The main sources of the Lake Baikal pollution and the economic factors of influence on its ecosystem are:

–industrial and household sewages from ports and cities within Selenga river basin;

–Baikal pulp and paper mill;

–Selenga pulp and cardboard mill;

–Irkutsk hydroelectric station;

–the part of Trans-Siberian trunk railway on the South of the lake's shore;

–the part of Baikal-Amur trunk railway on the North of the lake's shore;

–agricultural enterprises of Baikal region;

–cargo transportation;

–polluted air from Irkutsk-Cheremkhovo industrial node;

–tourism, recreational activity, trade and amateur bio-resources withdrawal;

–poaching;

–interregional and global atmospheric pollutants transfer.

It is evaluated that atmospheric emissions within the part of Irkutsk region territory close to the lake are settled on the lake's surface with a probability of 10-100%. Thus, the amount of pollutants in the atmosphere over the Lake Baikal in 1999 was probably about 13-130 thousands of tones. The total amount of atmospheric emission from Baikal pulp and paper mill in 1999 was 7,46 thousands of tones. The sewages from the mill contain oil products, phenols, lignin and aluminium which concentration is higher than normal. In 2002 the total amount of sewages from the mill was 8,144 thousands of tones, in 2004 – 7,761 thousands of tones.

The data of hydro-chemical survey in 1999 showed that the water quality doesn't match any norms. The amount of pollutants exceeds the highest permissible concentrations several times. According to the data of the United Institute of Geology and Geochemistry (Siberian Department of Russian Academy of Sciences), the modern deposits of the Lake Baikal contain up to 80 mkg/kg of mercury.

Moreover, long-term influence from the industrial centers led to the influence interference, and a huge ecologically unsuccessful region appeared. The most polluted area is Angarsk-Usolye-Cheremkhovo industrial zone (about 3 millions of hectares).

The protection of the surface waters is insufficient as well. The waters of Angara river and its inflows are polluted by oil products, phenols and copper. The water of Vikhoreva river is extremely polluted. Besides, the list of first-order protection objects includes Toporok river and Ust-Ilimsk and Bratsk water storages.

In the Governmental Report "About the condition of Irkutsk region environment in 2000" the following activities are suggested:

–to convert the heat-energetic, chemical and petrol-chemical industrial enterprises to natural gas that will result in decreasing the level of ash and sulfur dioxide emissions by 50%;

–to reorientate or to close the Baikal pulp and paper mill;

–to after-burn and repress by catalysts the sulfur-containing gas from pulp and paper mills that will result in decreasing the level of mercaptan, hydrogen sulfite and carbon bisulphide emissions by 60%;

–to reconstruct the aluminium factories that will reduce the level of fluorides by 2-4 times;

–to realize the target programs in Angarsk, Bratsk, Shelekhov and Cheremkhovo cities;

–to carry out a complex of activities targeted to reduce the influence of motor transport on the environment.

However, the present situation requires a new methodological approach to the natural system condition evaluation. Nowadays the basis for calculating of environment pollution fees is a permission to emit, to dump and to locate the wastes.

In our opinion, the most rational are the following activities:

–realization of methods of real ecological damage evaluation;

–evaluation of natural resources in natural conditions;

–following the environmental legislation in the condition of high requirements;

–ecological education of population.

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AIR POLLUTION AND PHYSICAL DEVELOPMENT, MOVING QUALITIES AND SKILLS OF FIRST-FORM PUPILS

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The physical development of children can be considered as the criterion of the quality of environment, since its indices are very dynamic and depend on the complex of factors, including from the level of the pollution in urban territories. It is known that not only the strong anthropogenic actions, but also relatively weak, for example, exhaust gases of motor transport, can have a negative effect on physical development. However, this question requires refinement. Each urban territory have unique complex of unfavorable anthropogenic factors, and their negative influence on the human organism can be reflected in a change in the different indices. Are studied the indices of physical development, physical preparedness and

level of the development of moving qualities and skills in 875 first-graders (470 boys and 405 girls), who are trained in 11 schools Kirov, from which 4 were located in the ecologically unfavorable city district, and 7 in the ecologically favorable region. The basic factor of pollution in ecologically unfavorable region are exhaust gases of the motor transport, traffic volume of which in the ecologically unfavorable region was higher than in the favorable. Special attention is given to gender differences in the sensitivity to the pollution of environment. Established that air pollution reduces the basic indices of the physical development of children, in particular the mass of body and the rate of its increase, but increases the rate of increase in the length of body it, i.e., contributes to asthenization. About the asthenization also testifies the fact that among the children of the unfavorable region more rarely it is encountered the macro-somatical type of build. Especially clearly reduction in the anthropometric indices is outlined in the attitude of boys, about which testifies the larger number of reliable changes in the physical development, which appear in boys in the unfavorable region and the appearance not of characteristic for the general massif indices - reduction in the circle of chest and length of body. Under the action of air pollution grow the muscular force of hand, power and vital index, diastolic AD, average AD, the addition of the vital capacity of lungs, the addition of the value of Shtange test, but the addition of the muscular force of brush is reduced. Air pollution reduces in boys rapidity, and in girls rapidity, flexibility, coordination abilities, aerobic productivity (maximum oxygen intake, [ml]/[min]/[kg]), the level of shaping of the moving skills, including of the habit of correct carriage, habits of walking and run, the fulfillment “of eight” by ball around the feet. In girls the level of the forming of the habit of the leap through the jumping rope is reduced. The deviations of the indices of physical development enumerated above can be considered the indicators of air pollution, which more frequently are manifested in boys. A decrease in the level of engine qualities under the effect of the pollution is characteristic for the girls. However, it was impossible to confirm literature data about the fact that the factors of air pollution negatively influence the harmony of development and the speed of biological ripening. In our study of differences according to the given indices it is not discovered. A question about the indicator indices requires further study, but it is even now clear that they depend on the sex of child and more frequently manifested in boys.

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