Instruments of state policy for greening land use in the Russian Federation

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Abstract. The purpose of the study is to verify the main imperatives of environmental management. The working hypothesis is predetermined by the need to meet the requirements of Russia's state policy in the field of compliance with international environmental standards, and the need to harmonise the environmental legislation of the Russian Federation in the structure of international environmental law. To achieve the set goals, it is necessary to solve a number of key tasks: to study the experience of advanced foreign countries in the organisation of nature management, to form socioecological-economic mechanisms of adaptation of optimal environmental solutions in relation to Russian conditions, and to verify the fundamental principles of the effectiveness of territorial-organisational environmental protection measures. Methodological basis is based on the analysis of normative-legal literature in the field of environmental management, synthesis of ideological-theoretical and substantive-substantive approaches to the problem of ecologisation of agro-territorial formations, grouping of attributive features of the system of environmental management. The object of the study is ecological landscape nature management in the paradigm of sustainable socially and socially orientated regional development. The subject of the study is foreign experience in the application of socio-economic and institutional-legal tools to ensure rational nature use. Institutional and socio-ecological-economic mechanisms of rational nature use and harmonisation of environmental policy in the paradigm of international environmental standards are developed, foreign practices of formation of organisational-economic conditions of ecological-landscape management of land resources are analysed.

1 Introduction
The strategic objectives of the Russian Federation in the sphere of nature management and environmental protection (ENP), in general, and land use, in particular, should include: building an environmental policy taking into account the natural and geographical conditions of individual agro-territorial formations, preserving the health of citizens, rational exploitation of natural resources with timely actualisation of assimilation potential. The analysis of data presented in scientific works [1-8] shows that for the period 2017-2022, 60% of the funds provided by the state budget of the Russian Federation for the implementation of the state environmental policy are planned to be spent on the improvement of technical and technological aspects of nature management, on ensuring the necessary quality of atmospheric air - 12.4%. There is a tendency towards disproportionate financing of environmental projects - 79.3% of funds are raised through private allocations and 3.3% through municipal budgets. The high level of the investment component in the implementation of environmental projects causes a scientific search for rational socio-economic and institutional-legal mechanisms for the implementation of state policy in the sphere of nature management, in general, and the use of land resources, in particular.

2 Materials and methods

From the point of view of institutional mechanisms of environmental management regulation in Russia, the following problems are noted: excessive concentration of powers in the field of environmental management by federal authorities, exploitation of resources without taking into account regional specifics, environmental destabilising practices of enterprises that do not comply with the world environmental doctrine. Researchers note the importance of using the mechanisms of public-private partnership and the formation of tax preferences to increase the investment attractiveness of the region. In the works [2, 4] with the help of econometric tools the level of environmental quality impact on the health of the population is determined for the purposes of verification of priority socio-economic measures at the meso-economic level. The importance of natural-territorial and historical-cultural socio-economic disaggregation in the formation of institutional-legal and socio-economic mechanisms of nature management is noted in the studies [1, 3, 6]. At the present stage, ESG-oriented socio-economic trend is actively developing in environmental management, including the following criteria of sustainable development of the ecological component of human capital: environmental safety, equal access to the distribution of environmental benefits, conservation of species and landscape biodiversity, preservation of public health, ensuring proper water quality, minimising the level of pollution of natural environments. According to [5, 7], one of the promising directions of ecologisation of production in agrarian and industrial segments of the economy is the creation of a system of energy-agricultural-industrial clusters, combining socio-economic and territorial-geographical community of interacting counterparties, taking into account the following factors: similar natural and economic conditions at the meso-economic level, the level of development of production and transport infrastructure. Thus, the system approach to environmental management implies the application of a whole set of measures: environmental and landscape management methods, financial, credit and institutional-legal mechanisms.
3 Results

In economically developed foreign countries, land management methods are actively used at the level of state policy in the field of environmental management. The specific features of environmental and land management practices in foreign countries are oriented towards solving the following strategic tasks:

- giving administrative territorial formations the functions of planning the use of land resources
- differentiation of lands by types of their use
- normative-legal consolidation at the state, regional and municipal levels of mechanisms for implementing land use and protection programmes
- delimitation and redistribution of powers in the area of land resources management in the chain of decision-making between the state, region and municipality.

Table 1 presents a comparative characteristic of foreign experience in the implementation of land use management mechanisms [7].

<table>
<thead>
<tr>
<th>Country</th>
<th>Germany</th>
<th>Switzerland, Netherlands, Finland, Great Britain, USA, Canada</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land use governance mechanisms</td>
<td>German federal law obliges:</td>
<td>- at the level of the federal states to ensure that plans and programmes for the development of the territory are drawn up; - delegate to the communal self-governments (communities) the authority to draw up community development plans, land use planning and the function of providing general planning for building construction.</td>
</tr>
<tr>
<td>Institutional and legal socio-ecological-economic</td>
<td></td>
<td>1. The principle of regionalisation - sustainable development of regions in socio-ecological-economic terms; 2. The principle of levelling of living conditions - equal redistribution of resources between economically stronger and less strong regions.</td>
</tr>
<tr>
<td>Economic mechanisms</td>
<td></td>
<td>1. Mechanism of counter-agreements oriented towards mutually beneficial partnership between private land use and the state. 2. Economic incentives for farmers to use ecologically-oriented land use, promoting voluntary application of effective land management practices in terms of international environmental doctrine; 2. Economic incentives for farmers to use ecologically-oriented land use, promoting voluntary application of effective land management practices.</td>
</tr>
<tr>
<td>Ecological and landscape</td>
<td></td>
<td>Switzerland: zonal, landscape and road plans at community level, binding on property owners. Rural areas are prioritised in landscape plans. Main areas of planning: differentiated approach to the exploitation of agricultural and forest lands, regulation of the use of fertilisers and toxic chemicals, amelioration and erosion control measures, regulation of the water regime of the territory, nature protection works, measures for the development of rural infrastructure and reproduction of forest plantations;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Netherlands: modification and design of landshafts with verification of the following planning tools: spatial planning, ecologically oriented planning and water resources management.</td>
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<tr>
<td></td>
<td></td>
<td>Great Britain: focus on solving individual practical-applied tasks of.</td>
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</tbody>
</table>
law, obliging all
landowners to comply with
their requirements
irrespective of the siz
of land. Development and
implementation of
comprehensive greening
programmes taking into
account agro-
territorial
aspects. Optimisation of
terms of agricultural
works, fixing the time of
use of certain agricultural
equipment with the land
owner.

promoting the
voluntary application
of land management
practices that are
effective from the
point of view of
international
environmental
doctrine. 3;
3. Land use planning
with differentiation of
districts according to
the criterion of
ecological sensitivity;
4. Balancing
environmental policy
and business interests
.greening: providing employment for
the population, reducing the eco-
logical load on the landscape, forming the
necessary level of development of
tourist and recreational sector
Canada, USA: study of rural areas with
a focus on land inventory issues as the
main tool for the formation of state
environmental policy in the area
delimitation of economic use. Solving
the following issues at the level of
individual farms within the framework
of existing state programmes: land
conservation, terracing of slopes,
protective afforestation. Withdrawal of
soils with a high degree of e
rosion.

France
Establishing a legal and
regulatory framework
based on the goals of
addressing environmental
issues as priority areas of
national policy. The
following fundamental
principles are proclaimed
at the legislative level: the
right to live in a favourable
natural environment, the
obligation of citizens to
take part in the necessary
measures to improve the
environment and eliminate
damage caused by human
economic activity.

1. Encouragement of
public activity as the
main stimulus for
finalising and
changing doctrin
al
provisions of national
environmental policy
2. Social policy of
"green growth",
which implies the
implementation of
measures to preserve
biodiversity and
diversify energy
risks, prioritising the
use of renewable
energy sources.

In the implementation of
land
management practices, the following is
envisaged: allocation of urban zones,
zones of forests and reserves, zones of
special activities. Biological system of
agro-
production, including the
following directions: soil cultivation
with the use of modern
scientific
achievements for the purpose of
increasing biological activity, crop
rotations. Prohibition on the use of
chemical fertilisers with the use of
organic compost as the main fertiliser.

China
Decision of the State
Council of the People's
Republic of China of 15
April 2015 proclaimed the
goals of improving the
efficiency of
environmental
management, in particular,
the reduction of CO2
emissions by 40-
45% in
the units brought to the
level of 2005,
the
regulatory and legal
regulation of economic
activities based on the
balance of national
environmental interests
and the equivalence of
priorities of China's
political and diplomatic
course and the
requirements of
international
environmental norms.

Sustainable development
of the country in the
paradigm of resource
conservation and
environmental safety with
1. Ensuring economic
and demographic
balance
2. Increasing the level
of socio-
ecological
interaction between
social institutions and
state authorities,
building a mutually
beneficial partnership
between the central
government and the
province
3. Expansion of
financial support for
environmental
programmes
4. Control over the
development of
urbanised areas
5. Rationalisation of
water consumption
6. Development of
environmental
education and
training

Implementation of programmes in
forestry to free unproductive arable
land for forests, protection of natural
f
orests, creation of reserves in
overwatered areas. Optimisation of
land use mechanisms through the
implementation of a zoning system.
the achievement of key goals by 2030.

Russia

Legislative authorities:
- determining the main directions of state policy,
- approving federal environmental programmes,
- the procedure for the organisation and activities of environmental management bodies,
- establishing the legal regime of environmental emergency zones and environmental disaster zones;

Executive authorities:
- implementation of the state environmental policy,
- ensuring the development and implementation of environmental programmes,
- coordination of activities of ministries and agencies in the field of environmental protection,
- approval of environmental standards,
- the procedure for determining the payment of environmental fees, etc.

1. Integration of the economic mechanism of nature management into the system of socio-economic system - perception of the problem of environmental security as a systemic one.

2. Paid nature use

3. Financial incentives and tax preferences for compliance with environmental norms

4. Environmental insurance and certification

5. Formation of ecological funds, banks, own funds of enterprises, favourable investment credits

1. Formation of agrolandscapes as an integral part of organisational and practical measures with preservation of self-regulating elements of territorial ecosystems;

2. Functional-purpose differentiation of lands

3. Typing of lands by criteria of fertility, moisture and heat content

4. Adaptive-rational use of natural resources of the territories used for the growth of certain agricultural plants, taking into account the regional specifics of nature management;

5. Limiting the technogenic-anthropogenic impact on ecosystems, taking into account the forecast of obtaining a strictly defined volume of production from a given type of agrolandscape.

Analysis of the experience of environmental management in some European countries, the USA, Canada, and Asian countries verifies some general directions of environmental protection activities, namely: emphasis on the regional level (municipality, canton) of environmental-landscape decision-making, legislative consolidation of the process of ecologisation of economic activity as a priority national task, territorial differentiation of lands by types of economic activity, formation of a system of economic preference, motivating the subject of economic activity, and the formation of a system of economic incentives, which will be used by the economic entity.

4 Discussion

The world practice of ecological agricultural production defines the main subject of economic activity as a private land user. The central role of the meso- and microeconomic level of decision-making in the formation of environmental policy determines the concept of agro-ecological farming as one of the determinants in the formation of national strategy for sustainable development. The role of organic farming as one of the most important tools of ecological-landscape nature management is presented in the Table 2 [5, 9].
Table 2. Key indicators of agroecological farming

|-----------------------------------------------|-----------------|-----------------------------------|------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Analysis of the data in Table 2 shows the following dynamics:

187 countries participate in the organic commodity turnover, the number of areas suitable for organic farming has increased by 85% over the observation period 1999-2019 and is 72.3 million hectares. The number of organic producers increased by 94% over the period 1999-2019 to 3.1 million producers. 108 countries out of 187 countries (58%) with the potential for organic farming legally regulate organic farming as part of the national environmental strategy. The turnover of the organic agricultural market grew by 86% between 2000 and 2019 to 106.4 billion euros. The largest areas for the purposes of organic land use has Australia - 35.7 million hectares, the leading place in the structure of turnover of products of organic production is the United States with a turnover of 44.7 billion euros. It should be noted that Russia is not included in the analysed rating. Ecological land use as an element of the nature management system forms prerequisites for sustainable development of the national economy.
5 Conclusions

The emergence of crisis situations in the field of resource economics and environmental conditions over the last decades has stimulated the scientific search for the prospects of global environmental, social and economic development. Analysing the domestic and foreign practice of balanced nature management we can draw the following conclusions:

1. The main imperatives of ecologically balanced activity is the integrated application of institutional-legal, financial-economic and ecological-landscape mechanisms of nature management, taking into account the territorial specifics of the region.

2. There is a steady trend towards strengthening the dominant role of private land use in shaping the environmental agenda. Intensification of the Russian practice of organic land use in integration with effective financial, economic and tax policy in the long term can provide Russia's entry into the world markets of environmentally friendly products.

Integration of information and communication technologies into the processes of micro- and meso-economic management, including cartographic assessment of geomorphological characteristics of territories and their agro-ecological potential, also contributes to the development of "green" economy in the agricultural sector.

The state regulatory policy in the sphere of nature management is the implementation of interdependent decisions, one of the most important results of which is the reduction of anthropogenic impact on the components of the natural environment. The system of state regulation of nature use in the totality of the mechanisms used should be organised in such a way that it would be more profitable for a nature user to change the production technology than to pay taxes and penalties.

References


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