

# UKRAINIAN FOREST GOVERNANCE SYSTEM IN THE CONTEXT OF INSTITUTIONAL REFORMS: DIAGNOSIS OF PERFORMANCE

Halyna Lesiuk\*, Ihor Soloviy, and Ion Dubovich

Ukrainian National Forestry University, Department of Ecological Economics, 103 Gen.  
Chuprynyky Str., Lviv 79057, Ukraine. \*E-mail: halyna.lesiuk@nltu.edu.ua

Received: 29 April 2020

Accepted: 05 November 2020

## Abstract

Every forest governance model development has unique features and lessons to be learned. The institutional reforms in Ukrainian forestry are still in progress but there is lack of assessment and diagnosis of its impacts on Ukrainian forest governance. This paper provides such an assessment for the current status of the Ukrainian forest governance system, using FAO and PROFOR approach. It is based on the assessment of three fundamental pillars of forest governance (I) policy, legal, institutional and regulatory frameworks, (II) planning and decision-making processes, and (III) implementation enforcement and compliance. A set of indicators, developed within these pillars, was assessed by 53 experts. The results show that Ukrainian forest governance is far from achieving the status of 'good forest governance', and can be described rather as 'poor forest governance'. However, some positive tendencies such as performing well the functions of planning, organization, and control in the Ukrainian forestry are identified.

**Key words:** decision-making process, forest policy, institutional reforms, sustainable forest management, Ukraine.

## Introduction

The concept of forest governance usually is considered through the shift from 'old' governance to 'good' governance (Arts and Visseren-Hamakers 2012). The 'old' governance refers to traditional state-centered and top-down management approach, in which the functions of planning, organization, motivation, and control were concentrated in state authorities (Agrawal et al. 2008, Rametsteiner 2009, Arts and Visseren-Hamakers 2012). The emergence of the 'good forest governance' concept could be explained by new governance trends: decentralized and par-

ticipatory forest governance, market initiatives (forest certification, payment for forest ecosystem services), public-private partnerships (Agrawal et al. 2008, Arts and Visseren-Hamakers 2012). Cashore (2009) defines that the practice of 'good (forest) governance' requires attention to five key components: a) overarching principles and criteria, b) institutional fit, c) policy substance (ends), d) policy instruments (means), and e) policy evaluation. Although new governance trends, especially decentralized governance and forest certification, are worldwide represented, the process of transition to good forest governance varies from country to

country (Lindahl et al. 2017). Ukraine is a case of a country with a long path to democratic institutionalization (Aliiev 2017), so 'good governance practices' are not yet sufficiently studied, especially for forest sector.

The forests cover only 15.9 % of Ukraine's territory. That is why according to the Forest Code the priority is given to performing water protection, sanitary, hygienic, health, recreational, aesthetic, educational, and other ecological and social functions of forests, and corresponding limitations of their commercial use. The forests are distributed unevenly over geographical zones. The forest areas are concentrated mainly in the north (Polissya) and west (Ukrainian Carpathians) (State Forest Resource Agency of Ukraine 2019).

According to Land and Forest Codes of Ukraine, there are three forms of forest ownership: state, communal and private (Land Code of Ukraine 2002, Forest Code 1994). The vast majority of forests are state-owned. In the process of land delimitation, about 1.3 million ha (13 %) of forest land plots were assigned to communal forest lands. The share of private forests is less than 0.2 % (State Forest Resource Agency of Ukraine 2019). In terms of forest management, forests are provided to permanent use of enterprises, institutions and organizations of several dozens of ministries and departments. By institutional subordination, the largest area of state forest lands is managed by the State Forest Resource Agency of Ukraine – 73 %, 7 % – state-owned lands, not provided for use and allocated to reserved lands, 2 % – Ministry of Environment and Natural Resources, 5 % – other ministries and departments.

The institutional transformation in the forest sector that took place after the col-

lapse of the Soviet Union was not as radical in Ukraine as in the other post-socialist Central European countries. This first of all due to the keeping the same system of administration and absence of forest ownership restitution. At the same time revision of forest legislation modified forest authorities' responsibilities reflecting the changing power of different political actors. These changes reflect the challenges facing Ukraine namely the administrative decentralization, social dissatisfaction, weak institutions, and their capacities (Yakymenko et al. 2019). Reforms in the forest sector have stagnated during a long time due to the lack of broader policy and economic reforms (Lazdinis et al. 2009). At the same time, the Ukrainian forest governance system and forestry legislation have been constantly changing during the last two decades (Dubovich et al. 2018). The changes were not transforming principally the rules of the game as they were caused mainly because of changes of governments, political appointments, and their vision of institutional architecture of the most bodies responsible for forests and forestry. The most recent institutional change is shifting the function of formation and implementation of state policy in the field of forestry and hunting to the established Ministry of Energy and Environmental Protection (instead of separate ministries for environment and energy in all previous Ukrainian governments) (Cabinet of Ministers of Ukraine 2019). Generally, such consolidation creates risks of environmental issues being relegated to the background compared to energy issues, but the State Forest Resource Agency has a sufficient degree of autonomy and this will not adversely affect its functioning.

The challenges of reforming Ukrainian forest governance, especially institutional,

economic, and political/legal challenges are widely discussed in the scientific literature. It is emphasized that in Ukrainian forest sector reforms were not as radical as, for example, in agricultural sector. Also forest governance relies mainly on state authority, without properly functioning market incentives (Nijnik and Oskam 2004, Soloviy et al. 2017).

The study of Dubovich et al. (2018) showed that a holistic approach to reforming is not taken. Some studies provide the Ukrainian forest governance system assessment, but describe key objectives and problems of state-owned forests or focus only on communal forest governance (Storozhuk 2016, Michel 2016). Therefore, at present, a comprehensive approach to the assessment and diagnostics of the whole forest governance system is not applied.

This study aims to assess forest governance system in Ukraine based on indicators that are most heavily discussed in political and academic environments, and reflect the national context. Such an assessment is the basis for identifying governance pillars and components that need improvement and allows the identification of priority measures for the forest governance system development in Ukraine.

## Methods

Many international initiatives on sustainable forest management (SFM) criteria and indicators were developed. Forest Stewardship Council (FSC) Principles and Criteria, and Criteria and Indicators Toolbox were among the first (FSC 1996, Prabhu et al. 1999). 'The Pyramid: A diagnostic and planning tool for good forest governance' has extensively described the elements of such kind of governance

(Mayers et al. 2002). Several international institutions have also developed guidelines focused on specific regions to assess SFM. However, within these approaches, governance-related indicators are very poorly included (World Bank 2009).

The most popular methodological approaches applied to forest governance assessment are Framework for Assessing and Monitoring Forest Governance and Governance of Forests Initiative Indicator Framework (FAO 2011, Davis et al. 2013). The FAO approach has already been adapted for assessment and diagnosis of forest governance systems in Bosnia and Herzegovina, Georgia, Azerbaijan, Vietnam, Thailand, and other countries (Avdibegović et al. 2014, Michel 2016, Gritten et al. 2019). According to this approach, the fundamental pillars are divided into 13 main components. In particular, the components of the first pillar 'Policy, legal institutional and regulatory frameworks' examine the quality of forest policy, laws and regulations, compliance with sectoral policies, financial incentives, and tools to address fairness in the allocation of forest resources and benefits. The components of the second pillar reflect stakeholder participation in forest governance, transparency of decision making, and accountability of management processes. The issues of forest resources administration, law enforcement, combating forest corruption, cooperation, and coordination between executive forestry entities are the components under the third pillar 'Implementation, enforcement and compliance' (FAO 2011, Kishor and Rosenbaum 2012).

In this paper, we used the FAO approach as it is flexible and allows to select indicators that reflect the current state of forest governance and to reach the research purpose.

The FAO approach is based on the

application of the expert survey method in order to investigate the implementation of fundamental pillars, as well as the compliance of forest governance system with the above-mentioned principles (FAO 2011).

Therefore, the methodological design of the questionnaire was developed taking into account the need to include questions that would cover all pillars and principles of the forest governance system (Table 1).

**Table 1. Methodological design of the questionnaire.**

Pillar	Principals	Component	Indicators
I	2, 3, 6	Forest-related policies and laws	2. How are activities of the Ukrainian forestry authorities on protection, use and reproduction of forests coordinated with each other?
I	2, 3	Forest-related policies and laws	8. How do current Ukrainian programs for protection, use and reproduction of forests contribute to the achievement of sustainable forest management?
I	4, 6	Institutional frameworks	10. Does internal conflict of interest take place in the system of Ukrainian central executive authorities that responsible for the formation and implementation of forest policy?
II	1, 6	Transparency and accountability	4. To what extent political environment affects forestry authorities?
II	4, 6	Transparency and accountability	5. Does the lobbying of economic interests of forest industry companies affect on institutional reforms in the Ukrainian forestry?
II	1, 5, 6	Stakeholder participation	6. What forms of stakeholder participation are implemented?
II	1, 5, 6	Stakeholder capacity and action	7. Please, assess participation of stakeholders in forest governance reformation on 6-point scale (0 – do not take part, 5 – active participation).
III	2, 3, 6	Forest law Enforcement	1. To what extent programs for protection, use and reproduction of forests have been implemented?
III	2, 3	Forest law Enforcement	3. How are measures for adaptation of forests to climate change and mitigation of climate change implemented?
III	2, 3, 5	Forest law Enforcement	9. How efficiently do international agreements and conventions on the protection, use and reproduction of forests execute?
III	2, 4	Administration of forest resources	11. To what extent the qualifications of forest workers correspond to the needs of development of Ukrainian forest sector?
III	1, 2, 4, 5	Administration of forest resources	12. To what extent are management functions performed by central executive authorities responsible for the formation and implementation of forest policy?
III	2, 4, 6	Administration of forest resources	13. Assess the effectiveness of the implementation of following measures in the Ukrainian forestry: forest certification, auction wood trade, moratorium on exports of round wood, timber tracking system.

Note: Principals: 1 – accountability, 2 – effectiveness, 3 – efficiency, 4 – fairness/equity, 5 – participation, 6 – transparency.

The group of 53 experts from 6 regions of Ukraine (Lviv, Kyiv, Kharkiv, Volyn, Zakarpattia, Rivne oblast) participated in the survey. The experts are chosen from these regions because in Lviv, Kyiv, Kharkiv historically are concentrated the oldest forestry research centers in Ukraine, and Volyn, Zakarpattia, Rivne oblast are among the most forested areas. The experts represent the following professional categories: 12 – scientists who study the issues of the reforming of Ukrainian forest governance system and forest policy, 8 – representatives of environmental NGOs, 27 – directors and employees of State Forestry Enterprises (practitioners), 6 – representatives of forestry-related sectors (administration of Nature Protected Areas, touristic companies, agricultural enterprises and water supply companies). The survey was conducted online through the SurveyFace tool and by submitting and collecting completed questionnaires by employees of forestry enterprises.

Each expert scored the proposed indicators on the four-point scale: 0 – worst situation within the indicator/nonperformance of indicator, 1 – partial performance, 2 – significant performance, 3 – best situation within the indicator/full performance of indicator, based on their own experience, knowledge and perception.

Stakeholder participation in Ukrainian forest governance, including such forms as information and consultation is regulated by the Forest Code of Ukraine, the Laws of Ukraine 'On Information', 'On Environmental Impact Assessment', 'On Environmental Protection' (Verkhovna Rada of Ukraine 1991, 1992, 2017). Also national FSC standard has detailed requirements for stakeholders' involvement. Previous studies show that stakeholders, including local communities, are involved in forest governance, but their participa-

tion is quite passive (Kravets et al. 2012, Pavlishchuk 2014), so indicators 6–7 are not identified as evaluative, but included to diagnose the degree of involvement of separate stakeholders' groups.

## Results

### Pillar I 'Policy, legal, institutional and regulatory frameworks'

Survey results show that the coordination of activities on forest protection, use, and reproduction by forestry authorities is estimated as 'partial' (Fig. 1). Although practices aimed at achieving sustainable forest management have been implemented (for example, forest certification as a voluntary instrument of forest policy), experts assess the contribution of forest programs to SFM as a 'partial'.

The issue that should be stressed on the assessment of forest policy and laws component is that at present the system of forest legislation is well developed, although there is no separate law that highlights the long-term vision and goals of Ukrainian forest policy (Soloviy et al. 2018). Therefore, considering the national context, while developing and assessing the indicators of the first pillar, we are more likely to assess the quality of forest legislation than the quality of forest policy.

### Pillar II 'Planning and Decision Making Processes'

The components include indicators to assess the transparency of the forest governance system and its independence from external influences and stakeholder participation in the forest governance process. According to the results, the political envi-

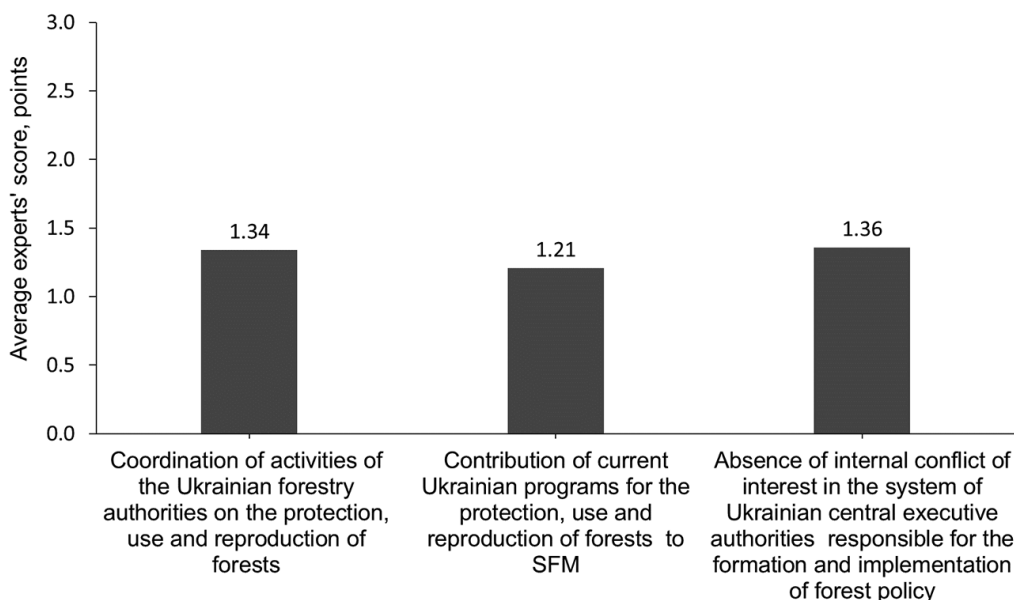


Fig. 1. Indicators of the first pillar.

ronment has a greater influence on the institutional reforms in forestry than the policy of lobbying of economic interests of forest industry companies (Fig. 2). The average expert score of the influence of the political environment on forestry authorities is 1.15 points, while the average expert score of the impact of lobbying on institutional re-

forms in forestry is 1.6 points.

The results confirm that information and consultation are the main forms of stakeholder participation (Fig. 3). The most active stakeholder groups are the local community, industry (wood-processing, furniture manufacturing, paper production) enterprises, environmental

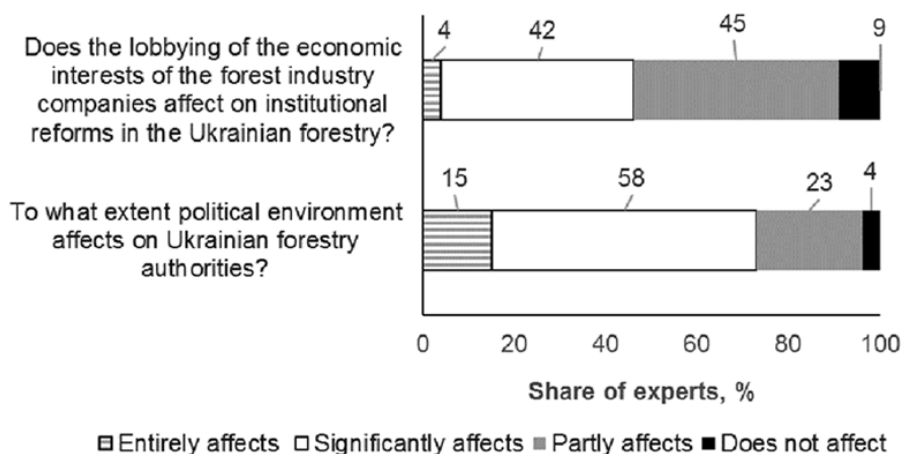
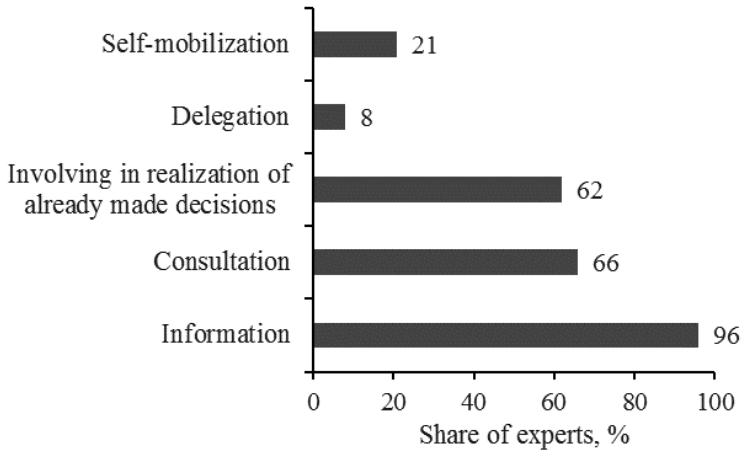


Fig. 2. Indicators of transparency and accountability.



**Fig. 3. Forms of stakeholders' participation.**

NGOs, and administration of nature protected areas.

In Table 2 it can be seen that participation of touristic companies, agricultural

enterprises, and water supply companies is quite passive, although they are users of the regulatory and cultural forest ecosystems services.

**Table 2. Assessment of participation of stakeholders in forest governance system.**

Stakeholders	Average experts' score, points				
	Information	Consultation	Involving in realization of already made decisions	Delegation	Self-mobilization
Local community	3.41	2.71	2.12	1.38	2.23
Environmental NGO	2.98	2.67	1.78	0.65	2.19
Industry (wood-processing enterprises)	2.95	2.90	2.77	1.30	2.08
Agricultural companies	0.64	0.70	0.50	0.30	0.40
Tourism companies	1.26	1.19	0.64	0.25	0.50
Water suppliers	0.39	0.54	0.37	0.15	0.25
Administration of nature protected areas	3.76	3.71	3.35	1.69	2.69

Note: Average experts' score on 6-point scale, where 0 – do not take part, to 5 – active participation.

### Pillar III 'Implementation, Enforcement, and Compliance'

Since 1993, the State Forest Resource Agency of Ukraine has been participating in the Ministerial Conference on the Protection of Forests of Europe. And Ukraine has signed relevant international agreements to ensure sustainable forest management (e.g. Protocol on Sustainable Forest Management to the Framework Convention on the Protection and Sustainable Development of the Carpathians) (State Forest Resource Agency 2014). However, as it is illustrated in Figure 4, the effectiveness of the implementation of international agreements and conventions is assessed by the experts as 'partial'.

The level of implementation of national programs for protection, use, and reproduction of forests receives a higher average expert score than the level of implementation measures towards forestry adaptation and mitigation to climate change, although both indicators are close to 'partial implementation'.

According to the experts, the performance of the functions of planning, organization, and control in forestry is assessed as 'significant', while motivation and regulation – 'partly' (Fig. 5). The average expert score of the compliance of qualifications of forestry workers with the actual needs of the development of the forest industry is 1.8 points (approximate to 'correspond significantly').

Over the last decade, several initiatives have been implemented in the forest governance system to combat forest corruption, maintain forestry in accordance with the SFM concept, and improve the timber pricing policy. The forest certification and timber tracking system are considered as the most effective instruments, and the ban on the round wood export as the least effective one (Fig. 6).

The total expert score of forest governance system based on the analyzed indicators is 1.4 points. It means it tends to the score 'poor forest governance'. Therefore, most forest government elements need to be improved. However, there are

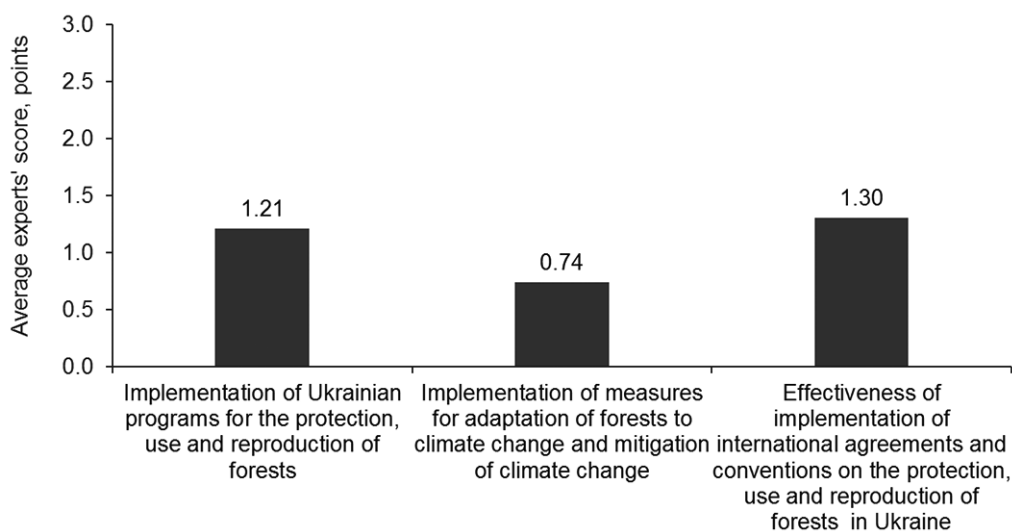


Fig. 4. Indicators of forest law enforcement in forest governance system.





Fig. 5. Performance of management functions in forest governance system.

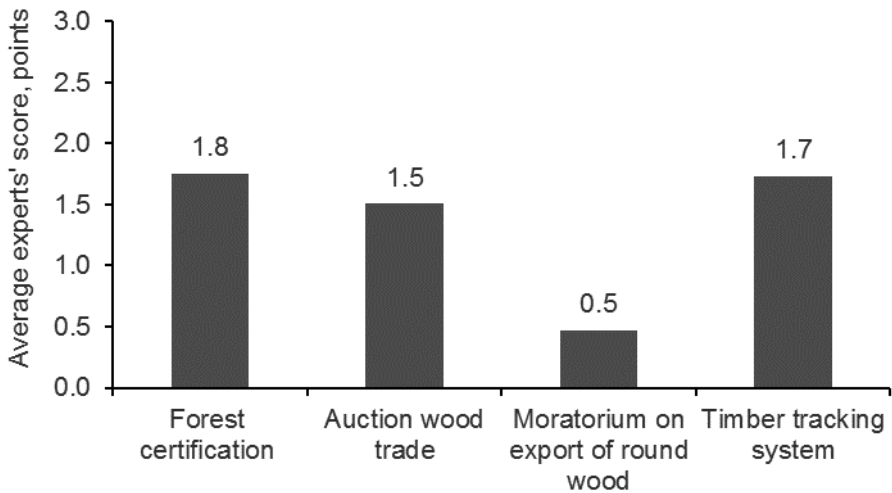


Fig. 6. Expert evaluations of measures in forestry.

some positive findings such as performing the functions of planning, organization, and control and the compliance of forestry workers' qualifications with the actual needs of forestry development.

Taking into account the current status of the forest governance system, we also asked experts to assess the importance of measures to reform it (Table 3).

According to the expert opinions, the most important measures that can contribute to the institutional reform are the adoption of the Law of Ukraine 'On National Forest Policy', developing and implementing actions to stimulate forest planting on private lands, the institutionalization of the payment for forest ecosystem services.

**Table 3. Evaluation of measures.**

Measures for reforming the forest governance	Average experts' score
Adoption of the Law of Ukraine 'On National Forest Policy' with vision and goals of the national forest policy	4.17
Development and implementation of measures to stimulate forest planting on private lands	3.21
Institutionalization of payment for forest ecosystem services	3.21
Changing personnel policy in forestry sector	2.96
Inspection on function performance by central executive authorities responsible for the formation and implementation of forest policy	2.88
Enhancing stakeholder participation in forest governance	2.72

Note: Average experts' score on 6-point scale, where 0 – not important, to 5 – very important.

## Discussion

Forest policy and forest governance in the coming decade will be driven by demographic, economic, environmental, technological, and governance trends (Wolfslehner et al. 2020). These trends will lead to changes in perceptions of forests and nature, and their value, increase demand for bio-based products and use of wood tracking software applications, strengthen synergies between forest and sectoral policies, including climate and environmental policies, and determine more active stakeholder participation in governance.

The survey results show that such trends are partially represented in the Ukrainian forest governance system. Digitalization in forestry is assessed by experts as effective due to the presence of an electronic timber tracking system, which is administered by a separate state enterprise 'Forestry Innovation and Analytical Center'. Implementation of the system provides marking of all harvested wood with unified tags and barcodes that register the origins of wood, its qualitative and quantitative indicators, and ensure automation of preparation of primary documentation, wood accounting and control

(Forestry Innovation and Analytical Center 2020).

The implementation of measures to adapt Ukrainian forestry to climate change is assessed as 'partially effective'. The impact of climate change on forestry is especially significant in the Ukrainian Carpathians, where spruce forests are drying up on a big scale (Buksha 2019), but relevant to other regions as well. The Concept of implementing state policy in the field of climate change until 2030 (Cabinet of Ministers of Ukraine 2016) defines the development of a medium-term action plan for the forestry adaptation to climate change. However, up to date, neither the action plan nor the financial sources for the adaptation measures have been identified.

Participatory approach is represented in the forest governance system, but it is a kind of passive participation – when individuals are informed of decisions *ex post facto*, with shift to active participation – when individuals influence on decision. The active participation is facilitated by the Law of Ukraine 'On Environmental Impact Assessment' (2017), according to which communities are notified in advance about main felling (both clear cutting and gradual felling). Also they should be informed about related report on En-

vironmental Impact Assessment and have possibility to propose measures towards its implementations.

Decentralization in forestry looks promising in the long run, when the results of the Ukrainian decentralization reform of local self-government, launched in 2014, become more visible. According to Tkach and Torosov (2015), the newly formed united territorial communities should be more active in decision-making process both in communal and state forests, as the share of forest revenues that remain in local budgets will increase.

For Ukraine and for its forest sector, progressive changes in formal and informal rules are crucial. Institutional transformations in Ukraine's forestry have started, but the rules of the game and the arrangements have not changed substantially so far (Soloviy et al. 2017). The rigid sector-based forest governance, focusing on national level economic gains from forestry as opposed to considering local benefits of forests, and reliance on technical expertise instead of local knowledge seem to be emphasized (Sarkki et al. 2009). As stressed in recent studies (Khvesyk et al. 2019) transformation of relations in forest sector is possible through broad range of measures which includes, but not limited to following: achieving decentralization of governance system; equality of market access to forest raw materials and forest products; financial sustainability of forestry; transparency of the timber market functioning, openness for investment and innovation; promoting the development of territorial communities; transition to green economy based on environmentally friendly and energy efficient processes in-depth timber processing; integrated use of multiple forest resources and services.

The approaches to forest governance assessment and their application criticized

first of all due to the difficulty of integrating all its elements and even a different understanding of forest governance which as a very broad term (Arts and Visseren-Hamakers 2012, Giessen and Buttoud 2014). Therefore, why its application can be useful? Several studies have shown that forest governance assessment is useful as a learning and practice-oriented tool that will highlight the potential benefits and disadvantages of the current governance system and ways to improve it (Campe-se et al. 2016). This is also true for the Ukrainian case study.

The study presented in this paper gives an assessment of forest governance in Ukraine based on the set of indicators. In this relation two methodological challenges can be outlined. Firstly, in comparison to other similar studies, the set of indicators was not developed by a group of experts but proposed by the authors on the basis of FAO approach and analysis of the studies on improving forest governance in Ukraine. On the other hand, the inclusion of a large number of indicators resulted in experts' reluctance to participate in the survey. The experts involved in this survey represented 6 regions of Ukraine, and inclusion of experts from all regions can be reasonable to approach comparative assessment. The using of SurveyFace tool is convenient for all groups of experts, with the exception of forestry workers (practitioners) for whom the paper version of the questionnaire is usually preferred.

## Conclusions

The application of the FAO approach as an analytical framework for assessing the forest governance system of Ukraine allows determining the degree of transparency, accountability, participation, efficien-

cy, effectiveness and fairness in the allocation of forest resources at the national level. The assessment of indicators within three elements shows progress towards good forest governance.

The survey results show that the forest governance system needs to be improved within all elements: political, legal, institutional and regulatory frameworks; planning and decision making process; implementation, enforcement, and compliance. The biggest gaps were found in the independence level of the forest governance system from the influence of the political environment and the effectiveness of the implementation of ban on raw wood exports. The participation of some stakeholder groups is also critically low.

It is recommended to carry out further research on the forest governance system assessment and diagnosis by deepening the approach and including new indicators, in particular under the components: financial initiatives, economic instruments and distribution of forest income, forest enforcement and anti-corruption measures. In the context of new administrative decentralization reform in Ukraine, which envisages the formation of united territorial communities, it is important to move from passive forms of participation to active ones. In addition, also it should be mentioned that setting a mechanism for periodic assessment of forest governance system can be helpful in monitoring the real progress towards good forest governance.

## Acknowledgement

The authors wish to express their appreciation to the experts participated in the survey. The assessment is a part of the work in progress on the PhD thesis 'Institutional and economic basis for the reforming

forest governance system in Ukraine' of Ms. Halyna Lesiuk at the Department of Ecological Economics, Ukrainian National Forestry University.

## References

- AGRAWAL A., CHHATRE A., HARDIN R. 2008. Changing Governance of the World's Forests. *Science*, 320(5882): 1460–1462.
- ALIEV H. 2017. When Informal Institutions Change: Institutional Reforms and Informal Practices in the Former Soviet Union. University of Michigan Press. 284 p.
- ARTS B., VISSEREN-HAMAKERS I. 2012. Forest governance: State of the art review. In: Arts B., van Bommel S., Ros-Tonen M., Verschoor G. (Eds) *Forest-people interaction: understanding community forestry and bio-cultural diversity*. Wageningen, Wageningen Academic Publishers: 241–257.
- AVDIBEGOVIĆ M., SHANNON M., BEĆIROVIĆ D., MUTABDŽIJA S., MARIĆ B., MALOVRH Š.P. 2014. Assessing forest governance in the Federation of Bosnia and Herzegovina. Views of forestry professionals. In: *Forests under pressure: Local responses to global issues*. IUFRO World Series, volume 32: 369–380.
- BUKSHA I. 2019. Status-quo of measures for prevention and adaptation to climate change of Ukrainian forestry and proposals for implementation of the Strategy for adaptation to climate change for agriculture, forestry, hunting, and fishery of Ukraine until 2030. Report of German-Ukrainian agropolitical dialogue. Available at: [https://mepr.gov.ua/files/docs/Zmina\\_klimaty/2020/APD%202019%20Climate%20change%20adaptation%20in%20forestry\\_UA.pdf](https://mepr.gov.ua/files/docs/Zmina_klimaty/2020/APD%202019%20Climate%20change%20adaptation%20in%20forestry_UA.pdf) (in Ukrainian) (Accessed on 26 October 2020).
- CABINET OF MINISTERS OF UKRAINE 2016. Concept of implementing state policy in the field of climate change until 2030. (in Ukrainian) Available at: <https://www.kmu.gov.ua/npas/249573705> (Accessed on 26 October 2020).
- CABINET OF MINISTERS OF UKRAINE 2019. Regula-

- tion on the Ministry of Energy and Environmental Protection in Ukraine. (in Ukrainian) Available at: <https://www.kmu.gov.ua/npas/pro-vnesennya-zmin-do-deyakih-postanov-m847180919kabinetu-ministriv-ukrayini> (Accessed on 27 April 2020).
- CAMPESE J., NAKANGU B., SILVERMAN A., SPRINGER J. 2016. The NRGF Assessment Guide: Learning for Improved Natural Resource Governance. NRGF Paper. Gland, Switzerland: IUCN and CEESP. 46 p.
- CASHORE B. 2009. Key components of good forest governance in ASEAN Part I: Overarching principles and criteria. *Exlibris* No 6: 1–8.
- DAVIS C., WILLIAMS L., LUPBERGER S., DAVIET F. 2013. Assessing Forest Governance, the Governance of Forests Initiative Indicator Framework. World Recourse Institute, Washington, USA. 72 p.
- DUBOVICH I., LESIUK H., SOLOVIY I., SOLOVIY V. 2018. Long way from government to governance: meta-analysis of Ukrainian forestry reformation. Proceedings of the Biennial International Symposium 'Forest and Sustainable Development' 8th Edition, 25th–27th of October 2018, Braşov, Romania: 115–126.
- FAO 2011. Framework for Assessing and Monitoring Forest Governance. Rome. 33 p. Available at: <http://www.fao.org/climatechange/27526-0cc61ec-c084048c7a9425f64942df70a8.pdf> (Accessed on 27 April 2020).
- FOREST CODE OF UKRAINE 1994. Official Bulletin of Verkhovna Rada of Ukraine, No 17. (in Ukrainian) Available at: <https://zakon.rada.gov.ua/laws/show/3852-12> (Accessed on 22 May 2020).
- FORESTRY INNOVATION AND ANALYTICAL CENTER 2020. Timber tracking system. (in Ukrainian) Available at: <https://open.ukrforest.com/> (Accessed on 26 October 2020).
- FSC (FOREST STEWARDSHIP COUNCIL) 1996. Principles and criteria for forest stewardship. FSC-STD-01-001 (version 4-0).
- GIESSEN L., BUTTOUD G. 2014. Defining and assessing forest governance. *Forest Policy and Economics* 49: 1–3.
- GRITTEN D., LEWIS S.R., BREUKINK G., MO K., THUY D.T.T., DELATTRE E. 2019. Assessing Forest Governance in the Countries of the Greater Mekong Subregion. *Forests* 10: 47.
- KHVESYK M.A., SHUBALYI O.M., KHVESYK J.M., VASILIK N.M. 2019. Conceptual basis of transformation of ecological and economic relations in the forest sector of Ukraine in the context of European integration. *Folia Forestalia Polonica, Series A – Forestry*, vol. 61(2): 97–111 (in Ukrainian).
- KISHOR N., ROSENBAUM K. 2012. Assessing and Monitoring Forest Governance: A user's guide to a diagnostic tool. Washington DC: Program on Forests (PROFOR). 124 p.
- KRAVETS P., PAVLISHCHUK O., ROZVOD S., STANKEVYCH-VOLOSIANCHUK O., KREMENETSKA E. 2012. Public Participation in Forest Management: Practical manual. Comprint Publishing, Kyiv. 56 p. (in Ukrainian).
- LAND CODE OF UKRAINE 2002. Official Bulletin of Verkhovna Rada of Ukraine No 3. (in Ukrainian) Available at: <https://zakon.rada.gov.ua/laws/show/2768-14> (Accessed on 22 May 2020).
- LAZDINIS M., CARVER A.D., LAZDINIS I., PAULIKAS V.K. 2009. From union to union: forest governance in a post-soviet political system. *Environmental Science & Policy* May 12(3): 309–320.
- LINDAHL B.K., SANDSTRÖM C., STÉNS A. 2017. Alternative pathways to sustainability? Comparing forest governance models. *Forest Policy and Economics* 77: 69–78.
- MAYERS J., BASS S., MACQUEEN D. 2002. The pyramid: A diagnostic and planning tool for good forest governance. IEED, London and the World Bank Alliance for forest conservation and sustainable use, Washington DC. 58 p.
- MICHEL S. 2016. Governance of Local Forests in ENPI East Countries and Russia. Gland, Switzerland: IUCN. 274 p.
- NIJNIK M., OSKAM A. 2004. Governance in Ukrainian Forestry: trends, impacts, and remedies. *International Journal of Agricultural Resources, Governance and Ecology* 3(1/2): 116–133.
- PAVLISHCHUK O. 2014. Legislative and legal instruments for public participation in the formulation of state forest policy. *Scientific Bulletin of UNFU* No 24.11: 279–286 (in Ukrainian).

- PRABHU R., COLFER C.J.P., DUDLEY R.G. 1999. Guidelines for Developing, Testing and Selecting Criteria and Indicators for Sustainable Forest Management. Jakarta, CIFOR: 1–8.
- RAMETSTEINER E. 2009. Governance Concepts and their Application in Forest Policy Initiatives from Global to Local Levels. *Small-scale Forestry* 8: 143–158.
- SARKKI S., PARPAN T., MELNYKOVYCH M., ZAHVOYSKA L., VOLOSHYNA N., DERBAL J., NIJNIK M. 2019. Beyond participation! Social-ecological innovations facilitating movement from technocratic state to collaborative landscape governance in Ukraine. *Landscape Ecology* 34: 1601–1618.
- SOLOVIY I., LESIUK H., KAFLYK M. 2018. Forest sector of Ukraine in the framework of EU integration priorities: policies, strategies and management system. *Studia i Materiały 'Miscellanea Oeconomicae'* No 4, vol. II: 79–94.
- SOLOVIY I., NIJNIK M., DEYNEKA A., MELNYKOVYCH M. 2017. Reimagining forest policy, institutions and instruments through concepts of ecosystem services and social innovations: Ukraine in the focus. *Scientific Bulletin of UNFU* 27(8): 82–87.
- STATE FOREST RESOURCE AGENCY OF UKRAINE 2014. Information on international cooperation. (in Ukrainian) Available at: [http://dklg.kmu.gov.ua/forest/control/uk/publish/article?art\\_id=112291&cat\\_id=32884](http://dklg.kmu.gov.ua/forest/control/uk/publish/article?art_id=112291&cat_id=32884) (Accessed on 27 April 2020).
- STATE FOREST RESOURCE AGENCY OF UKRAINE 2019. Public report. 43 p. (in Ukrainian) Available at: [http://dklg.kmu.gov.ua/forest/control/uk/publish/article?art\\_id=166328&cat\\_id=113360](http://dklg.kmu.gov.ua/forest/control/uk/publish/article?art_id=166328&cat_id=113360) (Accessed on 27 April 2020).
- STOROZHUK V. 2016. Overall assessment of forest management in Ukraine. Analytical report within program on improving forest law enforcement and governance in the European Neighborhood Policy East Countries and Russia. 79 p. (in Ukrainian) Available at: [http://www.enpi-fleg.org/site/assets/files/2122/report\\_storozhuk\\_forest\\_governance\\_assessment.pdf](http://www.enpi-fleg.org/site/assets/files/2122/report_storozhuk_forest_governance_assessment.pdf) (Accessed on 27 April 2020).
- TKACH V., TOROSOV A. 2015. Improvement of forest relations and forest governance in Ukraine. *Scientific Journal of the Forestry Academy of Sciences of Ukraine* 13: 24–31 (in Ukrainian).
- VERKHOVNA RADA OF UKRAINE 1991. Law of Ukraine 'On protection of the environment'. Official Bulletin of Verkhovna Rada of Ukraine No 41. (in Ukrainian) Available at: <https://zakon.rada.gov.ua/laws/show/1264-12#Text> (Accessed on 22 May 2020).
- VERKHOVNA RADA OF UKRAINE 1992. The Law of Ukraine 'On Information'. Official Bulletin of Verkhovna Rada of Ukraine No 48. (in Ukrainian) Available at: <https://zakon.rada.gov.ua/laws/show/2657-1214> (Accessed on 22 May 2020).
- VERKHOVNA RADA OF UKRAINE 2017. The Law of Ukraine 'On Environmental Impact Assessment', Official Bulletin of Verkhovna Rada of Ukraine No 29. (in Ukrainian) Available at: <https://zakon.rada.gov.ua/laws/show/2059-1914> (Accessed on 22 May 2020).
- WOLFSLEHNER B., PÜLZL H., KLEINSCHMIT D., AGGESTAM F., WINKEL G., CANDEL J., ECKERBERG K., FEIND P., MCDERMOTT C., SECCO L., SOTIROV M., LACKNER M., ROUX J.-L. 2020. European forest governance post-2020. From Science to Policy 10. European Forest Institute. 53 p. DOI: 10.36333/fs10
- WORLD BANK 2009. Roots for Good Forest Outcomes: An Analytical Framework for Governance Reforms. World Bank, Washington DC.
- YAKYMENKO Y., BYCHENKO A., BIELAWSKI M., HOLUB V., ZAMYATIN V., LOHATSKIY V., MARKEVYCH K., MELNYK O., MISHCHENKO M., OMELCHENKO V., PASHKOV M., PSYCHULINA O., ROZUMNIY O., SIDENKO V., STESKIV A., STETSUYUK P., SUNHUROVSKIY M., CHEKUNOVA S., SHANGINA L., YURCHYSHYN V. 2019. Ukraine 2019–2020: broad opportunities, contradictory results (Assessments). Analytical report. 133 p. Available at: <http://razumkov.org.ua/uploads/other/2020-PIDSUMKI-ENG.pdf> (Accessed on 18 May 2020).