The assessment of irrigation risk under the conditions of the global warming of climate

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The global change of climate, which is conditioned by the possible air temperature increase of surface layer of the atmosphere, will have its impact on all the components of landscape mantle, and on water and soil resources in particular. The agriculture of countries with dry extremely continental climate will be considerably affected. In these countries, the direction of hydromeliorative activities will be totally changed. The soil /artificial/ irrigation will be primary among these activities. Naturally, in case of /artificial/ irrigation yield increases. However, the frequency of irrigation also rises, which promotes soil salinization. Besides, in scarce-water countries, the issue of irrigation water, which is almost impossible to solve, will emerge. With this respect we have done a certain research in Armenia, where the situation is as follows.

In the economy of Armenia, water is mostly used for irrigation, which, after all, represents about 65 % of the capacity of the used water. The capacity reached its maximum value - 73 % in 1988-1990, after which it gradually decreased due to the economic crisis in the country. In general, in comparison with other meliorative activities, the total expenditure on the hydromeliorative work is much higher. For instance, the investments for hydromeliorative activities in Armenia prevail those for other activities for 40-50 times.

Under these conditions, when the issue of climate warming appears as well, new problems on the rational utilization and conservation of water and soil resources will come up, which will demand different approaches. Under new conditions it will be necessary to re-estimate all water resources (putting an accent on small rivers), give the aimed direction of their use, struggle against losses and invest as many new irrigation technologies as possible, which will produce more yield using and losing less water.