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# FOREST TERRITORIES FOR WILD NATURE: NEW POLICY OF FOREST MANAGEMENT

White Paper

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The White paper is aimed to help in reformation of the management of forest industry. The publication outlines the main problems in forest industry in Ukraine, legislative gaps in this area and the key solutions for bridging the gaps and raising the quality of Ukrainian forests that will create necessary conditions for preserving biodiversity and maintaining environmental balance of forest ecosystems, developing recreation and green tourism, ensuring sustainable use of forest resources.

The document provides environmental and economic arguments for the adoption of legislative changes, as well as highlights the positions of stakeholders and key implementers of the decisions for the purpose of reforming and ecologizing the forestry sector in Ukraine. In our research, we studied the foreign experience of the leading countries of the world and based our vision on changes in the industry based on the ideas and best practices of forest management in the United States of America and European countries.

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## 1. THE LIST OF ABBREVIATIONS

FSC – Forest Stewardship Council  
VRU – the Verkhovna Rada of Ukraine  
SSF – selective sanitary felling  
SAFRU – the State Agency of Forest Resources of Ukraine  
CMU – the Cabinet of Ministers of Ukraine  
RC – regeneration cutting  
MAPFU – the Ministry of Agrarian Policy and Food of Ukraine  
MDU – the Ministry of Defence of Ukraine  
MENRU – the Ministry of Environment and Natural Resources of Ukraine  
NASU – the National Academy of Sciences of Ukraine  
UNFU – the Ukrainian National Forestry University  
NNP – national nature park  
NUBNRU – the National University of Bioresources and Natural Resources Use  
RAFH – regional administrations of forestry and hunting  
NPF – nature protected fund  
CC – clear-cutting  
SEA – strategic environmental assessment  
SRA – sanitary and recreational activities  
SF – sanitary felling  
CSF – clear sanitary felling

## 2. THE LIST OF TERMS

**Invasive species** are non-native for a certain territory species that are to a large extent capable of uncontrolled distribution and, as a result, endanger the native flora or fauna by competing with them for their ecological niches.

**Alien (non-native) species** are any species brought from other countries (on purpose or accidentally) that are not local on a new territory.

**Regeneration cutting** is complex logging that combines elements of clear-cutting and forest thinning to restore protective, water protection and other useful properties of forests, preservation of biodiversity, maintenance and formation of complex rock, tiered and age structure of forest stands. It is conducted in ripe and overripe multi-tiered tree-stands of various age and tree-stands of a simple structure for the restoration of valuable tree species in forests where clear-cutting is not allowed<sup>1</sup>. Selective regeneration cutting when planned and carried out wisely is admissible. At the same time, total regeneration cutting is permissible only in certain types of plantations formed from alien species. In fact, because of imperfect procedure of the allocation of regeneration cutting, total sanitary felling and total clear-cuttings are carried out under the guise of total regeneration cutting.

**Forest inventory and planning** (project of organization and development of forestry) is a document that defines and justifies the main directions of organization and development of forestry

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<sup>1</sup> <http://zakon2.rada.gov.ua/laws/show/724-2007-п>

of a particular object. The materials of forest inventory and planning provide qualitative and quantitative characteristics of each forest area, a complex assessment of forest management <sup>2</sup>. Materials of forest inventory and planning contain all cutting plans for the coming years.

**Second-growth forests** are forest-stands that were formed on the sites of indigenous forests after their cutting.

**Clear-cutting** – this is the harvesting of wood during special use of forest resources <sup>3</sup>. For each species, the maturity age is determined, after which the further growth of the tree is unprofitable from the economic point of view of foresters, and therefore it must be cut. For pine, this age is 80-100 years, for oak - 100-130 years (depending on the category of forests) etc.

**Forest thinning** – is carried out as periodic cutting of trees, the further preservation of which in the composition of plantations is not feasible. Forest thinning can be of the following types: lighting, cleaning, thinning, accretion cutting<sup>4</sup>. Forest thinning plays an important role in young and middle-aged plantings. Untimely and inadequate forest thinning in artificial forests can lead to the death of a forest or the change of tree species. At the same time, accretion cuttings in protected forests are inappropriate.

**Sanitary felling** is aimed at the improvement and strengthening of biological stability of forests, prevention of their diseases and damage <sup>5</sup>. In Ukraine, sanitary felling is widely used for harvesting wood in protected forests and, in fact, does not fulfill its function of improving the quality of forests.

**Forest inventory** is an assessment of forest in the course of forest planning: determination of age, types of species, density, sanitary condition, wood stock and other characteristics.

### 3. INTRODUCTION

Forests are home to many rare plants and animals. Every fifth species of animals and the eighth species of plants of the Red Data Book of Ukraine disappears as a result of deforestation. At the same time, forest is a renewable natural resource, and even highly developed countries of the EU and North America use it and carry out large-scale felling in their forests. That is why EPL's position in this study is a clear balance between the conservation of wildlife areas and the use of natural resources.

Ukraine is a European country and we share the European principles of equality, transparency, openness and participation in the development of a country with a safe environment. Therefore, we protect the right of the population to a safe and healthy environment, which is impossible without healthy forest areas, and we protect the nature from the thoughtless and irresponsible interference of the industrial sector.

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<sup>2</sup> <http://www.lisproekt.gov.ua/diyalnist/lisovporyadkuvannya>

<sup>3</sup> <http://zakon5.rada.gov.ua/laws/show/z0085-10>

<sup>4</sup> <http://zakon2.rada.gov.ua/laws/show/724-2007-п>

<sup>5</sup> Ibid

## 4. GOAL

The introduce new management in the forestry, aimed at biodiversity conservation and improvement of forest ecosystem services, along with the non-exhaustive use of natural resources.

## 5. PROBLEMS TO BE SOLVED IN ORDER TO REACH THE GOAL

Forests in Ukraine occupy about 15.9% of the total area of the country<sup>6</sup>. While in the leading countries people have already understood the need for sustainable forestry, management of state and communal forests in Ukraine is still focused primarily on timber harvesting. Ukraine has no comprehensive strategic planning of forestry development. Forest legislation is still not harmonized with the land and nature protection legislation, and most of forestry regulations and instructions are outdated, do not take into account modern approaches and requirements and often contradict each other and environmental legislation.

The lack of procedural regulations for ensuring implementation of certain legislative norms leads to actual negligence of legislative norms while vague and unclear formulation of legislation norms and by-laws allow for different interpretation of these norms by forestry enterprises and controlling bodies, which in the long run results in the lack of unified law application practice in the forest industry.

Ecosystem services of forest – pure water, air, carbon dissolution, biodiversity preservation, tourism – are not taken into account in the course of planning managerial measures. All this leads to adverse environmental consequences, namely deterioration of environmental conditions and life quality, and therefore to economic expenses for solution of these problems.

### 5.1. Problems related to the policy in the forest sector:

- 1) Industrial focus of the strategy of reforming the forest sector. “The 2022 Strategy of the forest sector reformation”<sup>7</sup> is aimed at natural resources potential of the sector and has no biodiversity preservation aspects in its strategic goals.
- 2) Biodiversity preservation function of forests is not fixed in the legislation. The notion of forest in the legislation is based on natural resource interpretation and does not take into account the value of forests as natural ecosystems that are important for biodiversity preservation. Art. 1 of the Forest Code of Ukraine<sup>8</sup> states that forests of Ukraine are the source of satisfying needs of the society for forest resources but the list of forest functions mentions neither the nature protection function nor its value for preservation of landscape diversity, genetical funds of flora and fauna, maintenance of general environmental balance.
- 3) Lack of the policy aimed at fighting invasive species and their purposeful inclusion into tree-stands. In Ukraine many protected areas and forestries have no sufficient information on problems, and therefore do not undertake any measures to fight invasive species. Many territories that are supposed to protect the natural environment and biodiversity, instead give possibility for invasive species to spread or using the old

<sup>6</sup> Overall characteristics of Ukrainian forests [http://dklg.kmu.gov.ua/forest/control/uk/publish/article?art\\_id=62921](http://dklg.kmu.gov.ua/forest/control/uk/publish/article?art_id=62921)

<sup>7</sup> [http://lesovod.blogspot.com/2017/11/blog-post\\_187.html](http://lesovod.blogspot.com/2017/11/blog-post_187.html)

<sup>8</sup> Forest Code of Ukraine, approved by the Decree of the VRU No. 3853-XII of 21.01.94  
<http://zakon3.rada.gov.ua/laws/show/3852-12>

practice, alien trees, bushes and grass are planted there in order to artificially raise productivity or ripeness of forests etc. No measures are taken to stop intensive uncontrolled dissemination of invasive species. For example, our own research shows that the National Nature Park “Nothorn Podillia” faces invasion of red oak where it fully forms the second layer in pine and beech forests and will soon crowd out natural species. There are also territories where it also forms the first layer on whole territories covering several dozens of hectares. If no measures are undertaken to stop dissemination of this species, the National Nature Park will lose the natural complexes for protection of which it was created and thus will lose its purpose and value.

- 4) Lack of state policy on self-seeding forests. Degraded lands and lands that are excluded from agricultural use are often places where forests self-seed from adjacent forests. With the flow of time full-fledged forests grow here. According to the statute, lands covered by self-seeding forests have agricultural purpose and thus there are many cases when farmers<sup>9</sup> start using such lands for agriculture, cutting valuable forests that are 20-25 years old and this is legal. Also, because of the lack of control, de facto wood is harvested avoiding the legislation and state budget. Self-seeding forests are not registered, whereas transfer of degraded lands to the state forest fund is suppressed by the existing bureaucratic procedure requiring significant time and resources.
- 5) Lack of the state policy of forest management reform towards close to nature forestry. The Soviet approach has deeply rooted in the manner forestry is operated in Ukraine. Formation of even-aged single-species forest stands (so called monocultures), use of species from other climate zones and altitudinal zonation for this purpose, and non-use of selective CC systems leads not only to impoverishment of forest biodiversity and exhaustion of the ecosystem as a whole, but also to soil erosion and greater vulnerability of the forest to unfavourable conditions: mass distribution of insects, drying out, windfalls, windbreakages. In addition, the current approaches to forest regeneration do not prohibit creation of second-growth forests out of tree species, not characteristic to the given natural zone. For example, artificially created monocultural spruce forests in place of indigenous beech forest stands nowadays dry out intensively and require large-scale cutting. Such forests lose their economic value rapidly and require substantial resources to care for them.
- 6) Lack of economic assessment of ecosystem services and mechanisms of taking it into account in decision making. Forest ecosystems fulfil a number of functions vitally important for humans, which value is often unthought, as these functions do not possess a market price. To assess the real value of the forest, apart from the value of timber itself, one should also add the cost of services of climate regulation, air cleaning, assimilation of other waste, food production, contribution to streamflow, recreation services, soil stabilization, etc. With these estimates we come to the conclusion that preservation of forest for future generation is more profitable than trying to cut everything at once to gain profit. The lack of economic assessment of ecosystem services leads to ultimately resource-based attitude towards forest and as a result – the lack of motivation of the forestries’ employees to preserve it.

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<sup>9</sup> [epl.org.ua/environment/derzhlisahentstvo-v-cherhovyi-raz-ihnoruie-problematyku-samosiinykh-lisiv-na-nelisovykh-zemliakh/](http://epl.org.ua/environment/derzhlisahentstvo-v-cherhovyi-raz-ihnoruie-problematyku-samosiinykh-lisiv-na-nelisovykh-zemliakh/)



- 7) Lack of logical distribution of forest management between various bodies. Forest lands do not belong to a single body: the majority of forests belong to the SAFRU, subordinated to the MAPFU and the MENRU. In addition, there are forests within the structure of the MDU, and also so called “agroforests” (municipal enterprises subordinated to local self-government bodies). As a result, it leads to the situation that the single legal base does not warrant single approaches to forestry operation, as different users may apply the legislative provisions in a different way. For example, forestry operation is of less quality in forests belonging to the MDU and in agroforests, if compared to forests belonging to the MENRU and the SAFRU, which is manifested in larger scale of unauthorized cutting and worse organization of forest protection, in ignoring of the nature protection legislation and in massive clearcuts.
- 8) Voluntary character of forestry agencies’ certification. Unlike a number of other countries, Ukraine lacks obligation to certify forestry according to the FSC international standards. Forestry agencies obtain such certificates on one-to-one basis to trade timber and wood derivatives in the world markets. During the certification procedure, independent auditors assess all aspects of forestry operation, including preservation of biodiversity. Certified forestry agencies make less violations of the nature protection legislation, than non-certified ones, as they risk losing their certificate.
- 9) Lack of a single document to regulate all types of cutting in forests and a separate one for cutting within the nature protected fund. At present, there are separate Rules for clear-cutting<sup>10</sup>, Rules for clear-cutting in mountainous forests of the Carpathians<sup>11</sup>, Rules for improvement of forest quality composition<sup>12</sup> and the Sanitary rules in forests of Ukraine<sup>13</sup>, approved by by-laws of various level. As for some types of cutting (regeneration cutting, reconstruction cutting, etc.), separate by-laws are totally absent, there is only a mention about the general principles of their purpose and letters of recommendations of the SAFRU. This allows manipulating with names of cutting types, as one and the same cutting may be referred to by different terms. Unscrupulous forestry agencies take advantage of this and designate those types of cutting, which are the simplest in terms of the procedure of obtaining a permit. All the above listed documents contain contradicting norms, do not take into account peculiarities of the natural climate zones, and introduce equal rules for cutting in ordinary forests and forests protected within the nature protected fund areas, which may be complicated as not all protected areas are retrieved from land users. This also leads to the lack of single usage of the cutting system Ukraine-wide. For example, some regions harvest 10-15%<sup>14</sup> of timber scopes due to RC, whereas other regions do not perform such cutting altogether.
- 10) The same approaches to forest inventory and planning within the NPF and outside, as well as the aspect of biodiversity preservation being absent in the instructions for forest

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<sup>10</sup> Approved by the Order of the State Committee for Forestry Agencies of December 23, 2009 No. 364 “On approval of the Rules for clear-cutting” <http://zakon3.rada.gov.ua/laws/show/z0085-10>

<sup>11</sup> Approved by the Decree of the Cabinet of Ministers of Ukraine of October 22, 2008 No. 929 “On approval of the Rules for clear-cutting in mountainous forests of the Carpathians” <http://zakon3.rada.gov.ua/laws/show/929-2008-%D0%BF>

<sup>12</sup> Approved by the Decree of the Cabinet of Ministers of Ukraine of May 12, 2007 No. 724 “On approval of the Rules for improvement of forest quality composition” <http://zakon2.rada.gov.ua/laws/show/724-2007-%D0%BF>

<sup>13</sup> Approved by the Decree of the Cabinet of Ministers of Ukraine of July 27, 1995 No. 555 “On approval of the Sanitary rules in the forests of Ukraine” <http://zakon2.rada.gov.ua/laws/show/555-95-%D0%BF>

<sup>14</sup> <http://epl.org.ua/environment/lisovidnovni-rubky-iak-cherhova-skHEMA-lehalnoi-vyrubky-pryrodoohoronykh-lisiv/>

inventory and planning. As a result, a complex of actions (sanitary felling, accretion cutting, regeneration cutting, etc.) is designated in the NPF areas, based on economic feasibility rather than ideas of biodiversity preservation. Correspondingly, some forestry agencies and NPF entities on purpose do not perform cutting as planned by forest inventory specialists, to preserve biodiversity. In addition, p. 9 art. 46 of the Forest Code of Ukraine mentions that forest inventory and planning stipulates identification of typical and unique natural complexes, sites of growth and habitation of rare and endangered species of animal and plant world subject to protection and inclusion into the ecologic network. Alas, this norm is a declarative one, no one in forestry agencies deals with such identification due to the lack of a procedure for such identification and, correspondingly, the lack of forestry agencies' initiative to protect forests.

- 11) On-going forest inventory and planning activities as a source of corruption. Separate types of cutting (like regeneration cutting or reconstruction logging) do not require observations on site or several approvals and are designated by forest inventory specialists alone during forest inventory and planning activities. At present a forestry agency is entitled to apply to forest inventory and planning experts to review the existing plans at the end of the year and designate additional cutting. In fact, under conditions of the lack of state funding, forest inventory specialists are ready to approve any cutting.
- 12) Lack of the Methodical guidelines for insect ("pest") management. Artificial forest plantations are unstable and largely non-resistant to the impact of unfavourable factors, including excessive reproduction of insects. Timber beetles, sawflies and other insects may damage dozens of hectares of forest for a relatively short period. Weakening of forest cultures, caused by environmental pollution, changes in usual climate conditions, as well as mono-cultural character of plantations, contribute to that factor. If in protected forests succession processes are natural and do not usually require human interference, in commercial and recreational forests, such approach is not always right. In Ukraine, artificial plantations occupy large enough areas; nonetheless methodical recommendations for insect management therein have not been approved yet. Forestry agencies, at their own discretion, use various chemicals causing death of not only insects, but also the whole forest ecosystem, as chemicals affect all groups of animals in the same way. Entry of pesticides into the soil leads to death of soil fauna and microflora necessary for formation of soil and top humus, and also leads to absorption of pesticides by fungi. Depending on the type of plant protection means, approach to their usage and type of top humus, chemicals may enter into soil and contaminate ground waters. In addition, treatment of forests with pesticides does not take into account location of areas and facilities of the NPF and sites of occurrence of populations of rare animals, first and foremost, insects, bats, and birds. There is an acute lack of awareness about alternative, biological methods of effective pest control that are safe for the forest. At the same time, the choice of chemical products rather than viral ones is caused by indirect factors, such as cost, as well as a need to dilute products in gasoline which allows writing off fuel under the guise of pest control.
- 13) Lack of management plans for the NPF areas. A number of the NPF categories (reserves, reserved stows, nature monuments) are large in space and contain various forests. However, the documents determining the mode of natural resource management (regulations) introduce single limitations for the whole area, not taking into account

peculiarities of this or that site. As a result, in some NPF areas, there is a loss of biodiversity in forests due to failure to perform felling of a specific type, whereas in others – vice versa – due to its performance<sup>15</sup>.

## 5.2. Problems related to procedural issues:

- 14) Non-transparent and long-lasting procedure of forestry activities in the NPF areas. In order to obtain a permit for cutting within the NPF area, a forestry agency has to receive 5-6 approvals from various institutions and bodies. This procedure may last for up to half a year. As a result, commercial quality of wood deteriorates, whereas SF is not conducted timely where it is justified scientifically. At that, such system does not ensure avoiding cutting, that is harmful for biodiversity, as the majority of institutions issue approval based on the documents alone, without visiting a cutting site. In addition, this is a potentially corruption mechanism, as some representatives of the state bodies may demand bribes for formal approvals.
- 15) Lack of the approved procedure for revision and cancellation of the annual allowable cut. The annual allowable cut is the maximum annual volume of wood, which a forestry agency may cut. In cases when a part of the forestry agency is declared an area of the nature protected fund, the forest management mode is changed to a softer one pursuant to the Law of Ukraine “About the nature protected fund of Ukraine”<sup>16</sup> (hereinafter referred to as the LU “On the NPF”), therefore the annual allowable cut needs to be revised in accordance with new conditions and reduced, which is evident. Alas, analysis of data as for the annual allowable cut revision for 2010-2016<sup>17</sup> shows that this norm is practically neglected, and revision of the annual allowable cut is made mainly routinely during regular forest inventory and planning activities, as there is no procedure for revision, or liability for failure to perform such revision either, whereas the MENRU and the SAFRU shift the responsibility on each other. The current “Instruction for procedure of agreeing upon and approval of the annual allowable cuts”<sup>18</sup> does not establish any procedure for revision.
- 16) Lack of public discussion of the materials of forest inventory and planning. The materials of forest inventory and planning which are in fact management plans for forestry enterprises do not undergo any public discussion, while their text is only partially accessible for the public. This leads to the fact that the public can not learn in time which actions are planned to make any comments or proposals to change them.

## 5.3. Problems with control in the forest sector:

- 17) The specialized forest protection service being controlled by the SAFRU. State specialized forest protection enterprises are within the structure of the SAFRU, similarly to forestry agencies. Taking into account the interest of the SAFRU in maximum scope of cutting, forest protection services can not be independent and objectively assess all

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<sup>15</sup> <http://www.fleg.org.ua/konkurs-2015/978>

<sup>16</sup> The Law of Ukraine “On the nature protected fund of Ukraine” of 16.06.1992 No. 2456-XII  
<http://zakon0.rada.gov.ua/laws/show/2456-12>

<sup>17</sup> <http://epl.org.ua/environment/chomu-ministerstvo-ekologiyi-nese-vidpovidalnist-za-obsyagy-rubok-lisu-i-yak-tsomu-zapobigty/>

<sup>18</sup> The order of the Minister of Environmental Protection of 05.02.2007 No. 38 “On approval of the Instruction for procedure of agreeing upon and approval of the annual allowable cuts”  
<http://zakon2.rada.gov.ua/laws/show/z0160-07>

cutting proposed for their assessment. As a result, situations often occur, when the actions of a forest pathologist on the survey site are conventional, and conclusions about the forest stand condition are not objective.

- 18) The Ukrainian State Forest Inventory and Planning Industrial Association being controlled by the SAFRU. AUA “Ukrstateforestdesign” which should perform assessment of the status of forest resources and propose maximum scopes of allowable cutting for 10 years in advance, is also within the structure of the SAFRU, while development of a project for organization of forestry operation is not independent either. As a result, there are not infrequent cases when wrong data is included to the materials of forest inventory and planning on purpose, which allows increasing the legal scope of felling.
- 19) Lack of a single geoinformational system of Ukraine forest sector management. Pursuant to art. 53 of the Forest Code of Ukraine, the central body of the executive authorities, implementing the state policy in the forest sector, should maintain the state forest cadastre which should include both record of qualitative and quantitative composition of forests, division into categories, economic assessment of the value of the ecosystem services of forests, as well as all the documentation necessary for the state and public control, including both the materials of forest inventory and planning, survey reports, and resolution on transfer into possession. Nevertheless, such cadastre is not maintained. The data on species composition, age, volume in Ukraine’s forests are kept by AUA “Ukrstateforestdesign”. The data base of designated cutting is maintained separately by each RAFH. These data are not interconnected into a single geoinformational system, while a control body or the public needs to file requests and spend time to receive access to these data.

#### **5.4. Problems related to certain legal norms:**

- 20) Clear regeneration cutting in place. The legislation lacks a strict division between the notions “regeneration cutting” and “clear sanitary felling”, there are no strict criteria for differentiating, which is made at own discretion. Selective RC, if used correctly, is similar to natural forestry operation. At present, for RC to be designated, a relevant instruction for cutting in the materials of forest inventory and planning is needed only. Therefore, RC often turns into the scheme of legal cutting of non-commercial forests<sup>19</sup>.
- 21) Lack of the norm obligating, during cutting, to leave trees, significant for maintaining biodiversity. During total cutting absolutely all woody plants are removed from the area: both young trees, shrubs, dead standing trees, very old single specimens of trees having absolutely no economic value, but being especially significant for nature preservation.
- 22) Outdated maturity age tables. At present, forest inventory and planning uses in its operation the age of clear-cutting (maturity age) in accordance with “The optimal ages of cutting in forests of the Ukrainian SSR” as amended in 1992 (as for larch), 1999 (as for beech in plain forests) and 2009 (as for second-growth spruce). These tables contain outdated and unjustified figures leading to younger age for some species, and older age for the others. In addition, not for all species the maturity age differs in terms of commercial and non-commercial forests.

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<sup>19</sup> <http://epl.org.ua/environment/lisovidnovni-rubky-abo-navishho-lisova-galuz-povtoryuye-svoyi-stari-pomylky/>

- 23) Availability of the norm of the minimum density of 0.1 that may be left after SSF. Pursuant to cl. 27 of the Sanitary Rules in Forests of Ukraine, it is stated that SSF may be performed in forest stands, where SSF performance will lead to decrease of the stand density below 0.1. Such density in some types of forest does not provide for stable functioning of the site and maintenance of biodiversity, increases vulnerability to external factors, including windfalls and excessive reproduction of insects. In fact, in separate cases forestry agencies abuse such density, de facto performing clear-cutting in the guise of selective one and later on save costs on culture creation.
- 24) Existence of the obligation to get SRA lists approved by the specialized forest protection service. Pursuant to cl. 5 of the Sanitary Rules in Forests of Ukraine, the list of forest sanitary status improvement activities need to be approved by the state specialized forest protection agency. Such approval is formal and has elements of corruption, as physically it is not possible to thoroughly check, with a site visit, the whole list of activities a year in advance. As a result, SF is performed not always where<sup>20</sup> it is needed and expedient from the forestry point of view.
- 25) Lack of fire management. The lack of fire management has negative impact on biodiversity in forests. Aside from the fact that there is danger of ignition from a carelessly flicked cigarette, abandoned campfire or other human factor, fires in dry summer period are often natural phenomena. Therefore, fire management needs a special approach. Extinguishing of absolutely all fires, with no exclusion, leads to negative consequences for biodiversity, as for some types of forests, fires are necessary.
- 26) Cutting performance according to the compartment-subcompartment system. The compartment-subcompartment principle, according to which cutting is performed, does not provide for the best conditions for biodiversity in forests. Often, subcompartments are located along water courses and are subject to total cutting, which makes banks and slopes vulnerable to erosion. Also, random cutting, scattered all over the forestry agency, leads to increased disturbance factor for biodiversity, which has especially negative impact in the breeding season.

### 5.5. Funding related problems:

- 27) Lack of the state funding for some forestry agencies. Forests of Ukraine are very diverse, there are forestry agencies with highly productive and healthy forests, whereas there are forestry agencies with weak and dried-up forests; in southern regions the forest cover of the forest fund lands and quality of these forests is generally very low. Moreover, there are forestry agencies which have no commercial forests at all, and there are such, the majority of which was included to the nature protected fund areas, so clear-cutting is not performed there. For instance, at present 90% of the territory of Kutya Forestry Agency is now a part of NNP “Hutsulshchyna”, as a result, the forestry agency is obligated to guard the whole territory, whereas cutting may be performed on a limited area only. Due to these different conditions, revenues received by forestry agencies from forest resources vary from adequate to extremely low. Before 2016 the budget programme KPKVK [*Code of Programme Classification of Expenditure and Crediting*] 2805060 “Operation of the forest and hunting sector, protection and preservation of forests in the forest fund” funded, including but not limited to, forest inventory and planning activities,

<sup>20</sup> [http://texty.org.ua/pg/article/textynewseditor/read/59871/Chvert\\_zakaznykiv\\_Kyjiivskoiji\\_oblasti\\_pidpala\\_pid\\_sucilni](http://texty.org.ua/pg/article/textynewseditor/read/59871/Chvert_zakaznykiv_Kyjiivskoiji_oblasti_pidpala_pid_sucilni)

forest fire protection, ensuring operation of the state forest guard, general economic and administrative expenses related to forestry and hunting, establishment of shelterbelts and filed-protective belts, etc. That means there was budgetary funding for non-profitable forestry agencies. The supplements to the Law of Ukraine “On the State Budget of Ukraine for 2016”<sup>21</sup> and 2017<sup>22</sup> such budget programme was also available, however only two directions were funded from it: “Conducting measures to ensure operation of budgetary institutions of the forest and hunting sector belonging to the area of administration of the State Forest Agency” and “Conducting measures to ensure operation of budgetary institutions of the nature protected fund belonging to the area of administration of the State Forest Agency”. That means all forestry agencies were fully transferred to self-sustained operation with no subsidies at all, which resulted in catastrophic decline in the level of forest protection from unauthorized cutting in non-profitable forestry agencies, whereas forestry agencies themselves look for every legal opportunity to perform any cutting whatsoever to get some funds for their operation.

28) Irrational distribution of fee for cutting. According to the Budget Code of Ukraine<sup>23</sup> rental payment for special use of forest resources (so called stumpage) and for cutting with the purpose of forest hygiene and formation (sanitary felling, regeneration cutting, etc.) is assigned in full to the budgets of local self-government by location (position) of the forest site where cutting was performed. In case of CC performance, 50% is assigned to the regional budget, and 50% - to the state budget. Correspondingly, local self-government bodies are objectively interested in performance of SF to replenish their budgets.

## 6. COSTS OF NON-DOING

Significance of natural forest ecosystems for human life can not be underrated. Forests are not only the source of raw materials used in construction, as a fuel, in furniture and paper industries, and also a source of “secondary forest resources” (hay, mushrooms, berries, nuts, dip) and ecosystem services (fresh air, favourable climate conditions, water content of rivers, recharge of aquifer, medium for biodiversity existence and ensuring cycle of matter, waste assimilation, etc.), which spectrum is extremely huge and still not fully understood by the majority of people.

Economy based on exploitation of the natural resources leads to ecological and social problems related to market failures<sup>24</sup>. One of the reasons for market failures is the lack of assessments of the real value of natural goods and services, which makes impossible to take into account their value in decision-making. Correspondingly, necessity arises to conduct monetary evaluation (monetization) of the natural resources and services, which often do not possess the market value. For this purpose, a number of methodologies for evaluation of the non-market value of ecosystem services<sup>25</sup> was

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<sup>21</sup> The Law of Ukraine “On the State Budget of Ukraine for 2016” of 25.12.2015 No. 928-VIII <http://zakon5.rada.gov.ua/laws/show/928-19>

<sup>22</sup> The Law of Ukraine “On the State Budget of Ukraine for 2017” of 21.12.2016 No. 1801-VIII <http://zakon0.rada.gov.ua/laws/show/1801-19>

<sup>23</sup> Budget Code of Ukraine of 08.07.2010 No. 2456-17 <http://zakon3.rada.gov.ua/laws/show/2456-17>

<sup>24</sup> Market failures are circumstances under which the market tools are unable to ensure efficient use of the natural resources, and therefore require the state intervention.

<sup>25</sup> For instance, review of approaches and methods is provided in “TEEB - The Economics of Ecosystems and Biodiversity for Local and Regional Policy Makers (2010)”, [http://www.teebweb.org/media/2010/09/TEEB\\_D2\\_Local\\_Policy-Makers\\_Report-Eng.pdf](http://www.teebweb.org/media/2010/09/TEEB_D2_Local_Policy-Makers_Report-Eng.pdf)



developed and numerous research studies were conducted for different types of ecosystems all over the world<sup>26</sup>.

According to the researches by American scientists<sup>27</sup>, the full overall value of forest ecosystem products and services makes up USD 4.7 trillion per annum, out of these the full overall value of boreal forests (of the temperate zone) makes up USD 894 billion per annum. If one adds to these services climate regulation, waste assimilation (including airborne emission) and food production, this value will be even higher.

The USDA report contains the economic evaluation of the value of services of water resources protection provided by forests<sup>28</sup>. Thus, each hectare of forest contributes to surface streamflow, provides electricity production and irrigation services (increase of deposits of soil moisture, being close to plant roots). Forest also has some value in terms of the opportunity to provide recreation on its territory. Forest vegetation stabilizes soil and reduces erosion and weathering. Depending on the region, the value of services of forest hectare of soil stabilization varies from USD 1.94 to 5.5 million per ton. For air purification from fine solid substance (silt, carbon black) and deleterious gases, each tree in average costs USD 4.16 per annum. For biological diversity, forest is the source of existence, hectare of forest costs USD 17.5 thousand, if participation of birds in pest control is taken into account. The value of pollination services makes up from USD 19.23 thousand to 33.65 thousand per annum. In addition, apart from timber, forest also produces numerous commercially important products, including mushrooms, medicinal plants, berries, wild animals, which may also be taken into account for full economic evaluation of the value of goods and services provided by forest.

Alas, no such comprehensive research to evaluate ecosystem services of forests has ever been conducted for Ukraine. However, it would be interesting to track the following. For instance, for 2015 all forestry agencies of Chernivtsi region paid to the budget UAH 147.5 million of mandatory payments and received UAH 34.6 million of net profit<sup>29</sup>. Expressed in hectares, it means that in average 1 hectare of forest in Chernivtsi region, under operation as in 2015, has yielded profit from direct forest use of UAH 702. Thus, profits received (including, those paid to the budget) total from 0.04% to 0.11% of the full value of ecosystem services. Correspondingly, the value of 1 hectare of forest is considerably higher for the society than the market value of cut timber.

## 7. SOLUTIONS

### 7.1. Law and regulatory changes

- 1) To make amendments to the Strategy of the Forest Industry Reform till 2022. The strategy of reform should point out key priorities and principles of the forestry sector

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<sup>26</sup> Numerous materials are available at the website of the global initiative “The Economics of Ecosystems and Biodiversity”, <http://www.teebweb.org/>

<sup>27</sup> Constanza R., d’Arge R., de Groot R., Farber S., Grasso M., Hannon B., Limburg K., Naeem S., O’Neil R.V., Paruelo J., Raskin R.G., Sutton P., van den Belt M. The Value of the World’s Ecosystem Services and Natural Capital. – Nature, 1997. – 387: 253-60.

<sup>28</sup> Sedell. J., Sharpe M., Dravnieks Apple D., Copenhagen M., Furniss M. Water and the Forest Service. FS-660. – United States Department of Agriculture, Forest Service, Washington, DC. – 2000.

<sup>29</sup> Website of the Chervivtsi Regional Administration of Forestry and Hunting <http://www.cvoulg.cv.ukrtel.net/harakter.html>

development and define guidelines for the SAFRU development, among which preservation of biodiversity would be obligatory.

- 2) To make amendments to the Forest Code of Ukraine. It is necessary to vest in forest the function of preservation of biodiversity and nature protection. The function of nature protection and significance of forest for biodiversity, when set forth by law, will facility for these functions to taken into account in the decision-making process, will change attitude towards forests, which would be considered not only in terms of resource usage and receipt of the greatest economic benefit.

To formulate para. 2 art. 1 of the Forest Code as follows:

*“Forests of Ukraine are its national wealth and by their purpose and location perform mostly water protection, safeguard, **nature protection**, sanitary and hygienic, health improving, recreational, aesthetic, educational, other functions, **have major significance for preservation of biodiversity and maintenance of overall ecological balance**, and are the source for satisfaction of the society needs in forest resources”.*

- 3) a) To include the invasive species and their target distribution control into the strategy of the forest sector reform. The legal regulation will enable to come closer to resolving of the problem of non-native species. To prohibit targeted distribution/planting of invasive plants, and to approve an action plan for their control. For forestry that is as follows: identification and destruction of young independent specimens in undergrowth, gradual reforming of tree stands from standing invasive species, etc.

b) To develop and approve a list of invasive species of plants. The list of invasive species will enable to reduce a set of species used for forest breeding and creation of other plantations (i.e. windbreak) down to natural species of Ukraine. This, in its turn, will help to eliminate the threat to genetical fund of indigenous flora and will preserve natural biodiversity. The list needs to be approved by the order of the MENRU “On approval of the list of invasive species of plants”, and the rules for managing such species should be set forth in the Decree of the CMU “On the procedure of management of invasive species of plants”. In addition, relevant amendments need to be introduced to the Law of Ukraine “On plant world”<sup>30</sup> and the Decree of the CMU “On approval of the rules for forest regeneration”.

- 4) To include the issue of independent forests to the strategy of forest sector reform. Namely, it is necessary:

- to get approved the Decree of the Cabinet of Ministers simplifying the procedure of transfer of independent forests (degraded or abandoned agricultural lands) to the forest fund. At the same time, the SAFRU, RAFHs and State Geo Cadastre should jointly conduct activities to identify such plots of independent forests for each region.

- 5) To take into account in the state policy in the forest sector a priority of the development towards close to nature forestry. The strategy of the forest sector development to be developed by the MAPFU must set forth a priority of the development towards close to nature forestry. Close to nature forestry, first of all, stipulates continuous existence of the forest cover to ensure ecological stability. These are establishment and development of

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<sup>30</sup> The Law of Ukraine “On plant world” of 09.04.1999 No. 591-XIV <http://zakon5.rada.gov.ua/laws/show/591-14>



the multi-layered uneven-aged multi-species structure of forest stands corresponding to forest typological conditions. This is use of the processes of natural renewal rather than creation of artificial plantations, with supplementing planting and reseeded being only additional means. This is also regeneration of potential natural vegetation depending on the habitat conditions. Introduction of other species is possible only under conditions of minimization of negative impact on the ecosystem and only on areas of human origin. This is also application of modern low impact harvesting technologies. This is also implementation of economic efficiency of multi-target use of forest (recreation, tourism, non-timber forest resources, subsidiary farming and hunting). Gradual felling is worth introducing, being used in EU countries for a long time already, which does not lead to cutting large areas during one season. Such cutting may be less cost-efficient but it is the least threatening for biodiversity. In addition, close to nature forestry also includes wider introduction of reforming monocultures into forest stands, close to natural by their composition and structure, use of natural forests and virgin forests as ecological models; as well as gradual establishment and development of uneven-aged mixed forest stands and maintenance of their optimal structure; ensuring continuous existence of the forest cover on the site. Such forestry activities require better material and technical resources of the enterprises and modern equipment. That is why it is worth starting from the most profitable enterprises, having their own crews, and gradually transferring to close to nature forestry. It is necessary to make amendments to the Decree of the CMU “On approval of the rules for forest regeneration” and to the relevant methodical guidelines and instructions for forest regeneration. Reckless introduction of non-native species of trees into the species composition is absolutely unacceptable, the same concerns establishment of new forest plantations based on purely economic reasons (for instance, establishment of monocultural pine in Polissia in place of total sanitary felling).

- 6) To introduce mechanisms of taking account the economic value of ecosystem services in decision-making. It is worth developing and getting approved at the national level the methodology for evaluation of ecosystem services. For this purpose, it is necessary to arrange a research involving researches from the NASU institutes, forest sector experts and the public, to evaluate forest services of climate regulation, air purification, other waste assimilation, food production, contribution to streamflow, recreation services, soil stabilization, etc. To develop mechanisms of taking into account such evaluation in the process of making decisions in forestry and to introduce economic stimuli for forestry agencies in order to preserve forest ecosystem functions to the fullest extent<sup>31</sup>.
- 7) To fully support forest certification. Certified enterprises, under different forest standards, will manage forest sector with the least damage to biodiversity and make less infringements of the nature protection legislation, as there is a risk of losing the certificate. For the period of 3 years it is necessary to certify all resource-based forestry agencies belonging to the SAFRU.
- 8) To approve a single document to regulate all types of cutting and a separate one for cutting within the nature protected fund. Separate rules for forestry in the nature protected fund approved by the decree of the CMU will ensure efficient regulation of the management processes in the areas of regular users of lands belonging to the NPF

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<sup>31</sup> For the review of possible market tools please go to: <https://www.gov.uk/government/publications/payments-for-ecosystem-services-pes-best-practice-guide>

without their expropriation. The unified rules for forestry, also approved by the single decree of the CMU “On approval of rules for cutting in forests of Ukraine”, will resolve problems related to contradictory norms in different rules, will take into account peculiarities of the natural climate zones, and also, at last, will introduce usage of a single system of cutting in Ukraine. At the same time, it is worth cancelling the Decree of the CMU “On approval of the rules of forest quality composition improvement”, “On approval of the sanitary rules in forests of Ukraine”, “On approval of the rules of clear-cutting in mountainous forests of the Carpathians”, as well as the Order of the SAFRU “On approval of the rules for clear-cutting”.

- 9) To develop a separate procedure for forest inventory and planning within the NPF. A differentiated approach to forest inventory and planning within the NPF will be implemented based on the ideas of biodiversity preservation rather than economic efficiency alone. A separate procedure should be approved by the new order of the SAFRU “On approval of the instruction for arrangement of the forest fund of Ukraine”.
- 10) To cancel continuous forest inventory and planning activities as the source of corruption. Return to the practice of basic planning of forestry activities for the period of 10 years will eliminate a corruption aspect of the forest inventory procedure. Forest inventory and planning will be conducted more thoroughly, allowing for less mistakes, with no dubious cutting planned each year.
- 11) To develop the Methodical Guidelines for forest insect (“pest”) management. The methodical guidelines based on the differentiated approach will enable to take objective decisions as for use of these or those means for pest control depending on a problem character. As such, decrease of use of chemical products is expected, which often cause more damage than good, whereas wider use of biological, mechanical, pyrogenic and other means will improve the forest preservation as a whole. Correspondingly, it is necessary to develop methodical guidelines and get them approved by the new order of the SAFRU “On approval of the procedure for the regulation of insect populations in forests of Ukraine”.
- 12) To develop quality management plans for all the NPF areas. Legislative norms regulate the NPF activities based on the same approach to all the NPF areas of a certain category, but the areas vary greatly depending on different physical and geographic as well as climate conditions. In addition, within each NPF area there are plots requiring absolutely different management and approaches to preserving biodiversity and landscapes, and such difference may be taken into account only in management plans. At present reserves, reserved stoves and nature monuments do not have any management plans. Only such plans will enable to preserve in a state of nature that, preservation of which this or that NPF facility was established for. Moreover, the current legislation directly allows singling out of especially valuable plots in the reserves. The procedure of the management plan development will be regulated by the new Decree of the CMU “On the procedure of the development of management plans for the nature protected fund areas”. It is also worth developing “The methodical guidelines for forest ecosystems management within the nature protected fund areas”, and to get them approved by the relevant new order of the MENRU, also making relevant amendments to the LU “On the NPF”.

- 13) To simplify and make transparent the procedure of the forestry activities in the NPF areas. To cancel limits (by amending article 9-1 of the LU “On the NPF”). This will help to undergo the procedure in the shortest timescale with no loss of commercial quality of timber. In addition, taking numerous institutions out of the procedure for permit receipt reduces corruption risks, as relevant bodies will no longer be able to demand bribes for formal approvals. At present the approval of limits is the administrative service, that is why in fact, under condition of availability of all the necessary documents, the limit-issuing body can not reject them even it is evident that cutting brings great damage to the NPF facility. This will also facilitate approval of the establishment of new facilities of the nature protected fund on the part of forest users.
- 14) To develop the procedure and timelines for revision of the annual allowable cut. Revision of the annual allowable cut will enable to reduce the scopes of cutting within the NPF areas and around them in accordance with the softer mode of forestry by making amendments to the Order of the MENRU approving “The instruction on the procedure for agreeing upon and approval of the annual allowable cuts”.
- 15) To make the development of forest inventory and planning a public and transparent process. To make amendments into the current by-laws regulating forest inventory and planning activities by introducing norms regarding the participation of the public and wider discussion of the forest inventory and planning projects prior to their approval.
- 16) To establish a single geoinformational system<sup>32</sup> of the Ukraine’s forest sector management. The establishment of the single geoinformational system in place of the forest cadaster, which was last time revised back in 2011, is an effective means of forest monitoring and recording, such system will allow increasing the transparency of the forest sector, improve control on the part of the public, and ease it on the part of the state control bodies.
- 17) To cancel clear regeneration cutting. Cancellation of this type of cutting will enable to cease manipulations with the terminology and differentiating between clear RC and CSF at one’s own discretion. This will also enable to cease use of clear RC in places where only selective RC is needed, and will stop the scheme of designating such cutting in non-commercial forests.
- 18) To set the norm obligating to leave, during cutting, trees that are significant for preservation of biodiversity. New general rules for forestry should contain the norm obligating, during any cutting, to leave trees and shrubs having no economic value, but being extremely significant for biodiversity. These may be dead standing, very old and hollow trees, trees having under their roots a hole of a rare animal, trees having blocks of rare herbs in the nearby, etc.
- 19) To revise the maturity age tables. AUA “Ukrstateforestdesign” should establish a special commission to revise the maturity age tables, involve to the discussion forest and nature researchers from the NASU, foresters, forest inventory specialists, as well as officers from the nature protected fund agencies. The table should take into account geographic,

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<sup>32</sup> “Geoinformational systems (GIS) are the informational systems designed for collection, storage, analysis, and visualization (issue) of the space data”. <http://www.geoguide.com.ua/survey/survey.php?part=gis>

climate, relief and other peculiarities, as well as the protection mode. The new maturity age tables are to be approved by an order of the SAFRU.

- 20) To use a differentiated approach to defining minimum density. Density of 0.1 is not ideal for all types of forests. Correspondingly, minimum values of density should differ depending on the type of the forest where SF is performed. AUA “Ukrstateforestdesign” involving foresters and biologists should set the minimum density taking into account the type of forest, climate, relief and other peculiarities.
- 21) To cancel mandatory approval of the list of SRAs by the state specialized forest protection agency. Cancellation of such approval will remove the corruption aspect and channel activities of the forest protection agencies towards the protection of forests rather than approval of cutting. That is why a new version of the Rules for cutting performance in forests of Ukraine should be developed taking this issue into account.

## **7.2. Administrative and institutional changes**

- 22) To re-subordinate military forestry agencies to the SAFRU. Military forestry agencies, which are not directly related to provision of the buffer zone around service ranges, should be transferred to the SAFRU structure. Such re-subordination will warrant a single approach to forestry, will not allow different interpretation of the law and as a whole will facilitate decrease of scopes of unauthorized and total cutting, and better arrangements for protection. Nearby military depots, military units, etc., where training is not conducted, to leave only small parts of forest in the ownership of the military. The army will be able to procure timber for its needs on a contractual basis, other products alike. To make relevant amendments to the Land Code and to develop by-laws enabling to expropriate forest lands from permanent use of unscrupulous forest users, that most municipal forestry agencies turn out to be.
- 23) To transfer the specialized forest protection service to the subordination of the MENRU or of the environmental inspectorate. The state specialized forest protection agencies, currently being in the SAFRU structure, should be transferred to the subordination of the MENRU. If forest protection agencies are independent of the body, which actions they should control, they will be able to objectively assess all the cutting cases proposed for their assessment and actions of the forest pathologist, and to effectively block cutting based on unjustified conclusions on the forest stand status.
- 24) To transfer the Ukrainian State Forest Inventory and Planning Industrial Association to the subordination of the MENRU. AUA “Ukrstateforestdesign”, which should perform assessment of the status of the forest resources and propose maximum scopes of admissible cutting for 10 years in advance, should also be taken out of the SAFRU structure in order to ensure independence in developing a project of organization of forestry. Re-subordination of the Forestdesign to the MENRU will prevent from purposeful entry of incorrect data to the materials of forest inventory and planning, and will enable to leave the legal scope of cutting on the objective level. In addition, it is necessary to permit private design companies to perform forest inventory and planning activities to create healthy competition in the market.
- 25) To launch pilot fire management in 1-2 forestry agencies. To store natural stock of dead wood in forests it is necessary to calculate which percentage of fires should be left un-

extinguished for such regulation. To develop an order of the SAFRU for one-two forestry agencies which would launch such fire management, and based on the results of monitoring of their activities for 2 years, one could make conclusions as for further implementation of these methods.

- 26) To launch pilot cutting taking into account water courses in 1-2 forestry agencies. Taking into account the water course system when planning and performing cutting will enable to reduce its negative impact on biodiversity. Basic forest inventory and planning should be developed for an area combining one river with its tributaries, which later on for 50 years will be out of forestry activities. Basic forest inventory and planning for the next 10 years after the first one will be developed for another water course system. For this, an order of the SAFRU should be developed for one-two forestry agencies, which would launch such pilot cutting taking into account water courses, and based on the results of monitoring of their activities for 10 years, one could make conclusions as for further implementation of this method.

### 7.3. Budget changes

- 27) To use a differentiated approach to funding of forestry agencies. Funding of forestry agencies should be based on the resource base potential. There are low-profit forestry agencies and those which do not have commercial forests, especially on the east and on the south. Establishment of basic state funding for such forestry agencies is necessary so that they could care more for forest protection to preserve biodiversity, rather than how to receive at least some money out of cutting for their operation.
- 28) To change the distribution of the fee for cutting. For the local self-government bodies not to use their subjective interest in SF, it is necessary to change the distribution of stumpage between budgets. In particular, to set the same distribution for all types of cutting, according to which 50% of revenues should be assigned to the state budget, and 50 % should be left in the local budget by the location of the forest site.
- To formulate art. 29 p. 2 cl. 3 of the Budget Code of Ukraine as follows:  
***50 per cent of rental payment for special use of forest resources;***
  - To formulate art. 64 p. 1 cl. 2 of the Budget Code of Ukraine as follows:  
***50 per cent of rental payment for special use of forest resources, that is assigned to city budgets of Kyiv and Sevastopol;***
  - To formulate art. 66 p. 1 cl. 2 of the Budget Code of Ukraine as follows:  
***50 per cent of rental payment for special use of forest resources;***
  - To formulate art. 69 p. 1 cl. 3 of the Budget Code of Ukraine as follows:  
***Rental payment for use of mineral wealth for extraction of commercial minerals of local significance; rental payment for use of mineral wealth for purposes not related to extraction of commercial minerals; rental payment for special use of ambient waters of local significance; 50 % of rental payment for special use of forest resources. Such payments are assigned to budgets of the local self-government by location (position) of relevant natural resources, and what concerns waters – by the place of the tax registration of a rental payment payer.***

## 8. POSITIONS OF STAKEHOLDERS

### 8.1. Support for implementation of the new policy

*Higher state authorities* – do not understand the importance of preserving forest as an ecosystem and as a source of invaluable services for the society. *Actions:* informing through round tables and involvement to the implementation of new forest management within the NPF of Ukraine, to the development and approval of normative and legal changes in the forestry sector in the NPF. Advocacy of introducing economic evaluation of biodiversity for decision-making in the forestry sector.

*Environmental NGOs* – understand the necessity of forest preservation as the natural landscape, interested in active actions to protect forests, organize events, raise awareness on forest topics in mass media, ready to cooperate. *Actions:* to involve to joint actions in advocacy of changes, lobbying of approval of the new rules for forestry, joint information campaigns; to provide explanations in order to reduce a number of cases of active actions of the public against forestry activities that are not illegal.

*The NPF employees (conscious)* – aware of the rules for sustainable forestry in foreign countries, possess experience of relevant administration, interested in preservation of the environment for future generations. *Actions:* to involve to the development and advocacy of the new rules, to round tables.

*Foresters (conscious)* – will support reforms, as they are not satisfied with the current imperfect legislation and low institutional capacity for normal forestry activities. Are aware of all aspects of forestry in foreign countries and interested in implementing such approaches in Ukraine. *Actions:* to involve to the development and advocacy of the new rules for forestry, to round tables.

*The MENRU (conscious employees)* – support the goal of the environmental protection, rather than exploitation. *Actions:* to involve to the development and advocacy of the new rules, to round tables.

*Local authorities (conscious employees)* – interested in preservation of forest resources and biodiversity and increase of unique areas of the NPF within the boundaries of their region, which would preserve forest ecosystems for future generations. *Actions:* to involve to stimulating of re-channelling of the NPF operation towards green tourism, research activity, awareness raising, involve to advocacy of the new rules for forestry, to round tables.

*Tourists* – outraged by degradation of landscapes in recreation sites and decrease of tourist appeal of the natural sites of Ukraine due to massive cutting in Ukrainian forests, including within the NPF. *Actions:* to involve to joint informational and advocacy pressure on the state bodies to get the new rules for forestry approved; and also to popularization of the new paradigm of forest protection outside the priorities of the resource-based economy.

*The public (active)* – outraged by a large number of trucks carrying round timber, cutting of large areas at the slopes of the Carpathian Mountains. The majority is convinced that absolutely all cutting within the NPF areas are illegal. *Actions:* awareness raising and informing about legal possibility of performing cutting within the NPF, involving to round tables discussion in order to channel the activists' energy into a meaningful activity: to involve to joint informational pressure on the state bodies to get the new rules for forestry approved.

*Local mass media (conscious)* – support the public and researches in aspirations in forest protection, advance public interests of the community, interested in materials that would earn the readers' approval. *Actions:* to involve to dissemination of the information on importance of invaluable resources and ecosystem services of forest, attracting tourists to visit their region; to disseminate the information on the campaign.

*National mass media (conscious)* – interested in top-rated materials, scandalous topics related to corruption schemes, politicians, as well as people's true life stories. *Actions:* to involve to raids, raise awareness, that most cutting is legal and that it worth publicizing thoroughly checked and researched information only.

## **8.2. Opponents of the new policy**

*Local authorities (unconscious employees)* – interested in receiving more taxes, therefore will oppose the new rules aimed at reducing cutting scopes. *Actions:* awareness raising, raising ecological consciousness, involvement to round tables, dialogues, discussions.

*The NPF employees (unconscious)* – interested in forestry operation according to the old scheme to make more profits out of sale of timber, not complicating their life with the new rules. *Actions:* awareness raising, raising ecological consciousness using examples of forestry operation in the NPF areas in foreign countries, stimulating re-channelling of the NPF areas operation from exploitation of natural resources to green tourism, science, awareness raising.

*Forest ranges (unconscious)* – will be against reforms, as they are interested in the old rules for forestry, in the old system of forestry, which allowed, through corruption schemes, plundering natural resources and receiving illegal incomes. *Actions:* to conduct outreach campaigns, raise ecological consciousness, explain the advantages and prospects of the new system and new legislative changes, involve to round tables, dialogues, and discussions.

*The MENRU (unconscious employees)* – may be unsatisfied with the changes, because they would have to adapt to and learn new rules of approval, and approve limits using the new procedure. They will also have to participate in the development of the new rules for forestry, which would cause extra workload. *Actions:* raising ecological awareness, involving to round tables, explanation of the importance of forest protection for future generations through the prism of the economic value of ecosystem services, involving to the development of the new rules.

## **8.3. Social risks.**

*Local residents*, receiving firewood from the nature protected fund, would have to suffer from the lack of fuel and re-focus on other suppliers. *Actions:* provision in the local programmes of financial allowance for firewood transportation from other possible places of harvesting. To encourage installation of solid fuel boilers using waste of woodworking industry and agricultural production as a fuel.

## New policy in the forest sector

| Pro  | Require explanation          | Contra   |
|--|------------------------------|--|
| Environmental NGOs   | Local mass media             | Woodworkers  |
| Conscious foresters  | National mass media          | Unconscious foresters  |
| Conscious employees of the NPF                                 | Wide public                  | Unconscious representatives of the central executive authorities |
| Conscious representatives of the local authorities             | Members of parliament        | Unconscious representatives of the local authorities             |
| Conscious representatives of the central executive authorities | Members of local councils    | Unconscious employees of the NPF                                 |
| Tourists   | Local self-government bodies |  |

### 9. THE MAP OF IMPLEMENTERS

*The Verkhovna Rada of Ukraine:* making amendments to the LU “On the NPF” to cancel limits, making amendments to the Budget Code of Ukraine, Land Code of Ukraine, Forest Code of Ukraine.

*The MENRU:* approval of cutting according to the new rules, development of management plans for the NPF areas of national significance, development of the rules for cutting within the NPF, making amendments to the existing by-laws in terms of approval of the procedure for recalculating the annual allowable cut.

*The SAFRU:* development of the new single rules for all types of cutting, support to forest certification, development of the methodical guidelines for use of plant protection means, development of the procedure for revision of the annual allowable cut, development of the single geoinformational system of forest management, development of the simplified procedure for transfer of independent forests to the forest fund.

*The CabMin:* approval of the new rules for cutting, approval of the forest sector development strategy, approval of the simplified procedure for transfer of independent forests to the forest fund, re-subordination of military forestry agencies to the SAFRU, transfer of the specialized forest protection service and Ukrstateforestdesign to the subordination of the MENRU.

*AUA “Ukrstateforestdesign”:* development of the new maturity age tables, development of separate forestry instructions within the NPF, development of a new version of the instruction for forest inventory and planning.

*Departments of Ecology and Natural Resources of RSAs:* development of management plans for the NPF areas of local significance.

*The Nature Protected Fund Agencies:* planning of forestry activities pursuant to the new rules.

*The MDU:* approval for transfer of the lands of military forestry agencies to the SAFRU.

*NUBNRU, UNFU, research institutions in the SAFRU system:* involvement to drafting the new maturity age tables, instructions for forest inventory and planning, and rules for cutting.

*The NASU Institute:* conducting research and assessment of ecosystem services of forest.

### 10. THE MAP OF CONTROL OVER IMPLEMENTATION

*The CabMin:* administration and coordination of the activities of the MENRU and MAPFU.



*The MENRU:* administration and coordination of the activities of the NPF areas, control over the activities of Ukrstateforestdesign.

*The MAPFU:* administration and coordination of the activities of the SAFRU.

## THE LIST OF SOURCES

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