes to use the balance of social and economic aspects, natural and ecological aspects; at the same time they are identified as the meaningful essence of the separate brunch or activity. Depending on the character of the assigned task spheres balance may look like as following: social sphere – the environment (economic base of the observed activity), economic sphere – the environment (social character of the investigated activity).

Let us take an example of the recreational activity within tourist and recreational brunch of the national economy.

Recreation as a phenomenon and activity is necessary to support the public vital necessity and separate individuals to recover their physical and spiritual strength, including from the economic point of view, initially, to come back to the new productive cycle with new powers and with better productivity (it concerns the situation, when worker has no rest, but works all the time). So recreation, which is based on both natural (recreation base; for example, the systematic rest without clean fresh air as the component of the environment is practically imperfect), and historical and cultural resources, is the social and economic phenomenon. And the modern situation in the society evolution allows talking about balanced social and economic sides of the recreation. Tourist and recreational industry statistics, part of which is the mentioned here recreation, indicates that the recreation doesn't play role of simultaneously economically and socially significant process in many countries or regions.

Based on the above, balance of recreation and properly, the use of balanced method to estimate natural resources in the recreational base is not simply the approach in the system to regulate processes concerning socially responsible national economy development, but a necessary condition of such development. It is possible, that in other brunches «social and economic balance» is not seen obviously, as in case of recreation, however it concerns mostly the level of state interference into this or that process course balancing into the social or (if we observe «ecological and economic balance») ecological side.

The considered balanced approach, in which the social significance to use the recreational resources is balanced by its economic priorities from mathematic point of view, has advantages, oriented on the practical sphere of the suggested model approbation. Particularly, the theoretic and playing method and method of the nonlinear programming are examples of the concrete economic and mathematic instruments, which allow making real balanced calculations concerning recreational development or other activity in the territorial-brunch system. At the same time, as opposed to the mentioned above, it is difficult to balance 3 and more constituents, because, if just one of them with social character is poor determined, finally it will impact on the whole economic and mathematic model, describing balances of 3 and more sides. In any case, using of such models is beyond traditional balanced approach and needs great grounds of its reasonability, initially, from the point of view of costs for that model.

Conclusions. Thus, this work shows the theoretical and practical peculiarities of the natural resources economic estimation under economic transformational conditions in light of man-made load factor on the environment. The authors suggest the following stages of algorithm to estimate the social and economic changes and connected with them natural and ecological changes: firstly, social and ecological estimation on the base of the relevant changes natural indicators on different levels to influence national economy, taking into account the correspondent forms, duration, intension and other impact characteristics; secondly, ecological and economic and social and economic estimation on the ground of changes concerning use value of natural and social resources; and, finally, thirdly, calculation of losses and/or effects in the national economy brunches.

Further researches will investigate more detailed economic estimation of the separate natural resources, and also its interconnection with results of different branches in the national economy.

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