

# “Aligning the social, environmental, and economic interests of “green growth” of the Ukrainian nature reserve fund objects”

## AUTHORS

Natalya Andryeyeva  <https://orcid.org/0000-0002-9960-559X>

 <https://publons.com/researcher/2339819/natalya-andreeva/>

Nina Khumarova  <https://orcid.org/0000-0001-5255-8004>

 <https://publons.com/researcher/2004596/nina-i-khumarova/>

Tatiana Nikolaychuk  <https://orcid.org/0000-0001-6268-7723>

## ARTICLE INFO

Natalya Andryeyeva, Nina Khumarova and Tatiana Nikolaychuk (2019). Aligning the social, environmental, and economic interests of “green growth” of the Ukrainian nature reserve fund objects. *Environmental Economics*, 10(1), 93-104. doi:[10.21511/ee.10\(1\).2019.07](https://doi.org/10.21511/ee.10(1).2019.07)

### DOI

[http://dx.doi.org/10.21511/ee.10\(1\).2019.07](http://dx.doi.org/10.21511/ee.10(1).2019.07)

### RELEASED ON

Friday, 10 January 2020

### RECEIVED ON

Monday, 25 November 2019

### ACCEPTED ON

Saturday, 28 December 2019

### LICENSE



This work is licensed under a [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/)

### JOURNAL

"Environmental Economics"

### ISSN PRINT

1998-6041

### ISSN ONLINE

1998-605X

### PUBLISHER

LLC “Consulting Publishing Company “Business Perspectives”

### FOUNDER

LLC “Consulting Publishing Company “Business Perspectives”



NUMBER OF REFERENCES

26



NUMBER OF FIGURES

0



NUMBER OF TABLES

1

© The author(s) 2025. This publication is an open access article.



BUSINESS PERSPECTIVES



LLC "CPC "Business Perspectives"  
Hryhorii Skovoroda lane, 10,  
Sumy, 40022, Ukraine

[www.businessperspectives.org](http://www.businessperspectives.org)

**Received on:** 25<sup>th</sup> of November, 2019

**Accepted on:** 28<sup>th</sup> of December, 2019

© Natalya Andryeyeva, Nina Khumarova, Tatiana Nikolaychuk, 2019

Natalya Andryeyeva, Doctor of Economics, Professor, Chief Researcher of the Department of Economic and environmental problems of the coastal regions, Institute of market problems and economic-ecological researches of National Academy of Sciences of Ukraine, Ukraine.

Nina Khumarova, Doctor of Economics, Senior Researcher of the Department of Economic Regulation of Environmental Management, Institute of market problems and economic-ecological researches of National Academy of Sciences of Ukraine, Ukraine.

Tatiana Nikolaychuk, Postgraduate student, Department of Economic Regulation of Environmental Management, Institute of market problems and economic-ecological researches of National Academy of Sciences of Ukraine, Ukraine.



This is an Open Access article, distributed under the terms of the [Creative Commons Attribution 4.0 International license](https://creativecommons.org/licenses/by/4.0/), which permits unrestricted re-use, distribution, and reproduction in any medium, provided the original work is properly cited.

Natalya Andryeyeva (Ukraine), Nina Khumarova (Ukraine),  
Tatiana Nikolaychuk (Ukraine)

# ALIGNING THE SOCIAL, ENVIRONMENTAL, AND ECONOMIC INTERESTS OF "GREEN GROWTH" OF THE UKRAINIAN NATURE RESERVE FUND OBJECTS

## Abstract

The article is devoted to the issues of forming the institutional basis for "green growth" of the Ukrainian Nature Reserve Fund territories in the context of aligning the society's social, environmental, and economic interests. The methodological approaches to forming the institutional basis for "green growth" of the Ukrainian Nature Reserve Fund territories in conditions of the need to transform the approaches regarding the interaction with small and medium-sized businesses were developed. The main focus is on the issues of studying the existing institutional risks, institutional "traps," and ensuring the stakeholders' functional interaction. The proposed scheme for managing and planning the spatial development of the Nature Reserve Fund territories is based on business planning, "micro-K modeling" method, strategic monitoring method. Based on the complex combination of ecosystemic and polyfunctional approaches, the typology of Nature Reserve Fund territories management functions and "green growth" indicators system was defined. The institutional framework was formed, which enables to ensure aligning the society's social, environmental, and economic interests.

## Keywords

territory, spatial development, institutional "trap", indicators, management, Ukraine

## JEL Classification

Q23, Q26, Q28

## INTRODUCTION

The existing international approaches towards the active development of recreational and ecosystemic services sphere motivate the stakeholders in the Nature Reserve Fund sphere to search for opportunities for joining these tendencies based on the United Nations Organization principles and 17 Sustainable Development Goals. One of the directions for implementing the state environmental policy is building the environmental network in Ukraine, which aims at preserving the landscape and biological diversity and creating new Nature Reserve Fund objects. The Nature Reserve Fund area, which, according to the Environmental Network Formation Program (2012), should be 15% of the country's area (now it is about 6%), should be expanded taking into account ensuring the paths for migration and distribution of the plants and animals species (so-called eco-corridors). At the same time, a complex of measures, stipulated by the Environmental Network Formation Program at the account of Ukrainian State Budget, and the enterprises of all ownership forms, is not sufficiently financed. The measures of the Ukrainian National Environmental Network Program regarding expanding the area of the lands with natural land-

scapes to the level being sufficient for preserving their diversity in the Ukrainian regions, further require searching for additional investments and transforming the approaches regarding the interaction with small and medium-sized businesses.

According to the World Trade Organization classification, one of the directions that quickly develop in the services industry over the world are the services connected with environmental protection; tourism and the related services; services on leisure activities, cultural and sport events; other related services. Nowadays, the international practice witnesses the process of active creation of hubs based on Nature Reserve Fund institutions, or according to directions of their activity (e.g., recreational hub, ecological learning hub). A hub can become a kind of a conservation center, where the small and medium-sized businesses will conclude the contracts with its management. Such a direction as “Green-food,” i.e., creating the network of catering establishments, which will work at the territories of the Nature Reserve Fund objects and use the ecologically clean raw materials, has gained widespread use. Such directions as “event,” holding the birthdays, organizing the festive events, anniversaries, themed evenings at the Nature Reserve Fund infrastructure objects; organizing and holding the contests of children’s creative works, master classes, presenting the children’s literature for children of different age within the protected areas together with the non-state educational and upbringing institutions; “eco-beauty” – organizing and holding the beauty contests, presenting the ecologically-oriented cosmetics events at the Nature Reserve Fund objects territories. The formation of the ecologically-oriented real estate market, i.e., building the infrastructural objects at the territories adjacent to Nature Reserve Fund institutions, which should be positioned as ecologically clean areas or areas with smaller coefficient of air pollution, etc., deserves special attention. The abovementioned directions are also partially implemented in Ukraine, some institutional gaps that lead to increased level of anthropogenic load on the conservation areas.

## 1. THEORETICAL BASIS

In recent years, conservation activities, problems of forming and developing the Nature Reserve Fund territories become the object of different studies. Such works as Bennett (2004), Jongman, Külvik, and Kristiansen (2004), Opdam, Steingröver, and Van Rooij (2006) are methodologically significant for ensuring “green growth” in the developing countries.

Significant number of works on institutional theory, public administration, and environmental economics study some aspects of defining the institutional norms and functions. So, Knopf, Lariu, Varon, and Malysheva (2010), Eggertson (2005), Lowndes (1996) study the political factors of economic development, Brennan and Buchanan (2005), Ostrom (1990), Mokyr (2002) are inclined toward social nature of their appearance. Coase (2007), North (1997, 2010) analyze the environmental specifics of social development. Furubotn and Richter (1991) analyze the peculiarities of state policy transformations. Gradstein (2008) defines the interaction and the interrelation between institutional “traps” and economic growth.

The formation of the environmental network at the national level was studied in the works of Shelyag-Sosonko, Grodzinskiy, and Romanenko (2004), where they proposed one of the first general schemes of the Ukrainian national environmental network formation, having developed the scientific proposals concerning the improvement of the scheme for formation of its natural territories with different level of anthropogenic impact; Denysyk (2010) who paid attention to anthropogenic landscapes of environmental networks; Shvayko and Maniuk (2017) who offered the algorithm for forming the environmental network of sub-regional level using the software QGIS. Izakovičová and Świąder (2017) studied the problems of forming the environmental networks in Slovakia and Poland and many other scientists. However, the issues of transformation of the Ukrainian institutional environment regarding the formation of the interrelations among the Nature Reserve Fund subjects in the context of eliminating the institutional “traps” and aligning the society’s social, environmental, and economic interests were not sufficiently studied.

Of course, the institutional trap can be avoided or eliminated at the account of revising the rules for forming the organizational (enterprise) structure and the structure of their interrelations in the context of transactional, transformational expenses and the level of integration of inefficient institutions into the economic activity, i.e., with the help of management mechanisms, one can model the relationships between the economic agents, us, and state authorities by way of regulating all the expenses of the economic entities (Legislation of Ukraine, 1992, p. 138). The modern organizational and economic system of the Ukrainian Nature Reserve Fund (hereafter, NRF) management is based several normative legal acts, the main of which are Law of Ukraine “On Nature Reserve Fund of Ukraine” (2019). According to Law of Ukraine “On the Main Principles (Strategy) of the National Environmental Policy for the Period until the Year 2030”: Law of Ukraine as of 28.02.2019 No. 2697-VIII (hereafter, Strategy), nowadays, the Ukrainian Nature Reserve Fund comprises 8,246 territories and objects with the area of 3,98 million hectares (6.6 percent of the total area of the country) and 402,5 thousand hectares in the waters of the Black Sea. The share of the Nature Reserve Fund lands in Ukraine is insufficient and remains significantly smaller than in the majority of the European Union member states, where the share of such lands is, on average, 21 percent of the area of the European Union member states.

According to the Strategy, the main obstacles in the sphere of biological and landscape diversity protection are absence of clearly defined strategy of the conservation affairs development; imperfect Nature Reserve Fund sphere management system; low level of financial and material and technical support of the organization and functioning of Nature Reserve Fund; absence of unified payroll system, social guarantees, and benefits for their employees; increased threat of losing the valuable natural complexes, reserved and promising for further setting up nature reserves; unsatisfactory pace of establishing the boundaries of protected territories, including the coastal lanes along the seas, rivers and around the ponds, playing the role of ecological corridors, and others (Martiienko & Khumarova, 2017).

The complexity of forming and implementing the normative and legal acts concerning aligning the social, economic, and environmental interests in connected with the fact the Ukrainian Nature Reserve Fund includes different types of territories, which require the corresponding organizational and economic mechanisms of management, which take into account the specifics of nature reserve according to the following typological features:

- a) depending on origin: natural territories and objects (nature reserves, biosphere reserves, national nature parks, regional landscape parks, reserves, natural monuments, reserve tracts) and artificially created objects (botanical gardens, dendrological parks, zoological parks, parks – garden and park art monuments);
- b) according to the security regime: nationally significant (nature reserves, national natural parks), locally significant (regional landscape parks, reserve tracts), nationally or locally significant objects (reserves, natural monuments, botanical gardens, dendrological parks, zoological parks, parks – garden and park art monuments), internationally significant (biosphere reserves);
- c) according to legal status: objects that are legal entities (nationally significant nature reserves, biosphere reserves, national natural parks, regional landscape parks, botanical gardens, dendrological parks, zoological parks), objects that are not legal entities (reserves, natural monuments, reserve tracts), objects that can be created both as a legal entity and the one without rights of a legal entity (locally significant botanical gardens, dendrological parks, zoological parks, parks – garden and park art monuments).

The society as a whole, state, households, separate groups, natural persons are the subjects of social, economic, and environmental interests of the NRF allocation. NRF environmental security, social benefits (national health), economic benefits (ecosystemic goods and services) are the objects of social and environmental interests of the Nature Reserve Fund allocation.

The methodology for managing the NRF objects as a basis for implementing the “green economy” philosophy in Ukraine should be directed towards preventing the social, economic, and environmental conflicts and aligning these interests, in particular, in the institutional and legal field. In the study, it is proposed to use the methods for managing the NRF territories and objects, namely the methods of personnel management and methods of economic activity management, which is performed within these territories and objects:

- 1) development of the experimental methods for managing the Nature Reserve Fund territories, e.g., smart “land and environmental management,” “smart sustainable land management (SSLM)” or “conservation” or “protection” management;
  - 2) reforming the personnel management system by separating the concept “natural management/consulting,” which will enable to form the labor market sector that really will improve the management quality in the institutions of the relevant field. In the presence of the effective preferences or benefits from the state, such an instrument will enable to involve the “top-managers” of the country in reforming the NRF is possible to form the separate category of such specialists as “crisis manager” or “development manager” (Natural Fund Crisis manager/Natural Fund Development manager) who will be involved in case of creating new Nature Reserve Fund institutions or reserving the territories, etc. The relevant subjects are temporary (can take part on a freelance basis according to the contract or contractor agreement, they perform the scope of tasks, stipulated in the reforming plan or business plan and convey the control right to the permanent manager;
  - 3) implementing the planning methodology, which is based on systematizing the methods existing in the world and in Ukraine, in particular:
    - business planning – developing the detailed business plan or management plan, without exact territorial snap, but taking into account the territorial zoning, and that will take into
- account all the production aspects, as a private partner takes a risk in terms of not only time, work, and business reputation but also the money invested – his/her own and/or that of the companions-shareholders;
- method of cybernetic planning of the NRF object, which will enable to include the economic, social, environmental, institutional and legal, historical and cultural, recreational and tourist, geopolitical, investment constituents simultaneously when planning the future reserve territory, to form the transparent and available projects, according to which the interests of the state, local community and representatives of the economy’s private sector, landowners (when having the private ownership for the relevant territories) [10/9] will be balanced;
  - “Micro-K Modeling” method, which is a variant of the strategic cybernetic planning of important environmentally-oriented tasks or projects in the sphere adjacent with conservation, based on the dynamics of statistical data, flexible to correlation, is the second-level method;
  - 4) improving the strategic monitoring system (monitoring the results of state-private partnership, monitoring the agreements between the NRF institution and private enterprise, economic and environmental effectiveness and effectiveness of the concession agreements, franchising, etc.) and developing the system of indicators and the algorithm for evaluating them in terms of compliance with the requirements of acting legislation, which can significantly reduce the number of violation of the legislation of economic and environmental direction.

The abovementioned methods for managing the NRF territories enable to take into account the regional specifics and typical features of the reserve objects and direct the managerial decision of the local and national authorities towards preventing the conflict situations and aligning the social, economic, and environmental interests of different NRF interested subjects and stakeholders. Thus, to form the ground for overcoming the so-called institutional “traps.”



The study aims to form the institutional basis for “green growth” of the Ukrainian NRF territories in the context of aligning the society’s social, environmental, and economic interests.

## 2. RESULTS

The need for aligning the social, economic, and environmental interests in using the NRF is caused by the need for performing the UNO 17 Sustainable Development Goals, in particular, Goal 15 about the protection and renewal of natural ecosystems, including conservation, renewal, and sustainable use of the reserve fund; the need for expanding the network of protected areas; involvement in the nature-oriented and the accompanying environmentally safe types of legal entities and natural persons activity; development of new forms of effective entrepreneurship and getting a profit for NRF based on reducing the pollution and depletion of natural resources.

Regulating the relationships concerning avoiding the institutional “traps” and preventing the conflict situations, and aligning the social, economic, and environmental interests in the NRF sphere in terms of the economic constituent can be represented as follows: limitations in the allocation of the NRF objects; relationships concerning the conservation activities in the NRF sphere, controlling its state and influence on other natural objects and the human; relationships concerning allocating the NRF resources based on their usage by the subjects of ownership, according to the directions of conservation and economic activity and the ways of usage; the system of relationships concerning allocating and distributing the income and losses, appearing as a result of owning, using, and disposal of natural resources between the state, subjects of ownership, and third parties.

Preventing conflict situations and aligning the social, economic, and environmental interests in the NRF sphere shows the self-standing usage of nationwide natural resources of protected areas in the public labor distribution. Separately, one should take into account that creating the NRF territories and objects in Ukraine requires implementing the system of limitations and encumbrances concerning the certain land plots and the

possibility of fixing the territories’ boundaries, according to which the defined conservation regime (legally regulated form of nature conservation) is implemented.

In Ukraine, during the times of independence, the bodies were reorganized manifold that made the administrative decisions and accepted the documents certifying the right to use the land plots. It means the forms of ownership were changing, which became a prerequisite for creating the so-called “institutional hinges” in defining the land relations, including the NRF objects because the latter, in different years, had a special legal status, security regime, and, correspondingly, the right for using the land plots.

The existing institutional basis of the environmental economics and its relevant organizational and management support at the state, regional, and local levels show the aggravation of the contradictions in the sphere of biological and landscape diversity protection, as well as expanding the NRF, including the conflicts concerning allocating the natural resources and creating new conservation objects. The essence of the conflicts is closely connected with the specifics of the Ukrainian NRF management system. Let us consider its main peculiarities in more detail (Legislation of Ukraine, 2002).

The growing social, environmental, and economic role of the NRF for the development of Ukraine and its people and the appearance of the movement concerning the aspiration of some persons to live at more environmentally clean territories led to the increased number of lawsuits concerning the appeal of the boundaries of NRF territories and land plots, unauthorized occupation thereof, inappropriate use, the NRF being harmed due to illegal economic activities, etc.

In the context of improving the NRF lands management system, one should propose such a definition thereof – these are legislatively defined lands, included in one of the categories of Ukrainian lands and in the Ukrainian national environmental network, which are spatial and operational basis for taking the environmental measures concerning the especially valuable natural complexes and objects, situated on them, and at the same

time, are themselves the objects of special protection with the special legal regime of creation, reproduction, and usage, which have the special environmental, aesthetic, and recreational value.

Nowadays, the terms “NRF territories” and “NRF plot” are not defined in the Ukrainian legislation. Under the concept “NRF territories” one understands the regime, which covers these territories, and observing the environmental legislation based on a project on organizing the territories of national natural parks, regional landscape parks, etc., and the concept “NRF plot” indicates the right for land plot usage and observing the land legislation (StateGeoCadastr, 2015).

Due to collision of the terms “NRF territories” and “NRF plot” there appear the problems in correctly understanding and using them, which leads to the development of conflict situations and the need for implementing the mechanisms and instruments for aligning the social, economic, and environmental interests of the interested parties. And it also creates the so-called institutional “traps” in the Ukrainian legislation.

So, for example, Prosecutor General’s Office of Ukraine thinks that the reason of such a situation is the slow pace of removing the NRF territories’ boundaries in nature, and that, for a long time, the Ukrainian State Land Agency bodies do not affirm the documents on the NRF objects land management; instead, both the conservation bodies and the State Land Agency bodies affirm the illegal transfer of these land into the ownership and usage for other purposes. According to the Prosecutor General’s Office data, the title documents on the NRF land plots were issued only in 13% of cases (Andryeyeva, Nezdoyminov, & Martyniuk, 2018).

For biosphere reserves, national natural parks, regional landscape parks, the area of lands, given to the NRF institutions into permanent usage, is defined according to the state on the right for permanent usage of the land plot and according to the regulatory document, which created the NRF object or changed its boundaries.

Thus, nowadays, the majority of the NRF territories remains not included in nature and, notwith-

standing their legal status, are not presented in the StateGeoCadastr, which creates the ground for manipulations with the protected lands. At the same time, in recent years, Ukraine witnessed a spread of the practice of NRF lands alienation, including for non-target needs. There exist several mechanisms for NRF lands alienation for non-target usage, in particular, giving the land plots while ignoring the territory’s reserve status; removing the NRF territory boundaries bypassing the plots, given for building; removing the plots from the NRF territory, veiled as the refinement of an area. The abovementioned is the ground for developing the instruments for eliminating the so-called institutional “traps” in the national legislation and aligning the social, economic, and environmental interests of the interested parties.

The innovative approaches to managing the NRF require the transition to more polyfunctional tasks and priorities, which will ensure not only protection, conservation, and reproduction of natural ecosystems, valuable and unique natural complexes, biotopes but also, with the help of organizational and economic and administrative and legal mechanisms, will enable to keep the balance between the regions’ social and economic development (i.e., aligning the social, economic, and environmental interests in the NRF sphere), ensuring the environmental security, and priorities of the protected areas’ sustainable development. Such approaches comply with the priorities of the National Sustainable Development Goals System, developed in Ukraine, which, first of all, should ensure further rational planning of Ukraine’s development, ensure implementing the “green economy” priorities and eliminate the imbalances and institutional “traps,” which exist in the economic, social, and environmental spheres, including the NRF sphere.

Based on the main principles of sustainable development, the environmental (nature-oriented) functions of NRF are those that traditionally are performed according to the existing legislation, for example:

- protection, conservation, and reproduction of valuable natural objects, unique ecosystems, territories from the anthropogenic impact; support of expansion, migration, and/or

genetic exchange of valuable and rare types of flora and fauna; function of planning the territories, which in future will require the regime of special protection and conservation; performing the control over land plots erosion and ensuring the renewal of the damaged territories, etc.;

- state management of the unique territories and objects, including monitoring the environment, conserving the nature; zoning, accounting, and control of the unique plots, which require the special protection regime;
- legal liability (administrative, criminal, environmental, and economic) for violating the procedure of natural resources, including the especially valuable.

At the sametime, achieving the Sustainable Development Goals to implement the priorities of “green growth” requires expanding the abovementioned functions in the direction of:

- taking into account the balance between the environmental and economic interests and economic and social needs of the population when zoning the territory of the region (the state);
- developing the new market instruments, in particular, insurance, marking (e.g., marking the goods, produced of the raw materials, grown at the protected areas – mark NRFp);
- ensuring the access of future generations to environmentally clean land plots, conserving the disappearing and especially valuable species of Ukrainian flora and fauna.

The diversity of the strategic goals of the NRF development and the priorities of “green growth” generates the different models of the indicators, according to which they will be assessed; however, the corresponding indicators should have the systemic and complex nature, take into account the individual geopolitical, environmental and cultural, nature-oriented peculiarities of the region, social and economic characteristics of the local community, status and regime of the NRF object. However, they should not have the formal and sys-

temic nature, but at the same time, not to be subject to the artificial narrowing, which can cause the poor quality analysis and evaluation.

In the context of the abovementioned, the basic indicators for evaluating the influence on the objects and ensuring the NRF “green growth” are proposed, which it is reasonable to use for evaluating the results of performing the public-private partnership agreements:

I. Indicators of sustainable use and the NRF environment protection:

- land resources – the indicator of the state of land pollution by pesticides, heavy metals, radionuclides, toxic substances; the indicator of the state of lands degradation due to anthropogenic impacts, economic activity; the indicator of the activity of the processes, connected with the development of wind and water erosion, waterlogging and salinization, offsets, mud streams, earthquakes, karst, radionuclides, cryogenic and other phenomena (it is reasonable to divide the corresponding indicator according to the types);
- water resources – the indicator of the state of lands, occupied by the treatment facilities, car parking, fertilizers, and other industrial objects; the indicators of the accidental pollution of land plots and its extent; the indicator of defining the environmental and chemical state of the arrays of surface and groundwaters; the indicator of defining the concentration of polluting substances in the arrays of groundwaters, caused by anthropogenic impact (economic activity of the private partner);
- atmosphere resources – the indicator of the emissions of polluting substances into the atmosphere (if necessary, it is reasonable to divide the corresponding indicator according to substances: sulfur dioxide, sodium, radioactive substances, etc.); the indicator of the level and the extent of the danger of atmosphere pollution for environment, representatives of flora and fauna, which is within the NRF object territory and the population’s activity; the indicator of the state of land plots usage;



- biodiversity – the indicator of the influence on biodiversity and the representatives of the fauna within the NRF territory.

II. Indicators of the NRF economic performance: dynamics of investment growth, targeted financial aid after implementing the public-private partnership projects; dynamics of the regional environmental and economic and social development; increasing number of entrepreneurs who cooperate with the NRF, expanding the sphere of the economy's private sector activity; dynamics of touristic, recreational, environmental and economic potential of the region where NRF is located.

III. Indicators of the NRF social security:

- the indicator of the dynamics of the local population health state (decrease or increase of the number of sickness certificates for the respective period, visits to family doctor, etc.); increasing number of workplaces after the public-private partnership project was finished; dynamics of involving separate categories of the personnel (workers of rare professions, young specialists, persons who were trained or retrained abroad), changes in the personnel economic and social and psychological stimulation system.

The evaluation of the economic and environmental effectiveness of the measures, implemented for developing the conservation industry as a whole can be defined based on the results of defining several positive and negative indicators, in some cases, it is necessary to define based on reference values; it is based on transparent calculation of the effectiveness indicators that one can define the weaknesses of concession or rent agreements, which should be corrected.

With the aim to define the needs of modern society, performance and balance of the development of conservation affairs in Ukraine, it is reasonable to develop a set of indicators, which enable to analyze the dynamics of implementing the environmental measures in terms of its reforming and improving the Ukrainian policy. The conservation affairs as a strategically important sphere of the country's national economy should be defined using the specific indicators, which

will promptly and dynamically reflect the level of institutional transformations and reforms in the industry. In our opinion, these are the indicators of the NRF "green growth" based on the international paradigm according to the following directions:

- social and labor and economic and labor indicators for NRF (the indicators that reflect the level of development of the financial instruments for encouraging the employees, the measures on retraining and reprofiling the staff, e.g., the indicators of regulating the increase of labor productivity, the presence of the phenomenon "continuity of generations," the number of persons who were educated, retrained, and reprofiled abroad);
- economic and environmental tasks and indicators for NRF (the indicators of cooperation the private-legal institutions, the representatives of the economy's private sector, the presence of innovative economic and nature conservation directions of activity, e.g.: the number of joint projects of the NRF institutions and the environmental organizations, funds; using the environmentally clean fuel-powered vehicles – hybrids, electric cars);
- institutional tasks and indicator for NRF (the indicators that show the level of preventive measures in terms of violating the environmental legislation, development of administrative and informational instruments, e.g.: the indicator of perceiving the corruption in the NRF institutions on the part of local population (local communities), the representatives of the economy's private sector; the share of the representatives of the economy's private sector, which are satisfied with the cooperation with the NRF institutions management in terms of providing the services to population). The expanded information concerning defining the institutional and financial, normative tasks and the system of indicators of evaluating the priorities of the NRF "green growth" is given in Table 1.

According to ensuring the balance concerning the environmental, economic, and social constituents of sustainable development, the following NRF

**Table 1.** Institutional and financial, normative tasks and indicators of the NRF “green growth”

No.	List of the institutional and financial, normative tasks	Indicators for evaluating the NRF “green growth”
1	Reducing the number and the level of the environmental legislation violations	Indicator 1.1 Number of violations found by the officials of the State Guard Service that are subject to the Criminal Code of Ukraine for 12 calendar months, units
		Indicator 1.2 Number of violations found by the officials of the State Guard Service that are subject to the Code of Ukraine on Administrative Offences for 12 calendar months, units
		Indicator 1.3 Level of trust to NRF institution State Guard Service among the local population, %
		Indicator 1.4 Level of the citizens’ awareness of their environmental rights and duties and the rule of behavior at the territories, which are referred to the reserve fund, %
		Indicator 1.5 Number of measures of preventive, educational, and informational nature, taken by the officials of the State Guard Service for 12 calendar months, units
		Indicator 1.6 Number of seized tools for illegal catch of water bioresources for 12 calendar months, units
		Indicator 1.7 Sum of taxes paid by NRF institutions due to bringing to administrative responsibility of environmental legislation violators for 12 calendar months, UAH thousand
2	Increasing the performance of the state authorities and local governments in terms of regulating the NRF activity	Indicator 2.1. Indicator of perceiving the corruption in NRF institutions on the part of business circles and experts, public organizations, environmental funds, %
		Indicator 2.2 Indicator of perceiving the corruption in NRF institutions on the part of local population (local communities), representatives of the economy’s private sector, which perform the economic activity in the region where NRF is located, %
		Indicator 2.3 Share of the population, satisfied with using the services, provided by NRF institutions, %
		Indicator 2.4 Share of the representatives of the economy’s private sector, satisfied with the cooperation with the NRF institutions management in terms of providing the services to population, %
3	Increasing the performance of NRF institutions management, reforming the conservation industry by way of cooperation with the economy’s private sector and expanding the partnership boundaries	Indicator 3.1. Number of public-private partnership projects in the sphere of conservation affairs for 12 calendar months, units
		Indicator 3.2 Number of concluded and performed agreements within the public-private partnership in the NRF sphere for 12 calendar months, units
		Indicator 3.3 Number of concluded and termed agreements within the public-private partnership in the NRF sphere for 12 calendar months, units
		Indicator 3.4 Number of risk insurance agreements within the public-private partnership in the NRF sphere for 12 calendar months, units
4	Forming the new budget and tax policy for NRF institutions, tax burden distribution, creating the different tax levels, forming the system of quasi-refund of taxes for the representatives of the economy’s private sector, which work with NRF institutions	Indicator 4.1. Number of state tax programs of innovative nature, aimed at liberalizing the excessive burden on private entrepreneurs, which cooperate with NRF institutions for 12 calendar months, units
		Indicator 4.2 Number of state program of economic and stimulating nature, aimed at involving the non-state financial institutions (banks, credit unions) in the cooperation with the NRF institutions for 12 calendar months, units

*economic and environmental functions* were proposed to be defined:

- organizational function, which is performed by way of managing the economic entities taking into account the economic and social needs of the region and observing the conservation imperatives (e.g., implementing the principle of “environmental impartiality”); implementing the mediation activity (e.g., creating the specialized “environmental agencies” that provide the mediation services for environmental entities and get a profit in % for coordination activity, methodological support, etc.); involving the banking institutions, credit unions, broker agencies, etc. in the cooperation;
- coordinating the usage of natural resources, preventing its irrational usage when performing the conservation, economic, or other activity based on: involving the innovative eco-

conomic and environmental instruments for the industry development (institute of limitations and encumbrances, institute of surety, institute of representation); forming the institutes of state and private and economic nature (e.g., by way of implementing the public-private partnership programs));

- stimulating the development of the conservation and environmentally-oriented economic activity at the protected areas based on such organizational and economic mechanisms as forming new types of economic and legal relationships (structures) and implementing then into the reserve fund sphere (concession, franchising, vouching);
- economic motivation, including the credit function (e.g., developing the credit and financial cooperation of interindustry direction, creating the mechanism of targeted “reserve” crediting of the economy’s private sector representatives); tax function (e.g., implementing the new system of environmental taxes for certain group of private entrepreneurs – medium-sized enterprises (e.g., for those who got the net income of more than UAH 1 billion during the calendar year) – will enable to constantly receive the funds, which be directed towards the current goals of the NRF institutions, and forming the institute of “ecosystemic services”);
- transforming – the development of the innovative forms of recreation, health, tourism activity (e.g., “reasonable tourism” [i.e., tourism that provides for disciplined and saving/rational nature resources usage] or “influence-free tourism” [i.e. tourism that does not have any negative effect on the environment, valuable territories and environmental objects]; development and approval of the system of minimum acceptable standards for the entrepreneurial activity in the conservation affairs sphere, e.g., “NRF standards” and based on it, creation of branding (i.e., formation of nature reserve brand or trademark); formation of the system of crisis environmental management or so-called “development management” for low-yield directions of economic activity at the protected areas;

- control – creating the ramified system of financial and sanction instruments and violators of both the environmental legislation and the norms of environmentally-oriented economic activity.

It is reasonable to define the following social functions that the NRF objects can perform:

- staff assistance function, in terms of creating new workplaces for local population, graduates of higher education institutions who intend to work in the “region of birth”; and social support, i.e., developing the joint programs for socially unprotected strata of the population (e.g., financial assistance to the employees of the NRF institutions and the unemployed pensioners in the conservation affairs (e.g., those who received the industry rewards while working) for housing repairs in case of its destruction or damage due to disaster or fire not by the fault of the injured person);
- historical and cultural, educational function, which includes: protecting and conserving the architectural monuments, centers for spirituality, located within the protected areas; forming the environmental culture, behavioral ethics, and interaction with the environment; creating the system of economic and social and psychological instruments, which encourage the local population and potential tourists to respect the NRF objects; forming the internal psychological orienting points of rational attitude to natural resources, forming the public phenomenon of “national nature conservation consciousness”; afterschool and youth education (acquaintance of pre-school age and primary school-age children with the authors’ children’s literature of nature-oriented, environmental and educational direction, which, in a form of essays, fairy tales, short stories, illustrations, will form on a part of children the need for careful attitude to the unique territories, valuable natural complexes, and objects);
- recreational and entertainment function, which is performed based on creating the interindustry programs of cooperation in terms of providing the medical services to the pop-

ulation, “green-MED” programs (e.g., cooperation with non-state institutions, which provide the services in the sphere of struggle with negative bad habits (alcohol addiction, drug, gambling addiction) in the sphere of holding the psychological and motivation trainings (unity with nature, changes in the value orientations of the personality, etc.); development of environmentally-oriented tourism-entertainment, event – objects in the regions; holding the sport events – cooperation with sport and sport-recreational institutions, holding the competitions, training, programs for training the professional sportsmen at the reserve fund territories;

- corporate function – expanding the system of economic and social rewards for the NRF institutions staff and representatives of other institutions (e.g., concerning getting the certificates for the banking institutions’ employ-

ees for recreational, tourism services on the part of NRF institutions, located at the corresponding territories);

- function of expanding the monitoring activity at the account of analyzing the dynamics of the region’s development concerning the location of the NRF institutions, forming the economic and environmental and social relationships, the consequences of the effect of entrepreneurial activity on the environment, etc.

The proposed functions and indicators comply with the principles of ecosystemic and polyfunctional approaches. They will enable the strengthening organization of the NRF territories and objects as an affair of state importance in the context of implementing the principles of sustainable development and “green growth,” transforming the Ukrainian legislation taking into account eliminating the existing institutional “traps.”

## CONCLUSION

Thus, using the proposed provisions and institutional priorities concerning aligning the state, private, and public interests of the NRF objects functioning will favor the development of different forms of partnership and attracting additional investment resources for expanding the environmental network and increasing the level of the region’s “green growth.” It can take place owing to fixing in the legislation the ecosystemic imperatives of the Ukrainian NRF “green growth,” which is based on avoiding the institutional “traps,” forming the system for managing the conservation activity, expanding the NRF functions, forming the system of indicators of environmental, social and economic, normative and institutional nature in the sphere of conservation affairs development, forming the system of preferences and benefits for the representatives of the economy’s private sector, etc.

## REFERENCES

1. Andryeyeva, N., Nezdoyminov, S., & Martyniuk, O. (2018). “Green” infrastructure of the economy of recreational nature use. *Baltic Journal of Economic Studies*, 4(4), 6-13. <http://dx.doi.org/10.30525/2256-0742/2018-4-4-6-13>
2. Bennett, G. (2004). *Integrating Biodiversity Conservation and Sustainable Use: Lessons Learned from Ecological Networks*. Cambridge, UK. Retrieved from [http://www.cenn.ge/electronic\\_library/Biodiversity/Integrating%20Biodiversity%20Conservation%20and%20Sustainable%20Use.pdf](http://www.cenn.ge/electronic_library/Biodiversity/Integrating%20Biodiversity%20Conservation%20and%20Sustainable%20Use.pdf)
3. Brennan, Dzh., & Buchanan, Dzh. (2005). Prichina pravil [Reason for the rules]. In A. P. Zaostrovtsseva (Ed.), *Konstitutsionnaya politicheskaya ekonomiya [Constitutional political economy]* (272 p.). SPb.: Ekonomicheskaya shkola. (In Russian). Retrieved from <https://seinst.ru/page49/>
4. Denesyk, H. Y. (2010). Rozbudova ekolohichnoi merezhy v Ukraini: problemy z pohliadu heohrafa [Development of an ecological network in Ukraine: problems from the point of view of a geographer]. *Visnyk Kharkivskoho natsionalnoho universytetu imeni V. N. Karazina* – *Bulletin of the Karazin Kharkiv National University*, 893, 19-22. (In Ukrainian). Retrieved from [http://journals.urau.ua/visnykukhnu\\_ecology/article/view/23442](http://journals.urau.ua/visnykukhnu_ecology/article/view/23442)
5. Eggertson, T. (2005). *Imperfect institutions: possibilities and limits of reform* (274 p.). Michigan (U.S.): The University of Michigan Press. Retrieved from <https://www.jstor.org/stable/10.3998/mpub.91126>
6. Furubotn, E. G., & Richter, R. (1991). *The new institution economics: a collection of articles from the Journal of Institution &*



- Theoretical Economics* (372 p.). Tübingen: Mohr.
7. Gradstein, M. (2008). Institutional Traps and Economic Growth. *International Economic Review*, 49(3), 1043-1066. Retrieved from <https://www.jstor.org/stable/20486827?seq=1>
  8. Izakovičová, Z., & Świąder, M. (2017). Building Ecological Networks in Slovakia and Poland. *Ekológia (Bratislava)*, 36(4), 303-322. Retrieved from [https://content.sciendo.com/configurable/content-page/journals\\$002feko\\$002f36\\$002f4\\$002farticle-p303.xml](https://content.sciendo.com/configurable/content-page/journals$002feko$002f36$002f4$002farticle-p303.xml)
  9. Jongman, R. H. G., Külvik, M., & Kristiansen, I. (2004). European ecological networks and greenways. *Landscape and Urban Planning*, 68(2-3), 305-319. [https://doi.org/10.1016/S0169-2046\(03\)00163-4](https://doi.org/10.1016/S0169-2046(03)00163-4)
  10. Knopfel, P., Lariu, K., Varon, F., & Malysheva, N. (2010). *Analiz i pilotazh publichnoi polityky [Analysis and piloting of public policy]* (424 p.). K.: Vyschyi instytut publichnoho upravlinnia Shveitsarii, Alerta. (In Ukrainian).
  11. Kouz, R., & Kapelyushnikov, R. (2007). *Firma, rynek i pravo [Firm, market and law]* (224 p.). Translated from English by B. Pinsker. Moscow: Novoe izdatelstvo. (In Russian).
  12. Legislation of Ukraine (1992). Pro pryrodno-zapovidnyi fond Ukrainy: Zakon Ukrainy vid 16.06.1992r., 34 [On Nature Reserve Fund of Ukraine]. *Vidomosti Verkhovnoi Rady Ukrainy – Bulletin of the Verkhovna Rada of Ukraine*, 34, 503. (In Ukrainian). Retrieved from <http://zakon5.rada.gov.ua/laws/show/2456-12>
  13. Legislation of Ukraine (2002). Zemelnyi Kodeks Ukrainy: pryiniaty 25.10.2001 r. No. 2768-III [Land Code of Ukraine: adopted on 25.10.2001. No. 2768-III]. *Vidomosti Verkhovnoi Rady Ukrainy – Bulletin of the Verkhovna Rada of Ukraine*, 3-4, 27. (In Ukrainian). Retrieved from <http://zakon2.rada.gov.ua>
  14. Legislation of Ukraine (2013). Pro zahalnodержavnu prohramu formuvannia natsionalnoi ekolohichnoi merezhi Ukrainy na 2000-2015 roky: Zakon Ukrainy (Iz zminamy, vnesenymy zhidno iz Zakonom N 4731-VI (4731-17) vid 17.05.2012 [On the National Program for Creating the National Environmental Network of Ukraine for the years 2000-2015: Law of Ukraine (as amended by Law N 4731-VI (4731-17) of 17.05.2012]. *Vidomosti Verkhovnoi Rady Ukrainy – Bulletin of the Verkhovna Rada of Ukraine*, 15, 98. (In Ukrainian). Retrieved from <https://zakon.rada.gov.ua/laws/show/1989-14>
  15. Legislation of Ukraine (2019). Pro Osnovni zasady (stratehiiu) derzhavnoi ekolohichnoi polityky na period do 2030 roku: Zakon Ukrainy vid 28.02.2019 No. 2697-VIII [On main principles (strategy) of state environmental policy for the period until 2030: Law of Ukraine as of 28.02.2019 No. 2697-VIII]. *Vidomosti Verkhovnoi Rady Ukrainy – Bulletin of the Verkhovna Rada of Ukraine*, 16, 8, stattia 70. (In Ukrainian). Retrieved from <https://zakon.rada.gov.ua/rada/show/2697-19/>
  16. Lowndes, V. (1996). Varieties of new institutionalism: a critical appraisal. *Public Administration*, 74, 181-197. <https://doi.org/10.1111/j.1467-9299.1996.tb00865.x>
  17. Martiienko, A. I., & Khumarova, N. I. (2017). *Ekonomika pryrodokorystuvannia: administratyvne upravlinnia: monohrafiia [Environmental Economics: Administrative Management: monograph]* (300 p.). NAN Ukrainy, In-t probl. rynku ta ekonomiko-ekol. doslidzhen. Odesa: IPREED NANU. (In Ukrainian).
  18. Mokyr, J. (2002). *Thinking about Technology and Institutions*. Department of Economics and History, Northwestern University. Retrieved from <http://faculty.wcas.northwestern.edu/~jmokyr/macalester3>
  19. Nikolaichuk, T. O. (2019). Rozrobka metodu kibernetichnoho planuvannia yak instrumentu suchasnoho rozvytku zapovidnoi spravy [Development of the method of cybernetic planning as a tool of modern development of the protected area]. *Mizhnarodnyi naukovyi zhurnal "ScienceRise" – International scientific journal "ScienceRise"*, 6(59), 13-18. (In Ukrainian).
  20. North, D. (1997). *Instituty, institutsionalnye izmeneniya i funktsionirovanie ekonomiki [Institutions, institutional changes and the functioning of the economy]* (190 p.). Translated from English by A. N. Nesterenko. B. Z. Milner (Ed.). Moscow: Fond ekonomicheskoy knigi "Nachala". (In Russian).
  21. North, D. (2010). *Ponimanie protsessu ekonomicheskikh izmeneniy [Understanding the process of economic changes]* (256 p.). Translated from English by K. Martynova & N. Edelman. Moscow: Izd. dom Gos. un.ta Vyshey shkoly ekonomiki. (In Russian).
  22. Opdam, P., Steingröver, E., & Van Rooij, S. (2006). Ecological networks: a spatial concept for multi-actor planning of sustainable landscapes. *Landscape and Urban Planning*, 75(3-4), 322-332.
  23. Ostrom, E. (1990). *Governing the commons. The Evolution of institutions for collective action* (275 p.). NY: Cambridge University Press.
  24. Shelyag-Sosonko, Yu. R., Grodzinskiy, M. D., & Romanenko, V. D. (2004). *Kontsepsiya, metody i kriterii sozdaniya ekoseti Ukrainy [The concept, methods and criteria for creating an ecological network Ukraine]* (144 p.). Kyiv: UkrFito-sotsiotsentr. (In Russian).
  25. Shvayko, V. M., & Maniuk, V. V. (2017). Strukturuвання ekomerezhi na subrehionalnomu rivni (Pokrovskiy ta Mezhyvskiy raiony Dnipropetrovskoi oblasti) [Structuring of sub-regional ecological network (Pokrovsky and Mezhyv districts of Dnipropetrovsk region)]. *Visnyk Dnipropetrovskoho universytetu – Bulletin of the Dnipropetrovsk University*, 25(1), 119-130. (In Ukrainian). <https://doi.org/10.15421/111713>
  26. StateGeoCadastre (2015). *Derzhzemahentstvo: vstanovlennia na mistsevosti mezh terytorii ta ob'ektiv pryrodno-zapovidnoho fondu prodovzhuietsia [State Land Agency: the establishment of boundaries between territories and objects of the nature reserve fund continues]*. (In Ukrainian). Retrieved from <https://land.gov.ua/info/derzhzemahentstvo-vstanovlennia-na-mistsevosti-mezh-terytorii-ta-obektiv-pryrodno-zapovidnoho-fondu-prodovzhuietsia/>