

Protection of biodiversity in Uzbekistan under climate change

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Secular climate variations with tendency to warming and aridization on large areas are one of the main abiotic factors affecting biodiversity as a whole and natural ecosystem conditions.

In Uzbekistan, the most vulnerable ecosystems - aquatic and desert ones - are under impact of climate change. By now, the following objects in the Republic have been subjected to transformation: argillaceous deserts - 80%; sandy deserts - 20%; river floodplains - 95%; and, the mountains - 40%.

The effect of overall warming leads to the reduction of water storage in mountain glaciers and to water shortage in the lowlands. This, in turn, leads to an increase of salinity of water bodies, degradation of arid pastures, reduction of areas of lowland water bodies, and increase of dry land areas. These processes cause fragmentation of forests in the plains and reduction of groves, disruption of natural reproduction of tugai (riparian forests), with significant reduction of their areas and changes in species composition.

Along with ecosystems, climate change causes changes in phenology and distribution of fauna, mainly, superior vertebrates.

Research conducted in Uzbekistan show that there are several scenarios of these changes: 1) change in habitat of individual species and faunal complexes of vertebrata (about 18 species); 2) certain ecological adaptation to warming conditions, such as prolongation of breeding cycles, shifts in time of dormancy and arousal, shorter cycles of quiescence foci of particularly dangerous infections.

The collaborative work is being implemented by the State Committee of Nature, the National Hydrometeorological Service of Uzbekistan and the Ministry of Agriculture and Water Resources within the obligations under the Rio conventions. The national strategies and action plans, of which one main direction is to mitigate climate impact on degradation and depletion of natural resources are developed.

To implement the action plans both medium- and long-term programs were developed to regulate water use, protect and efficiently use biodiversity resources.

In the framework of the Convention on biodiversity protection, these measures are aimed to create new natural protected areas, taking into account the ecosystem approach, as well as to develop the action plans on protection of some species or species groups, which are more vulnerable to climate change - saiga, swimming birds, and commercial fishes.

In order to harmonize reporting on implementation of obligations under the Rio conventions, in 2010 the general and specific progress indicators were defined. These indicators demonstrate progress in achieving the objectives on three conventions adopted within the framework of political, scientific-technical, informational and educational cooperation and monitoring.