
Management of economic processes in context of sustainable development

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IMPLEMENTATION OF ECOSYSTEMATIC APPROACH OF ENVIRONMENTAL POLICY

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This article defines the objective, which shows us the necessity of using ecosystematic approach while implementing environmental policy of the government. This research provides characteristics of principles and properties of the approach under scrutiny. In the article it is outlined the application of ecosystem services which constitute an ecosystematic approach. There is detailed overview of certain instruments used for managing ecosystem services. That research pays attention to "green" planning which is one of the major instruments of studied approach. The article grounds the necessity of development of state-private partnership scheme, which provides the possibility to improve quality of functioning and rational ecosystem use. It is proved that the use of ecosystematic approach provides greater number of opportunities for estimation the state of environment and rational use of natural resources and in such way allows us to build effective approaches for implementation of environmental policy.

Keywords: *ecosystematic approach, environmental policy, ecosystem services, principle, instruments.*

Introduction. Lately, the issue of environmental changes became very acute. There is constantly growing concern towards interaction between humans and the environment. The interest in this issue comes not only from scientist and experts but also from politicians, businessmen, etc. It means that increases understanding of necessity to turn to fundamentally new ways of relations, where management in social and economic systems is concurrent with the laws of natural one. Thus, in the recent years, rapidly accelerated search

for more ecologically efficient models of economic development. Public attention is dedicated to effective means of implementation of ecological policy tied with ecosystematic functions. Problem solving lies in economic domain, and can be conducted by means of shifting the interest and value system of economic entities and changing of motivation mechanisms. As driving force here stands an ecosystematic approach and its implementation in the sphere of environmental policy. Application of this approach is topical enough as nature is quite vulnerable and its balance is highly fragile.

Analysis of recent researches and publication. Scientific analyses and works on the issue of ecosystem approach are outlined in the papers written by both foreign and domestic scholars such as: B. Burkynsyy, B. Danylyshyn, G. Daley, T. Konctanza, T. Kosyli, E. Mishenina, Y. Odum, R. Perelet. S. Rassdnikova, .N Khumarova. However, a number of aspects on this issue remains understudied. Thus, there is a necessity to explain systems of interaction between ecosystems and ecosystematic approach in the sphere of environmental policy.

Main purpose of the article. The aim of the article is to ground topicality and overview of cases where there is applied an ecosystematic approach in the sphere of environmental policy

Instability and lack of balance always predominance numerous kinds of events course. In a such way uncertainty today means a variety of twists and turns tomorrow or in the nearest future. As a confirmation to mentioned above stands expertise of global society, which defined major mankind problem in the nearest time period [1].

So, the world's challenge poses deficit of natural resources. And that is why occurs the need of conscious consumption of natural resources and effective governmental ecological policy. Under rational use of natural resources here stance such system of natural resources consumption, in which their quantity would be minimized. Such system should ensure the renovation of renewable resources. It has to reuse the production waste.

In order to achieve terms listed above there has to be implemented efficient state's ecological policy, which is stated in the Act of Ukraine on the basis of principles (strategies) of the State Environmental Policy of Ukraine by 2020 [2].

In the law are listed several principles, including the principle of providing balance between ecological, economic and social interest or public development; maintenance of environmental security and ecological balance throughout the territory of Ukraine. But in practice there is a reverse effect: the volume of natural ecosystems decreases and the environment becomes more and more polluted. And here occurs the obvious problem: in ability of the environment to compete with the needs of society.

These distractive trends are taking place due to several reasons, such as:

- uncertainty of power-property relations in the sphere of national use of nature resources;
- permanent transformations and institutional ambiguity of environmental management bodies, and also disorder among levels of government; mainly fiscal system orientation of the environmental taxation system;
- lack of influence (penalties) on ecologically constructive behavior of contaminants to prevent irrational use of neutral resources;

- absence of "green" taxes as well as tax and credit preferences, which encourage environmental business initiatives;
- non-correspondence between issue payments and caused damage;
- under development of certain implementation of environment policy instruments such as ecological audit, insurance, strategic environmental assessment;
- absence of effective ecological control system, which is currently indulgent to those who breach economic responsibility measures.

Eventually, it is clear that the development of the environmental policy has to take place within market economy, innovations, institutional factors, associated forms of appropriation of ecosystem benefits. Fundamentally important are other management regulations and actions at all levels that insure economically effective, social oriented and ecologically safe use of natural resources. The issue concerns in greater extent not the adjustment of environmental policy but completely new approach – the ecosystem one.

Ecosystem approach is one of the most important mean to preserve natural ecosystems integrity, that are able to counter act to disastrous human intervention. In fact, natural ecosystems act as guarantor of environmental stability and at the same time the most important structural unit as well as the roots of the life itself. Therefore, the issue of ecosystems' preservation and restoration aimed at insurance of sustainable development gains extreme importance.

New and controversial concept of an ecosystem approach became widespread in 90s. For the first time such approach was introduced under Convention on Biological Diversity Protection [3]. According to this document, ecosystem approach is a strategy of integrated management of land, water and biological resources, which ensures their conservation and sustainable use on the equitable basis. The approach acknowledges that a human serves as integral part of ecosystem. Also, the document contains 12 principles, which are interrelated and have to be applied to as integral system. According to the convention, the main principles are the following:

- the main feature of ecosystem approach is to preserve ecosystem's structure and functions;
- the ecosystem management has to take into account the inevitability of change;
- considering variability of the temporal characteristics and the possibility of delayed results, inherent to ecosystems' processes, the ecosystem management objectives have to be long term ones ;
- ecosystem approach has to consider all forms of relevant information, including scientific data and local experience, innovations and practical methods;
- ecosystem approach should unite all interested society groups and scientific disciplines.

Environmental policy, based on the approach specified above, should be grounded on the system paradigm, which implies multilevel approach and the principal of complementarity in ecological management, covering all levels and branches of power related to development and implementation of nationwide, though regionally diversified, environmental policy. As tragic consequences of nature and society destruction violate ecosystems laws and lead to irreversible damages.

The top priority gains the focus of ecosystem approach in implementation ecological policy on the regulation property relations appropriation, household use, restoration and protection of ecosystem goods, taking into account structural and functional integrity of environmental systems. Undoubtedly, there have to be considered regional difference of territories with different ecosystem goods respectively [3].

Definition of ecosystem services as economic category, despite numerous researchers, is still unformulated. There is no single approach to interpreting essentially meaningful categorical definition as it's classification. Ecosystem services have multiple definitions and are treated as: ecosystem good, ecosystem products, ecosystem goods, and often one term is substituted by another one, which is caused by difficulty of interpreting results of the ecosystem functioning processes [4].

In this article ecosystem services are referred as the flows of ecosystem good (benefits) and values. One of the important features of numerous ecosystem services is that its usage by one entity does not preclude the possibility of their use by another subjects [5]. That is why the goal of preserving this part of natural capital has to be treated in the context of cooperation, not the competition, which means appliance of ecosystem approach.

Modern tools applied for ecosystem services management are financial and organizational. To the financial tools, used by government belong the following:

- state (local) targeted and budget programs;
- preferential taxes;
- duties and tariffs;
- governmental guarantees of financial operations related to ecosystem services (including profits and expenses) and securitization (the process of providing to the financial non-current assets the form of liquid security, which are maintained and provided by both the very assets and cash flows generated by it assets [6]).

Organizational instruments are predominantly creating state-private and public-private partnerships.

The worlds practice is managed by the Harridan declaration, aimed at resolving the principles of charges system formulation, according to which charges are paid for use of ecosystem services [7]. This document is developed on the basis of generalized practice of many countries, in which exists the market of ecosystem services. It was compiled on the basis of principles that can be also projected on our country. The main ones are:

- improving methods of quantitative assessment for ecosystem services taking into account hierarchical levels;
- ecosystem services are complexed product that is why there is a need to establish property modes and adequate cost allocation on maintaining ecosystem functions and benefits from its application. The benefits from ecosystem services have to get producers of these services. Efficiency of ecological services depends on co-existence with other mechanisms and instruments.

To such instruments belong: taxation, subsidizing environmentally oriented business projects, project programming, strategic ecological assessment, etc.

For example, budget subsidizing is provided under the conditions of compliance with certain nature protection criteria and use of resources-saving technologies calculated per ton of commercial organic products, per one hectare of farmland. Such practice is widely used

by European Union countries. Here under common agricultural policy it is expected to provide to farm households, mainly in the form of direct payments, more than 100 billion euro to stimulate the use of resource saving technologies for agricultural purposes aimed at gaining ecological benefits [8].

As an effective mean of implementation ecological policy, especially in terms of intense anthropogenic pressure may stand implementation of "green" planning, based on the principle of eco-accounting. It is somewhat similar to Strategic Environmental Assessment, but it is aimed at implementation of ecological compensation measures.

At the beginning there is conducted the assessment of region's where will be carried out rehabilitation activities aimed at preservation of environment.

Selected for these purpose territories are forming so-called compensation fond. Implementation of regenerative measures is estimated in the form of eco-points, which are accumulated on special virtual ecologic account or in the environmental registry. This information should be coordinated by relevant governing body on the local government level. The function of the last one can fulfill certain institutional unit, but only that which endows land and property rights to territorial property in the local administration. The sponsor of rehabilitation activities or local governments can then use eco-points for conducting commercial projects in other arias. Thus, such company station mechanism is on the one hand form of payment by the very investor for the opportunity of commercial project fulfillment and on the other hand sort of credit (loan) given by the sponsor of rehabilitation activities. One of the examples of the equal accounting work is planting of forests as excuse for building multifunctional stadium and industrial facilities of big furniture company in Germany that covered aria of approximately 0,15 km [9].

A part from already mentioned there can be described mechanisms based on that scheme of state-private partnership. Research data, mainly the Worlds Bank's declare the growth in quantity of introduced and implemented projects of state-private partnership in the different sectors of economy [10]. The use of such projects allows conducting risk distribution between state-private partnerships. Moreover, all parties take part in creating edit value. The experience shows, that the appliance of projects by state-private partnership can improve the quality of ecosystem functioning and ensure its rational use. It also allows to give in rent land in state or private ownership [11, 12]. Hence, the expenses of state and local budgets on fulfillment of environmental protection goals are significantly decreased. Furthermore, for creating an effective work of ecosystem services market there should be illuminated economic and legal conflicts in legislation, created or improved regulations, provided conditions for growth of investment attractiveness of environmentally orientated management. Only then, consideration of ecosystem services in economic activity of nature resource users will provide further development aimed at rational use of natural resources and preservation of environment.

Conclusions and further researches directions. The sense of ecosystematic approach is that nature cannot be controlled and protection of ecosystematic functions is highly important for economic development. The role of a human as a profiteer of natural resources under such approach is aimed at preservation of natural environment. Ecosystems are regarded as crucial assets of natural capital. Thus, the implementation of ecosystematic

approach has to become a promising way of conducting effective governmental ecological policy.

And here comes in mind for famous laws of ecology [13], which can be fully equal to implementation of ecosystematic approach in the sphere of ecological policy: everything is interconnected (the principal of integrity), everything has to go somewhere, the nature knows better (this statement has dual meaning: on the one hand to get closer to the nature and on the other hand to treat it cautiously), nothing is given for gratis (means inevitable loss of something on the way of achieving something new).

The use of ecosystematic approach, contrary to others allow us to access more accurately the state of and environment and on this bases lead the development of processes in the frameworks of more effective and topical approaches to formulating the model of national environmental policy development.

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**РЕАЛІЗАЦІЯ ЕКОСИСТЕМНОГО ПІДХОДУ В
ЕКОЛОГІЧНІЙ ПОЛІТИЦІ**

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Визначено умови які дають підстави стверджувати про необхідність використання екосистемного підходу для реалізації екологічної політики. Характеризуються принципи та властивості означеного підходу. Екосистемні послуги досліджуються як складова екосистемного підходу. Розглянуто ряд інструментів для використання при управлінні екосистемними послугами. Акцентовується увага на зеленому плануванні, як одному з ключових інструментів. Обґрунтовано необхідність розробки схеми державно-приватного партнерства. Яке дозволить підвищити якість функціонування та забезпечення раціонального використання екосистем. Доведено, що використання екосистемного підходу дає великі можливості для оцінювання стану навколишнього природного середовища та раціонального використання природних ресурсів, що дозволяє вибудовувати ефективні підходи для реалізації екологічної політики.

***Ключові слова:** екосистемний підхід, екологічна політика, екосистемні послуги, інструменти, принципи.*

**РЕАЛИЗАЦИЯ ЭКОСИСТЕМНОГО ПОДХОДА В
ЭКОЛОГИЧЕСКОЙ ПОЛИТИКЕ**

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Определены задачи указывающие на необходимость использования экосистемного подхода при реализации экологической политики государства. Дана характеристика принципов и свойств изучаемого подхода. Показано применение экосистемных услуг как составляющей экосистемного подхода. Детально рассмотрены некоторые инструменты для использования управления экосистемными услугами. Уделено внимание зеленому планированию, как одному из ключевых инструментов. Обоснована необходимость разработки схемы государственно-частного партнерства. Что позволит повысить качество функционирования и обеспечения рационального использования экосистем. Доказано, что использование экосистемного подхода дает большие возможности для оценивания состояния окружающей среды и рационального использования природных ресурсов. И таким образом позволяет выстраивать эффективные подходы для реализации экологической политики.

***Ключевые слова:** экосистемный подход, экологическая политика, экосистемные услуги, инструменты, принципы.*