

ECOLOGIZATION OF FOREST SECTOR IN UKRAINE UNDER THE FOREST CERTIFICATION INFLUENCE

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The analysis of the environmental requirements application of forest management on the international forest certification scheme Forest Stewardship Council has been done for the state forestry enterprises of Ukraine. The impact at forest management practice of certified forest management units under the implementation of FSC standard was evaluated. Valid proposals to ensure key ecological requirements for biodiversity conservation and greening forestry were developed.

Greening forestry, forest certification, forest policy instruments, the principles of sustainable forest management.

Thesis statement

The ecologization is the modern trend in forest management all over the world. Contemporary global challenges as deforestation, climate change, reducing biodiversity and increasing demand for forest resources determine the necessity to transform traditional models of forest management on environmental management principles. Forest certification has specific role among the variety of tools for influence and stimulation. Due to the independent conformity assessment of forestry production for a number of environmental, social and economic requirements gets benefits on environmentally-oriented markets in developed countries through the mechanism of tracking its progress from producer to consumer preferences and labeling. So, forestry managers, providing the implementation of requirements for forest management standards make a significant contribution to the solution of local, regional and global environmental problems caused by the forestry or other activities.

More than a decade of experience in certification scheme Forest Stewardship Council (FSC) necessitates the evaluation of the effectiveness and efficiency of this instrument in the context of environmental enforcement principles of sustainable forest management.

The purpose of the study

Implement and analyze the application of environmental requirements of forest management FSC, to estimate the direction and character of changes that have occurred in the practice of forestry-certified enterprises. Prepare proposals to ensure key ecological requirements for biodiversity conservation and greening of forestry.

Analysis of recent research

Research of forest certification as the instrument for greening forestry production is carried out in the works, as foreign scientists, in particular, C.Upton, S.Bass [12], B.Cashore [10], R. Nussbaum, M.Simula [11] and ukrainian researchers, namely, G.Bondaruk and I.Buksha [1], V.Kovalyshyn [3] I.Synyakevych [5,7], I.Soloviy [8]. In works mostly examined a variety of methodological and methodical aspects of construction and application of forest certification as market-based instruments of forest policy. The considerable attention was paid to the peculiarities of the conditions of forest certification in transforming the forest sector to market principles for management.

The problem of the adaptation and implementation of international forest management standards Forest Stewardship Council (FSC) to national and regional economic conditions is sufficiently processed in the publications, which, in particular, contain practical advices on greening forestry production [2, 6].

Meanwhile, despite more than ten-year period of forest certification, there is a shortage of scientific research directed on the evaluation of the impact of the forest certification requirements on the practical aspects of forest management, particularly in the direction of its greening.

An Overview of Content Analysis

Certified enterprises have accumulated enough experience and practices met the requirements of forest certification since 2001. During this time, the area of certified forest has increased from 0,2 million hectares to 1,6 million hectares or 16%

of the country's forest fund. Of course, it didn't go without miscalculations when for the individual enterprises or their associations occurred of the suspension of certificate as a result of non-fulfilment of requirements. Analysis reports of the results of basic certification audits in 2003-2005 showed complications implementation of environmental principles 6 and 9 [4]. It was established that 45% of all observations concerning issues such as the protection of forest ecosystems and minimization of negative impacts on the environment, conservation of biological diversity, conservation of forest areas designated for conservation of rare and endangered species and more (etc.). Their occurrence was caused mainly by the conservatism of forest management and usage of established, often socially, environmentally and economically unjustified technological scheme of conduction of forestry measures. It concerns to widespread use of agricultural principle of "planting-harvesting scheme" for cultivation productions, instead the potential of regenerative capacity of forest ecosystems to provide continuous production of resources and utilities for humans and the environment is ignored.

In this context, greening of forestry production through finding a balance of environmental, economic and social principles of sustainable forest management is actual.

Opinion poll of senior officials from companies which are certified more than 2 years was conducted in order to assess compliance with environmental standard requirements of forest management.¹ These 47 respondents, representing 92% of all certified companies, both in (by) their number and forests area. The respondents were primarily chief foresters from state forestry enterprises in Zakarpatskiy (16 people), Lvivskiy (16 people) Chernihivskiy (11 persons), Zhytomyrskiy (2 persons) Volynskiy (1 person) and Kievskiy (1 person) regions. It should be noted that 75% of respondents represented companies that have been certified for 5 years or more.

Influence on forest management was estimated primarily by the principle 6, which forms the framework requirements to minimize impact on the environment and biodiversity conservation by promoting natural regeneration of forests, conservation

¹ The survey was carried out by master student M.Lazebnyk under the supervision of P.V. Kravets

of forest tracts, the use of environmental protection equipment and technology of logging etc.

All respondents emphasized the unconditional observance of the requirements for the implementation measures of minimization the impact on the environment. At the same time, the response about the applicable methodology for performing such an evaluation indicate the lack of integrated, objective evidence of the effectiveness of implementation of this requirement.

Transformation of forestry toward greening was assessed through specific indicators: the proportion of complex (discontinuous) felling, natural regeneration of forest area, the percentage of cutting areas on which the leaving of the individual components of the forest, biodiversity conservation and more (etc.). Thus, all respondents pointed out an increase in the proportion of complex (discontinuous) logging in the structure of final felling. The distribution of responses by particle growth as follows: "5%" – 27,6%, "5-10%" – 27,7%, "10-20%" – 12,8% "20.0% more "- 31,9%. The highest growth of the share value of complex logging observed in mountainous and foothills regions of the Carpathians, where the risk of erosion and other environmentally destructive processes are particularly high.

It is logical to expect an increase of the natural forest regeneration as a result of such logging. Indeed, at all enterprises such increase is observed. Moreover, the growth rate of natural regeneration is significantly higher than complex logging. This result from the fact that measures for promotion of natural regeneration are effective in the case of clear-cuttings. The distribution of responses by particle growth of natural regeneration is as follows: "5%" – 14,9%, "5-10%" – 10,6%, "10-20%" – 27,7%, "more than 20%" - 46,8%.

During the certification process has proven difficult and critical the requirement of leaving untouched important wood components for the conservation of biodiversity (habitats, some age-old, fallen trees, etc.). Almost half of the respondents indicated that such measures are carried out by only 50% of all cutting area, and only a quarter of marked realization of this work on 100% of the logging area. The main reason for the partial fulfillment of this requirement is the absence of

legislative methods of such activities and inconsistencies with the safety requirements.

Growth, though uneven, a share of the woods with a limited mode of forest exploitation is observed also. For 40% of the enterprises the share of such forests only increased by 5%, and for 32% of enterprises it already amounted more than 15%. Reduced proportion of operational forests is a natural consequence of the requirements for the conservation of rare and endangered species of plants and animals, unique forest ecosystems.

On the question of what kind help needed for biodiversity conservation, respondents gave answers which can be summarized as follows: "involvement of researchers and consultants" - 28%; "the help isn't necessary" - 21%; "legislation improvement" - 13%; "financing forestry work" - 11%; "awareness efforts among the population" - 11%; "improvement works contractors" - 9%; "other answer" - 9%. Despite the variety of responses should highlight some of them. First of all, it refers to receive assistance (help) from academics and consultants to obtain the required knowledge and skills, identification of high conservation value forests. Forestry managers recognize the need to review the legislation norms to ensure the conservation of biodiversity in forests, particularly in terms of eliminating conflicts with the safety requirements on logging.

In fact, the results of the survey confirm the nature and magnitude of changes in forest management that allow us to assert about the eco-oriented transformation of forestry under the influence of forest certification.

At the same time, the survey results require verification, if not all, then at least the key of them. Verification of results conformity was carried out on the basis of the state statistical and departmental reporting. If in 1995 the share of natural regeneration of forests in Ukraine was 12%, in 2011 is 23% already [9].

In our opinion, increasing the proportion of natural regeneration is caused not only because the meeting of requirements of certification but the transition to the implementation of most of the management activities at their own expense. Thus, forestry enterprises are trying to cut costs on forests regeneration by increasing the natural regeneration of forests.

Dynamics of particles gradual and selective logging on materials of departmental report is shown in Fig. and is not consistent with the results of the survey. Considering that all state enterprises in the three regions received a certificate in 2006-2007, we should expect noticeable increase in the proportion complex cutting in few next years. For enterprises in Lvivskiy and Chernigivskiy Regional Forestry and Hunting Administrations such increase has not sustainable character and consistent tendency, while the share of logging for Zakarpatskiy Regional Forestry and Hunting Administrations is on the contrary reduced.

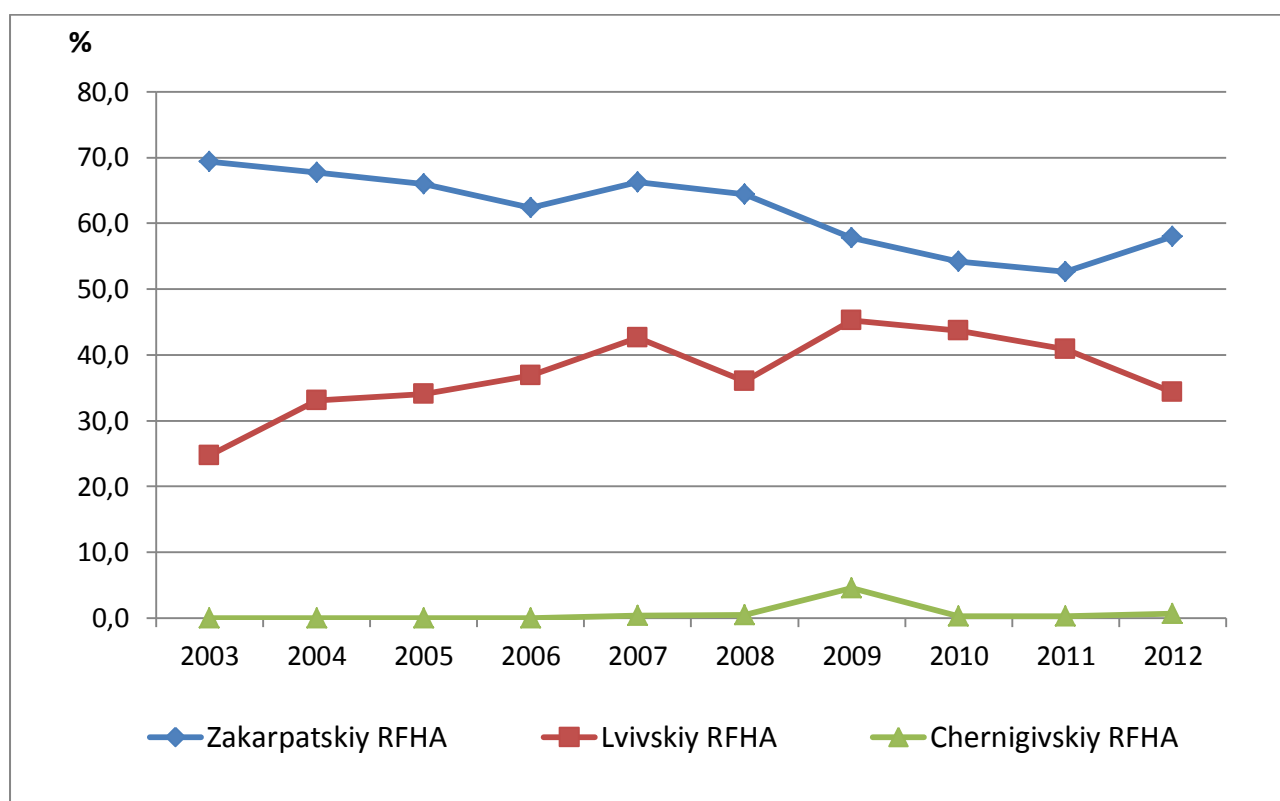


Figure. Dynamics of particles gradual and selective logging

The lack of a positive trend of increasing of proportion complex logging gives grounds to talk about the complications to perform the environmental requirements of the standard, due to including the lack of a clear program of activities of forestry enterprises. The increase or decrease in the area of logging turns the consequence of management decisions that are not associated with the requirements of forest certification.

Further development of forest certification as the instrument of greening forestry is in change of perception of forest certification not only as a voluntary market-based instrument but as an integral part of the state environmental and forest policy. For this purpose, it is expedient to adopt new and revise the existing

legislation that would, in particular, contribute and motivate the transition to environmentally friendly technologies of farming and cutting (gradual and selective logging, clear cutting, logging preserving natural regeneration), as well as their conservation biological diversity by leaving in intact form the important components of forests (habitat, some age-old, fallen trees, etc.).

The next step should be the formation of sector greening strategy that includes institutional, organizational, financial, economic, educational and methodological elements of the transformation of forestry to sustainable development. Among them we should emphasize on the formation of demonstration plots of forest management in accordance with the requirements of forest certification, creating a training program for staff of Forestry, creating financial and economic motives and incentives toward ecologization of forestry production.

Conclusions

Nowadays, forest certification is the only market instrument of forestry policy that encourages greening forestry. The analysis carried out on the basis of a survey of senior officials of certified forest enterprises, material state and departmental reporting, showed positive changes toward transition to forest management to sustainable development. The share of natural regeneration of forests is increased, gradually becoming widely spread practice of leaving valuable for biodiversity conservation components of woods. Being made consultation procedures on preventing or minimizing the negative impact of economic activity on the environment and the welfare of local communities.

However, the lack of expected steady trend growth of the share complex logging points to the fact that forest certification is not a major factor in the decision to carry out such logging, in spite of its obligations. There is the necessity to form the state forest policy and strategy of ecologization of forestry production, to improve the legislation.

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