

# Conceptual basis of transformation of ecological and economic relations in the forest sector of Ukraine in the context of European integration

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## ABSTRACT

The article defines the priorities, principles and main provisions of national forest policy of Ukraine towards European integration. The main objectives and structure of the mechanism of transformation of ecological and economic relations in the forest sector of Ukraine is grounded. The main tasks of transformation of ecological and economic relations in the forest sector should be decentralization of the management system, budget savings and sustainability, sustainable development and ecological security, development of public and private partnership, and welfare of local communities. It justifies priority directions of transformation, which include the system of distribution of powers between central, regional and local levels, the financing system and fiscal regulation in the forest sector, powers and subordination of the organs of ecological control, the organizational forms of companies and associations, the institutionalization of communal and private ownership of forests. Necessary organizational and economic framework for their implementation should ensure the economic mechanisms of transformation of the system of state management of economic processes, financial-credit and fiscal regulation, economic incentives of the deep environmentally friendly forest products, integration of businesses and innovative and investment development of the forest sector, the Institute of ownership of forest land, the property rights of forest users and local communities.

The structure of transformation mechanism of ecological and economic relations in the forest sector is developed. It will allow the use of modern economic methods (de-monopolization and transparent competition on the timber market; economic incentives for deep wood processing; the transition to the new organizational forms of integration of economic entities; the empowerment of local communities and their executive bodies) and the instruments (preferential loans; target financing of large-scale projects at the national level; environmental insurance; transfer pricing; export and import duties; the state order; the state guarantees and subsidies), and to form an effective organizational forms of business entities in the forest sector.

It is concluded that transformation processes should apply to all spheres of economic activities in the forest sector, especially in the following areas: increased powers of the management bodies of the forest sector at the regional and local levels; simplification of procedures for land allocation by local governments to provide additional reforestation; coordination between the organs of ecological control and forest management to strengthen the relationship

between the real state of forestry and the system of rational use of forest resources; the introduction of modern forms of enterprise and associations of enterprises at different stages of the reproductive process.

## KEY WORDS

forest policy, economic mechanism, transformation, ecological-economic relations, forestry, forest resources, European integration

## INTRODUCTION

In the coming years, the development priority of Ukraine is the establishment of European values and institutions in all areas of environmentally economic relationships that will allow ensuring implementation of regulations under the Association Agreement with the European Union. In this context, important value has the formation of effective mechanisms, institutions and organizational forms of development of ecologically economic relations in the forestry sector.

In the conditions of the need to solve the issue of ensuring energetic and environmental security, stimulating domestic producers of import-substituting products with high added value and acceleration of European integration processes of Ukraine, the realization of systemic transformation in the forest sector has great value. In the preamble of the Association Agreement between Ukraine and the European Union (Association Agreement 2014), it is defined that the parties are committed to enhancing cooperation in the field of environmental protection, the principles of sustainable development and green economy. In the article 294 of this document – ‘Trade of forest products’ – it is indicated that in order to promote sustainable forest management, parties undertake to work together to improve law enforcement and governance in the forestry sector, to promote trade in legal and sustainable forest products. In this context, it is important to create a proper organizational and economic ensuring of transformation of the ecological and economic relations in the forestry sector in accordance with the provisions of the new EU Forest Strategy (2013) and the priorities defined in Sustainable Development Strategy of Ukraine ‘Ukraine 2020’ (2015).

In our opinion, in the conditions of the systemic economic crisis, the process of transformation of ecological and economic relations in the forestry sector

should be implemented on new organizational and economic basis that provide definitions according to the problems of development of its household units, new goals, main tasks, directions, mechanisms and economic transformation tools, whose effectiveness is tested by international practice and which are acceptable for use in Ukraine.

Forest sector of Ukraine is strategically important in the national economy, because it covers the totality of economic units, which ensure the reproduction, processing, protection and utilization of forests to meet the diverse tangible and intangible human needs, which by its nature is a unique natural resource with multipurpose value. Considering the basis of these features, based on the current trends and patterns of development of the national economy in terms of the system of protracted crisis exacerbated by the growing external and internal threats, the principles and priorities of transformational change in the forest sector should be determined. An important scientific task is development based on positive experiences of neighbouring post-socialist European countries, a private market-oriented concept of transformation of ecological and economic relations in the forest sector.

The main research aim is to determine the conceptual basis of transformation of ecological and economic relations in the forest sector of Ukraine in the context of European integration. In order to achieve this goal, it is necessary to develop:

- the main provisions of the national forest policy of Ukraine;
- the organizational and economic principles of transformation of ecological and economic relations in the forest sector;
- the structure of the mechanism of transformation of the system of environmental-economic relations in the forest sector.

## MATERIAL AND METHODS

The methodological basis for solving the problem of developing a market oriented concept of transformation of ecological and economic relations in the forest sector should be scientific approaches to the implementation of the transformation processes in the forest sector, which was proved by the Ukrainian and foreign scientists, and the rules and regulations were laid down in the legal acts of Ukraine and the European Union.

The theoretical basis of the research are the fundamental provisions of the modern theory of sustainable development and economics of forest management, the works of famous Ukrainian and foreign scientists on the problems of rational use and conservation of forest resources. To achieve this task, it is advisable to use modern scientific methods and techniques, in particular:

- system analysis – system interpretation of the basic approaches to the implementation of the transformation process of ecological and economic relations in the forest sector;
- synergistic – to justify the ideology of choice of optimal variant of such a transformation;
- axiomatic – in order to substantiate the conceptual and categorical apparatus of research of transformation of ecological and economic relations;
- analogies – to study the foreign experience of management of the forest sector regarding the possibility of its application in domestic science and practice;
- structural analysis – to substantiate the most promising forms of integration of forest structures;
- scientific abstraction and the theory of sustainable development – to define modern guidelines for the sustainable management of the forestry sector.

In Sustainable Development Strategy of Ukraine 'Ukraine 2020' (President of Ukraine 2015), approved by the presidential decree No. 5/2015 on January 12, 2015, to further the transformations defined by the implementation in the Ukraine European standards of living and access to leading positions in the world that provide the prospect of full membership in the European Union and summarizes the road map, the key priorities of the implementation of the strategy, which envisage systemic changes in all spheres of the national economy, particularly in the forest sector.

The priorities of transformation of ecological and economic relations in the forest sector is partially de-

termined in the coalition agreement of the factions of the parliamentary majority of the Verkhovna Rada of Ukraine VIII convocation (Verkhovna Rada of Ukraine 2014), where the following areas of forestry reform have been indicated:

- separation of functions of the state in the field of forestry, in particular, the formation of policy, control and economy be executed by different authorities;
- creation on the basis of existing state forest enterprises, a unified state structure, using the relevant experience of their successful operation in Poland, Latvia and other countries;
- consideration of the question of whether the introduction of export duties on raw timber, development of mechanisms of stimulation of development of domestic wood processing industry.

The Lviv forum on 'Forests in a green economy: actions and challenges for countries of Eastern Europe, Northern and Central Asia' (11–14 September 2012) approved the concept and abstracts of the actions of the forest sector in the conditions of development of 'green' economy, including 10 clear recommendations for governments and the forest areas of the countries of the region: understanding the true values of forests; efficient use of resources; reasonable energy consumption; the creation of decent and green jobs; addressing threats to forests; identify principles of organization management and compliance; further training; innovation and partnerships; cross-border cooperation; promotion of the role of the forest sector in a green economy (Geneva Study 2013).

It should be noted that the national policy for the forest sector must also comply with the basic provisions of the new forest strategy of the European Union (EU Forest Strategy 2013) and the European Commission, which establishes the three main principles for the development of the forest sector in the EU:

- sustainable and multipurpose management of forests, balanced use of different resources and services of forests, protection of forests;
- resource efficiency, optimising the contribution of forests and forestry for development of rural areas, economic growth and job creation;
- global responsibility for forests, promotion of sustainable (responsible) production and consumption of forest products.

By 2020, the Strategy envisages the transition to managing all the forests in the EU according to the

concept of sustainable forest management. Therefore, clearly defined at the state level, the policy of further European integration of Ukraine by gaining membership in the European Union and the basic principles of the new European forestry strategy, a modern national policy for the forest sector must proceed from the standpoint of ensuring a speedy adaptation, synchronization, implementation and harmonization of national social and political, social and economic space with the European requirements, standards, values and development priorities.

## RESULTS

### The main provisions of the national forest policy of Ukraine

Thus, at the initial stage of the implementation of the transformation processes in the forest sector, there is a need to identify the objectives and basic principles of the national forest policy, the formulation of approaches to transformation, the foundations of its economic mechanism, creation of the new organizational forms of management aimed at implementing the transformational changes in the forestry sector and its economic links.

Modern targets for the forestry sector of Ukraine, defined in the Concept for the reform and development of forestry, adopted by the Cabinet of Ministers of Ukraine №208-p (Concept of forestry reform 2006), but this document is mostly of a declarative nature and not supported by the subsequent changes in the regulatory framework; it did not provide for the reorganization of the system of bodies of Executive power and it was not aimed at the creation of new market institutions and development of perspective organizational forms of entrepreneurship. In addition, the concept considers the issues of reforming the only forestry as the primary forest sector, while activity of the processing enterprises remained without attention.

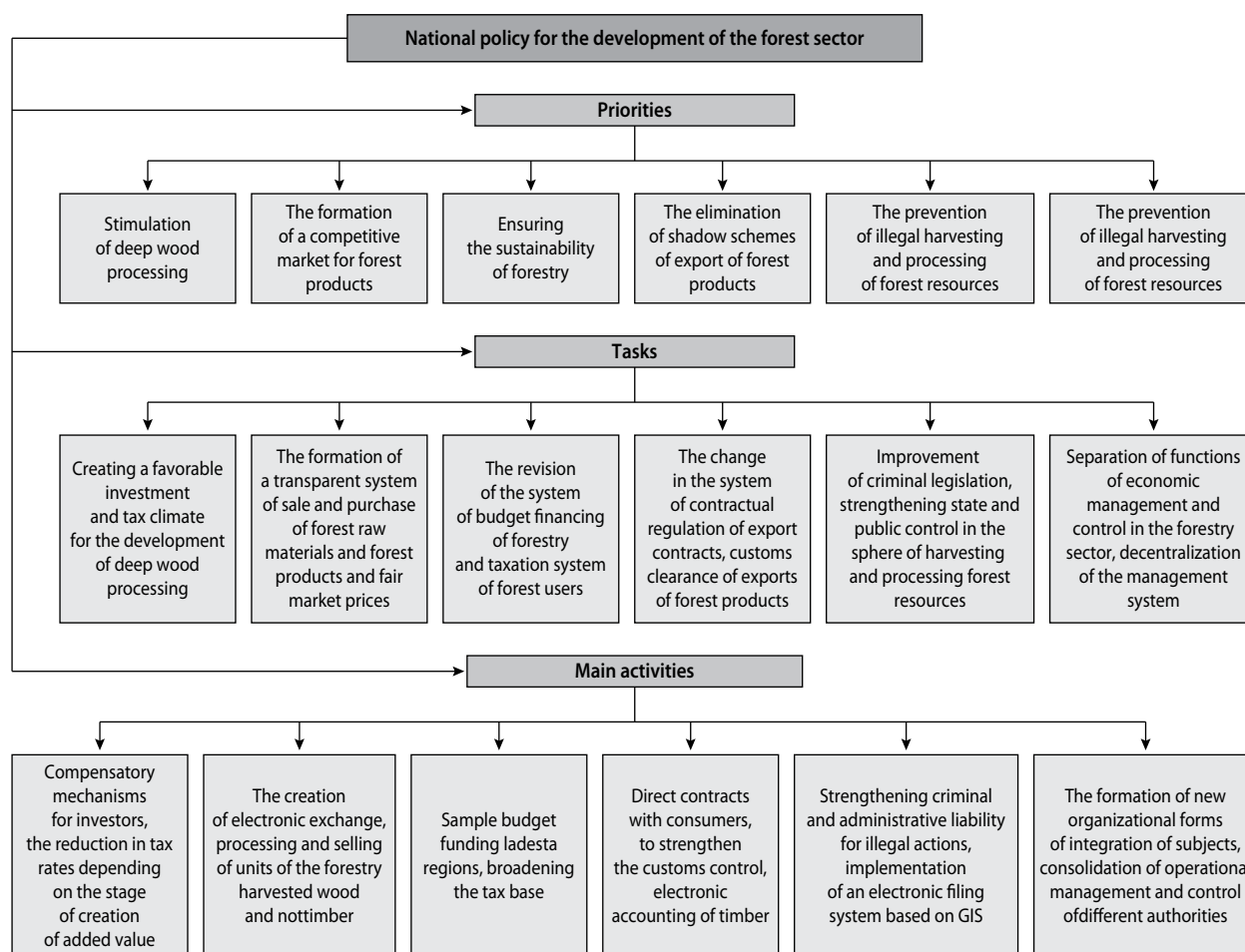
There is, therefore, the task of developing the basic provisions of the national policy for the forest sector of Ukraine as an integral, multi-functional, natural resource, open eco-economic system. It should be borne in mind that, like any policy, it cannot be comprehensive, especially in the current difficult social, economic and political conditions. This implies that the allocation of the whole range of modern environmental and eco-

nomical problems of the forest sector is most important, which span multiple business units, as well as, are important for the national, regional and local levels of the government and most businesses.

National policy for the development of the forest sector, in addition to the traditional challenges of providing enhanced reforestation and strengthening forest protection, should be focused on priority areas, each of which correspond to the main tasks and activities (Fig. 1).

Therefore, these priorities will determine the direction of further transformations in the forest sector. In this context, the importance of study and meaningful interpretation of the underlying principles, which must occur in the transformation of ecological and economic relations:

- decentralization of the management system – providing regional bodies of the forestry sector, regional and local communities more powers concerning the management of the economic activity of the subjects and identifying priorities for the forest sector development;
- equality of market access of forest raw materials and forest products – to provide equal opportunities to all persons interested in purchasing forest raw materials and forest products entities, subject to the fulfilment of a minimum set of requirements, in particular, considering the interests of the rural population and small businesses;
- information transparency – elimination of a variety of formal and informal barriers to the free flow of information on the supply and demand for forest raw materials and forest products, the use of modern information technologies accounting, monitoring, transfer, summaries, and analysis of data on forest resource potential, its protection and use;
- compliance with forests' and forest products' international (mainly European) quality standards – creation of conditions for transition of recognized international systems of standardization and certification of forests, timber and forest products with the aim of further reaching international markets, especially the EU countries;
- financial sustainability of forestry – involves the formation of such a system of financial relations, which will allow the due tax (fee for special use of forest resources) and other related non-profit revenues



**Figure 1.** The main provisions of the national forest policy of Ukraine

(fines, etc.) in the budgets of all levels in regions rich on forests to fully compensate for the costs associated with forest management in territories poor on forests, as well as to implement important projects of national importance without spending any money of these budgets;

- the parity of relations between economic entities of the spheres of forestry and wood processing – elimination of existing discrimination of the subjects of forest products in the matter of the freedom to purchase the necessary volume of forest raw material in auctions and the elimination of excessive lobbying of interests of subjects of the sphere of forestry at the state level through the State forest resources agency of Ukraine;
- transparency of pricing and monopolization of the market of forest products – is the need for the forma-

tion of new rules of functioning of the timber market based on open electronic trading, which will make it impossible collusion of its members, monopolization of the market of separate products, the formation of non-competitive prices;

- priority development of domestic deep wood processing – focus on promoting links of deep wood processing that will contribute to a significant extension of the technological chains in the domestic forest sector, providing the creation of additional jobs, increase incomes of owners and the increase of salaries of employees through the creation of new added value;
- openness for investment and innovation – the creation of favourable conditions for the development of investment and innovation at all levels of the forest sector by simplifying the rules of the organization

and doing business, particularly in attracting foreign investment and transfer of modern innovative technologies;

- partnerships between the state and the private business provides for the simplification of the procedure of cooperation between state enterprises and institutions with the private business, legislating the possibilities of doing business together within a single economic entity, and as part of the integrated structures on a partnership basis;
- promoting the development of territorial communities – transformation changes should not prevent the continuation of the forests perform important social functions improving the welfare of the local population and creating the conditions for expanding the tax base to provide additional local revenues, increase of opportunities of implementation of forest protection activities of local importance;
- performing of the basic provisions of the concept of sustainable development and the objectives of transition to a green economy, that is, despite the obligations taken up by Ukraine in the framework of compliance with the requirements of modern environmental concepts, important systemic changes in the forestry sector should occur according to the classical tenets of the concept of sustainable development and involve the performance of intermediate tasks – transition to a green economy, which is based on environmentally friendly and energy efficient processes in-depth timber processing;
- integrated use of all forest resources – ensuring even the development of the activities that are associated with the development of all resources and utilities of the forest, which will give the opportunity to obtain additional revenues, increase the efficiency of forest management to expand the range of products and services, to improve the energy efficiency and environmental safety of forestry.

The large-scale transformation of the forest sector associated with systemic reforms in all its business units based on the best international practices in the process development and substantiation of complex of measures on the implementation of innovation scenario of development, which includes:

- amendments to the Forest code of Ukraine, considering the experience and practice of application, the need to create conditions for the economic stimu-

lation of enterprises innovative development of the forest sector;

- acceleration of formation and legislative strengthening of the modern system of environmental regulation based on the introduction of the best available technologies, and economic stimulation of introduction of innovative technologies and energy efficiency for the forestry industry;
- continued improvement of tax and customs tariff policy to support the introduction of innovative technologies, creation of preferences for forest infrastructure, optimization of customs tariffs for raw materials, products and equipment;
- improving the system of training and retraining of qualified personnel, the mechanism of the development of science and innovation processes in the forest sector.

#### **Organizational and economic principles of transformation of ecological and economic relations in the forest sector**

Nowadays, the European forestry sector already has many characteristics of the environmental industry and can play an important role in forming environmental economics, and even be as an example in this area, particularly due to the development of sustainable structures of production and consumption, eco-construction, creating 'green' jobs in the sector of renewable energy. The challenge consists of using the existing potential in this area, making a strong emphasis on the environmental characteristics of the forest sector.

In recent years, at the political level, more attention has been paid to forests and their management. Most European countries provide active and targeted policies in the areas related to forests. Currently, the focus has such important questions:

- forests and climate change, the development of adequate measures in the area of adaptation and mitigation of its consequences;
- expanding the use and mobilization of wood resources, especially considering the goals in the sphere of renewable energy;
- increasing the level of biodiversity through the expansion of environmental protection and improvement of the integrated management system of forests;
- stimulation and expansion of sales of non-timber forest products and ecosystem services related, for



example, with protective functions, biodiversity and ensure the integrity of land resources;

- the economic viability of the forest sector and its contribution to rural development and environmental economics (Economic Commission for Europe 2011).

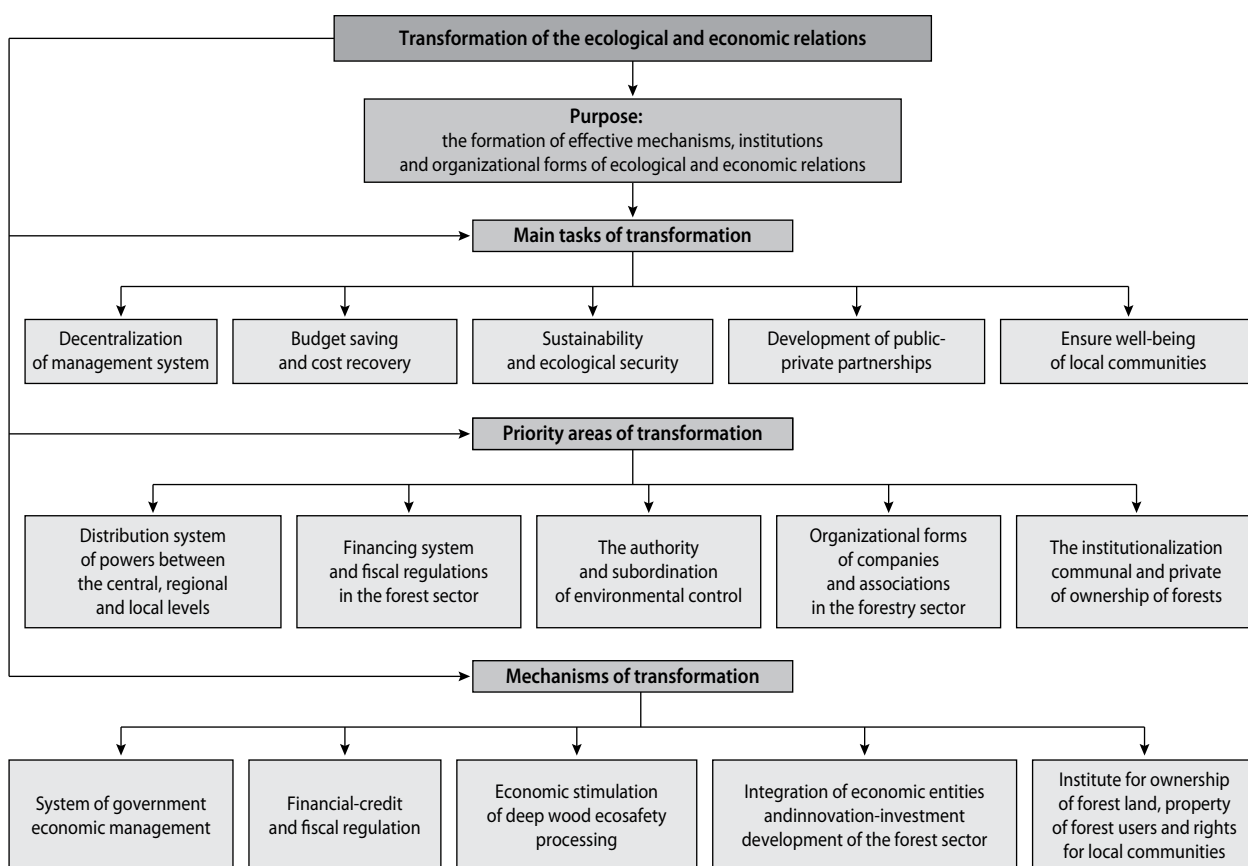
Thus, based on the current development priorities of the Ukraine towards the establishment of European values and institutions with the aim of early implementation of measures on compliance with the necessary conditions for obtaining full membership in the EU. We can identify the main organizational and economic principles, which should be done for the transformation process of ecological and economic relations in the forestry sector (Fig. 2).

Considering the need to build a fundamentally new management system of transformation processes, its main purpose must be the creation of effective mechanisms, institutions and organizational forms of ecologi-

cal and economic relations in the forestry sector. Successful realization of this goal will depend largely on the justification of basic tasks, priority directions and transformation mechanisms of these relations.

On the basis of certain basic tasks, it is important to establish the priorities for the implementation of transformational processes in the system of environmental and economic relations in the forest sector:

- improving the system of distribution of powers between central, regional and local levels: sustainable for all levels of balance of power with the simultaneous formation of a system of balances and mutual control over the important decisions concerning the implementation of such economic instruments of regulation of economic activities in the forest sector, as the licensing procedures in the sphere of forest household relations, licensing and regulatory support, environmental assessment, monitoring and control of parameters of forest ecosystems;



**Figure 2.** Organisationally economic principles of transformation of ecologically economic relations in the forestry sector

- transformation of the system of financing and fiscal regulation in the forest sector: a fundamental change in the approaches to the redistribution of resources in the field of forestry and to simplify the system of taxation of forest users on the basis of use of positive experience of the neighbouring European countries, which ensured the sustainability of forestry, has created a transparent system of calculation and payment of forests and other taxes on the results of economic activities of forest users, as well as the subsidization of forestry development in forest-poor regions;
- effective distribution of powers and subordination of the environmental control bodies: primarily the transfer of functions and powers of forest protection from permanent forest users, who carry out economic activities, the specialized state control bodies (the State environmental inspection of Ukraine and its regional units), by creating in their structure units of the state forest environmental inspection, preserving the amount of budget expenses for its maintenance that will ensure the independence of environmental monitoring in relation to the interests of economic entities in the forestry sector;
- encourage the creation of new organizational forms of enterprises and associations in the forest sector: legal, organizational-economic and socio-political preconditions for the creation on the example of the neighbouring European countries, the state enterprise structures in the form of holding in forestry and the development of different types of business associations, clusters, technology parks, consortia, financial and industrial groups and so on, attracting foreign investment to develop deep wood processing that will allow you to fully realize the benefits of vertical and horizontal integration of business entities of all parts of the forestry sector;
- the institutionalization of communal and private ownership of forests: creation of necessary legal base for the realization of communal and private ownership of forests through transparent procedures' independent monetary assessment, the acquisition of ownership, transfer of forest land to rent or concession, sale of the gift or inheritance, state regulation of forestry activities and the provision on parity of state support to the forest users with the aim of protecting the interests of local

communities and private owners on the basis of the principle of equality of all forms of forest ownership (Shubalyi 2015).

The implementation of these objectives and priorities involves the formation of appropriate economic mechanisms of transformation of ecological and economic relations in the forest sector, namely:

- transformation of the system of state management of economic processes: the objective is to form effective vertical public administration not only in the field of forestry, but also all the processes that occur in the forestry sector that involves the allocation of public functions, business activities, supervision and control between different actors and public authorities on the principles of parity sector development forestry and timber processing, forest demopolization of the market of protectionism of local producers of forest products with high added value;
- transformation of financial and credit and fiscal regulation: aims at the development based on a synthesis of international approaches to national models of regulation and redistribution of financial flows in the forestry sector on the principles of fiscal austerity and sustainability of forest users, as well as simplification of the tax entities in the forest sector, in particular, the accrual and payment of the fee for special use of forest resources, improving the system of customs regulation of import of products of deep wood processing;
- economic incentives for in-depth environmentally safe wood processing: involves the identification of principles, forms and subjects of cooperation between forestry and timber processing units, forming an effective structure of the mechanism of stimulation of subjects of a deep timber processing and justification of perspective directions of expansion of turnover, such as domestic products of advanced wood processing at the expense of attracting additional private foreign and green investment;
- integration of business entities and innovative and investment development of the forest sector: the assessment of investment attractiveness of the processing units of the forest sector of the regions of Ukraine, intensification of the functioning of innovative structures (in particular, venture capital firms), creation on the basis of the State forest resources agency of Ukraine innovation centre for



forestry, substantiation of priorities and institutional support of innovative development of the forest sector on the example region rich on forests;

- the transformation of ownership of forest land, the property rights of forest users and local communities: provides adequate institutional support to implement the concept of sustainable development of the forest sector, the study on the basis of features of formation of the Institute of ownership in it on the basis of balancing the interests of stakeholders in environmental and economic relations, as well as the rationale for the priorities, activities and expected results of the development of the institution of ownership of forest lands and property of forest users, taking into account the interests of local communities.

Thus, the transformation of ecologically economic relations in the forestry sector is a prerequisite for implementation selected European direction of reforms with the purpose to further the European integration of Ukraine. The main task in the future European market-oriented transformation is to ensure speedy 'transition' of the existing system of ecologically economic relations in the forestry sector to target transformed system that would take into account interests of all stakeholders: public authorities, economic entities and local authorities that represent the opinion of local communities.

#### **The structure of the mechanism of transformation of the system of environmental-economic relations in the forest sector**

In order to ensure this transition, in our opinion, it should be formed appropriate transformation mechanism of the system of ecologically economic relations in the forestry sector, combining economic methods and tools; providing the ability of creating new organizationally economic forms of management and also use adopted to specific parts of the forest sector, set of elements of target and functional subsystems (Fig. 3).

Important value among the components of the transformation mechanism of the system of ecological and economic relations in the forestry sector has selection of the most effective methods of implementation of economic reforms. Considering the set of economic problems in the studied areas, we want to offer such a set of economic methods:

- demonopolization and transparent competition on the wood market, primarily envisages liquidation of the monopoly of state forestry enterprises, that have their own woodworking subsections used for harvested timber for production prime cost without conducting forest auction and establishing priority of needs fulfilling of processing parts of the forestry sector in the domestic market;
- economic stimulation of deep wood processing linked with direct legislation of tax, customs, administrative, financial and credit incentives to create favourable conditions for the development of domestic enterprises in wood processing, manufacture of wood products, paper and cardboard, limitation of commodity exports and imports of finished products;
- transition to the new organizational forms of integration of business organizations: forestry based on state enterprises is more promising due to the opportunity to attract additional investment, creating corporate structures with preserving a controlling stake under state control, and at the regional level – creation of cluster structures based on involvement to cooperation of all the interested economic entities;
- empowerment of local communities and their executive bodies, empowering of local authorities to coordinate and control the processes of reforestation, forest logging, calculation and tax payment for the special forest use, the allocation of land for afforestation, formation of local funds for forestry development, restriction of resources exports, regulation of entities' activities of small forestry business.

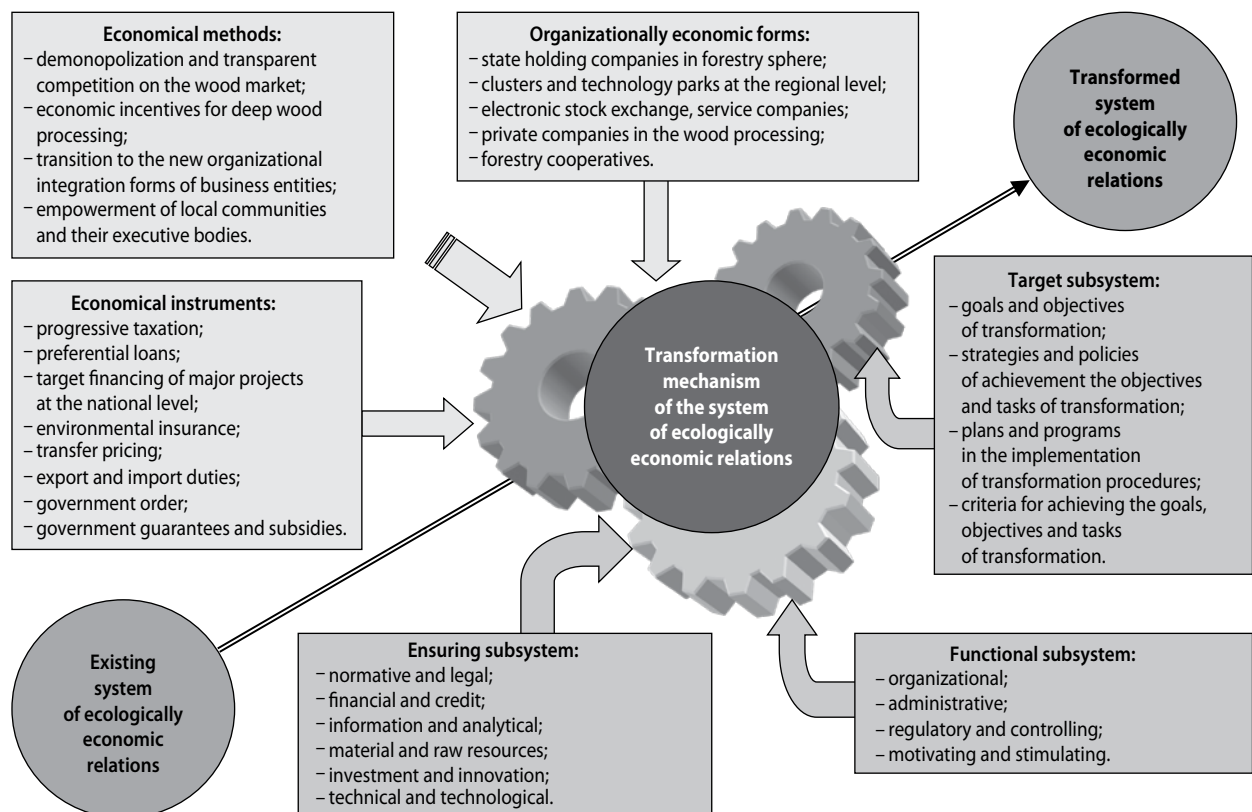
Successful application of the reviewed economic methods dependent on the correct and timely use alone or in combination depending on the market situation following economic set of tools:

- progressive taxation: progressive reduction in tax rates and fees for the entities of the forestry sector, who implement advanced innovative technologies, manufacture products made from waste of wood; who create small businesses in the sphere of wood processing and the provision of related services, ship products with high added value for export;
- preferential crediting through lowering interest rates and full compensation for enterprises of the forestry sector amounts to accrued interest of commercial banks at the expense of specialized state funds to

support innovation activities of domestic enterprises, and also the funds from international financial credit institutions;

- target financing of major projects at the national level, especially concerning the continuation of the practice of target financing of advanced reforestation to achieve optimal forest cover of areas, rehabilitation of existing and creation of new field protection forest strips in Forest-Steppe and Steppe zones and maintaining ecological balance in the mountain forests Carpathians zone;
- ecological insurance: formed based on leading international experience of national regulatory framework of insurance at the initial stage, on a voluntary basis, forest areas and forest users, that will allow development of compensatory mechanisms covering losses from natural disasters, pests and diseases of forests and illegal cutting, but it needs making of forest certification according to the international standards;

- transfer pricing: strengthening control over compliance in horizontally and vertically integrated structures in the area of wood processing legislative provisions on the compliance of the market prices in the implementation of internal transactions of purchase and sale between related structures to prevent the use of tax minimization schemes;
- export and import duties: it is expedient to progressively reduce export duties for domestic producers of deeper wood processing and increase – for its importers; and reduce or eliminate import duties on import of foreign forest raw resources and increase export duties and fees on domestic forest raw resources;
- government order: can be an effective tool to stimulate domestic wood processing in the conditions of implementing large project of reconstruction in the post-war period of the destroyed infrastructure in Donetsk and Lugansk regions;
- government guarantees and subsidies: should be used only in rare cases, while guaranteeing foreign



**Figure 3.** The structure of transformation mechanism of the system of ecologically economic relations in the forestry sector

investors' implementation of large projects of construction of new and reconstruction of existing timber processing capacities and providing subsidies to those producers who manufacture products for socially unprotected population groups.

As the transformation of ecologically economic relations in the forestry sector directly affects business entities' activities, there will be a need to create a new more efficient form of the market conditions' organizational and legal forms, namely:

- state holding companies in the forestry sphere and wood processing for which feasibility is confirmed by the positive experience of the neighbouring European countries (Poland, Czech Republic, Slovakia), but its implementation should be based on consideration of national specific developments of the forestry sector, especially forestry holdings that for a long period functioned under centralized management and priority of state ownership of forests;
- clusters and technology parks at the regional level, which should become new points of economic activity and growth of the forestry sector economy, because the modern world practices intend to accelerate the implementation of technical, technological and market innovation at all levels of the chain of added value in the field;
- electronic stock exchanges and service companies, as the necessary condition of improvement of trading system in modern stock exchanges on the background of total informatization and feasibility of corruption schemes on the market of timber products; the attraction to cooperation logistics, insurance, leasing, investment, advertising and marketing companies is generally recognized international practice of complete market economy in the forestry sector;
- private companies in the field of wood processing, which is considered as the main driving force of successful implementation of transformational change, so it is advisable to create effective economic incentives for the development of private initiative, especially small and micro enterprises;
- logging cooperatives, feasibility of its establishment in rural areas is explained by greater economic efficiency compared to large state enterprises and possibility to create new jobs in the seasonal period; but on the other hand, it is necessary to put counter-

claims to the competency of employers and quality of made forestry work.

The necessary elements of the transformation mechanism of ecologically economic relations in the forestry sector should be targeted, ensuring and functional subsystems that are interrelated and are designed to ensure proper organizational and economic basis for the building in the foundation of this mechanism of economic methods and tools, as well as creating more effective organizationally legal forms of management.

In particular, the target subsystem has concrete transformation objectives in terms of task performers for their implementation, and possible alternative options for policy forming and strategy of goal's realizations and tasks of transformation. That is why it is important to create realistic plans and programs of transformation procedures and define criteria of achievement of its goals and objectives. The role of ensuring subsystems is to create a proper legal, financial-credit, information-analytical, material commodity, investment and innovation, technical and technological support for the implementation of policies and strategies of realization of transformation procedures in the forestry sector.

Functional subsystem is designed to generate the necessary system of communication between entities, public authorities, local communities and international institutions to ensure the organizational, administrative regulatory, supervisory and regulatory performance, motivation and stimulation functions at all levels of the forest sector to expand the chain of new added values.

## DISCUSSIONS

Designed transformation mechanism includes traditional set of elements of target, ensuring and functional subsystems and designed to create proper organizational and economic basis for rapid transition from the existing to the target (transformed) system of ecologically economic relations in the forestry sector based on the combined use of set of specific economic methods and tools, development of new types of organizational and legal forms of economic activities.

In terms of existing external and internal threats to the stability of the national economy, the main focus in the implementation of systemic transformation, towards further European integration of Ukraine, should

focus on changing the system of financial relations in the forestry sector on the basis of budgetary savings and self-sufficiency, substantiation of the new mechanism of economic stimulation of deep ecosafety wood processing and innovation investment mechanism to ensure ecologically economic activities of its subjects.

Problems of search of new scientific approaches for transforming the ecological and economic relations in the system of environmental management and the forest sector were explored many famous Ukrainian scientists (Antonenko 2011; Golian 2015; Karpuk 2012; Koval 2009; Mishenin 2014; Rymar and Yavorska 2012; Syniakevych 2012; Soloviy 2010; Shubalyi 2015; Tynytsia 2002; Furdychko 2012 and others).

Science researches related to the solution of these problems were performed by many foreign scientists. We should take into account that the results of scientific research cannot give answers to all the questions, as obtained under the influence of other internal and external factors that are different from the present.

Arts and Buizer (2009), based on the analysis of the provisions of the global forest policy since the early 1980s, concluded that new ideas and values of sustainability, biodiversity and governance have been institutionalized in the area that involves policy change and innovation. In comparison to more 'classical' analysis, for example, based on rationalist or (purely) institutional accounts, discursive and institutional approach allows us to form a holistic picture of the global forest policy.

Summing up the experience of Western Europe, Simula (2003) makes the important conclusion that the success of institutional reforms in post-Soviet countries can provide some organizational and managerial actions:

- elimination of direct links (administrative, financial) between the relevant agencies that are responsible for the implementation of the state functions and management of state forests;
- increasing the capacity and efficiency of public forest management;
- effective strategic control over business and economic activities in state forests;
- organization of sales rederiving wood and other forest resources on the basis of competitive bidding;
- determine the appropriate level of funding for economic activities in the state forests.

Nilsson (2005) studied the experience of political reform in the forest sector in countries with economies in transition and other countries. He notes that the policy instruments are just one of the essential elements of effective policies in the forest sector and concludes that there is no clear general methodological scheme of the transformation of the system of environmental and economic relations, which was universal for each country. However, the analysis of the general framework in countries with economies in transition and developing countries shows that in the unstable political situation, economic instruments may not be effectively used, therefore, the forest policy does not lead to the desired result.

Hurmekoski and Hetemski (2013) studied the prospects of the forest sector and found that in modern conditions, it is necessary to change traditional approaches to the organization of the system of environmental and economic relations. As the global forest sector faced serious structural changes and its operating environment became increasingly complex and interrelated with other sectors. In order to assess the changes occurring in the operating environment more systematically, and to better meet the needs of policy-makers and stakeholders, there are potential advantages in complementing the current modelling approach dominant in the forest sector with other methods from the field of foresight.

Hansen et al. (2017) consider that national forest policies should take into account the prospects for the global forest sector, depending on the impact of globalization on forest users. It is important to focus on the study of markets and market forces, new products and product categories, as well as the impact of China and Russia. The transformation of the forest sector must occur based on the modern paradigm of sustainable development, to provide the priority of the observance of environmental criteria in the process of managerial decision-making, to be aimed at the development of green building and bioenergy. This will be possible due to the introduction in practice of management of constituent entities of the forest sector of modern information technologies, development of corporate social responsibility, stimulating innovation and investment.

For the solution of key problems of development of the forest sector in the context of further European integration, there is a need to identify the main provisions of national forest policy principles and objectives,

and methodological approach to the transformation of the system of environmental-economic relations in the near future. As rightly noted in the works of Shegelman (2008) and Sheinghouse (2007), transformation in the forest sector should be explored in close connection with the transformations taking place in the country and the world in economic, industrial and social spheres. This will help to improve the understanding of patterns of forest transformation, to improve the process of forecasting development areas of the forest sector of countries with new challenges to ensure the effectiveness of decision-making on innovative development, deep and qualitative changes in the structure of its businesses, improve its performance and importance to the economy and social sphere of the country.

## CONCLUSIONS

It was revealed that the development of a national model of transformation of ecological and economic relations in the forest sector should be based on critical analysis of foreign experience of solving these problems. Institutional norm, which is typical for most countries of Central and Eastern Europe and should be taken to the domestic practice, is to decentralize forest management through increasing the responsibility of regions for the efficiency of their use. It is advisable to borrow the experience of Poland regarding the control of state forestry enterprises and increasing the centralization of financial flows through the creation of forest holdings.

The proposed maximum implementation of the national system of forest relations and positive international experience, which provides the preservation of forests in state ownership, but it does not preclude auctions on the implementation of forest management, forest fund lease and concession forests. We should consider the fact that the system of forest management in Ukraine in connection with the first stage of administrative reform, integrated into the overall system of the Ministry of agrarian policy and food, so it is advisable to borrow the experience of countries that have formed a similar model, namely Slovakia and the Czech Republic, about the impact on the processes of forest management non-governmental organizations. This will significantly improve the control over observance of environmental legislation.

The main provisions of the national policy for the forest sector are grounded. They provide a systematization of the priority areas, objectives and major activities regarding compensatory mechanisms for investors, the reduction in tax rates depending on the stage of creation of added value, the formation of the stock exchange, the sale of the processing units of the forestry and timber, but not standing timber, selective financing of the budget in regions poor on forests, broadening the tax base, direct contracts with consumers, to strengthen the customs control, electronic accounting of timber, strengthening criminal and administrative liability for actions, introduction of system of electronic accounting of timber movement, the creation of new organizational forms of integration of subjects, consolidation of operational management and control authorities.

Given the meaningful interpretation of the basic principles on the basis of which must occur the transformation of ecological and economic relations in the forest sector: the decentralized system of government, equality of market access of forest raw materials and forest products, transparency, compliance, forests' and forest products' international (primarily European) standards of quality, financial sustainability, forestry, parity of relations between economic entities of the spheres of forestry and wood processing, transparent pricing, and monopolization of the market of forest products, priority development of domestic in-depth timber processing, openness to investment and innovation partnerships between government and private business, facilitating the development of local communities' respect of the basic provisions of the concept of sustainable development and the objectives of the transition to a green economy, comprehensive utilization of all resources of the forest.

The organizational and economic bases of activation of process of transformation of ecological and economic relations in the forest sector that are associated with the modern priorities of development of Ukraine in the direction of established European values and institutions in the context of the implementation of measures for implementation of the Association agreements with the European Union are determined. The purpose of the transformation is the establishment of effective mechanisms, institutions and organizational forms of the development of ecological and economic relations in the forest sector. Considering the views of domestic scientists, previous experience of forestry management



of innovative and investment development, the main problem of transformation of ecological and economic relations in the forest sector are highlighted. They are decentralization of the management system, budget savings and sustainability, sustainable development and ecological security, development of public-private partnership and the welfare of local communities.

It is concluded that avoiding of institutional gaps in the system of forestry and wood transformation processes should be applied to all the spheres of economic activities in the forest sector, especially in the following areas: increased powers of the management bodies of the forest sector at the regional and local levels; simplification of procedures for land allocation by local governments to provide additional reforestation; coordination between the organs of ecological control and forest management to strengthen the relationship between the real state of forestry and the system of incentive mechanisms for rationalizing the use of forest cutting; introduction of modern forms of enterprise and associations of enterprises at different stages of the reproductive process.

To ensure proper organizational and economic support of the implementation of transformational changes to transition from the existing imperfect (traditional) to advanced (transformed) system, the structure transformation mechanism of ecological and economic relations in the forest sector was developed. It will allow the use of effective economic methods (de-monopolization and transparent competition on the timber market; economic incentives for deep wood processing; the transition to the new organizational forms of integration of economic entities; the empowerment of local communities and their executive bodies) and the instruments (preferential loans; target financing of large-scale projects at the national level; environmental insurance; transfer pricing; export and import duties; public order; state guarantees and subsidies), and to form an effective organizational form of forestry, to fully use the target, providing and functional subsystems.

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