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## **ESTIMATION OF ECOLOGICAL AND ECONOMIC EFFICIENCY OF THE MACHINES SYSTEMS AT THE MAIN SIZING.**

Modern demands to the forestry ecology which are the result of the technogenic pressure at the forest ecosystems, the tendency of the economy subjects to aim at the stable development which has in its ground the principles of even forestry usage, the integration of economic and ecological interests at forestry enterprises cause the necessity to improve the methodology of assessment of certain investing projects taking into account their branch peculiarities.

Besides, the effective solving of the problems connected with usage of perspective logging machines systems which correspond to the demands of forestry certification may be the way to success for the majority of forestry enterprises. It is the basis of their competitiveness and financial stability. It also gives the possibility to decrease expenses on the investment, exploitation and service of the logging machinery.

The urgency of the above mentioned problems has stipulated the necessity to work out a principally new approach to the assessment of the results of the machine systems application in certain nature and industrial conditions. In our opinion, the given approach should be based on an integrated estimation of ecological and economic efficiency of machine complexes usage taking into account not only the outcomes of their exploitation, but also concomitant effects (ecological, social, etc).

To achieve adequate and objective estimation the solution of the following goals is stipulated:

- analysis and generalization of the stored theoretical and practical experience on the economic estimation of logging machine systems, aspects and problems of its implementation. The solution of this problem will allow to improve the methodology and to reveal methodical features of the estimation of the perspective logging machine systems at the main sizing;
- working out ecological and economic systematization of the nature and industrial conditions of the logging areas in the Republic of Belarus. The solution of the given problem will allow creating a database containing Belorussian woodcutting characteristics. In its turn this will allow the foreign colleagues to estimate the factors used at the similar systematization of the logging area in their countries. It will also give the possibility to determine the field of application in the Republic of Belarus, Austria, Germany and other developed forestry countries for the logging machines produced by the leading logging concerns.
- working out the methodology of complex assessment of ecological and economic effectiveness of the perspective machine systems applied to the main sizing. The solution of this problem will ensure veracity of an estimation of outcomes of different machine systems exploitation in certain nature and industrial conditions. Besides, in our opinion, the advantage of the assumed technique lies in the possibility of quantitative assessment of ecological effects of the logging machine application. Usage of the given technique will allow foreign colleagues to create normative and legal base for calculation of the ecological tax for violation of forestry-ecological requirements to the woodcutting areas and for the damage caused to the elements of ecosystem.