УДК 654.48.01

ЗАГРЯЗНЕНИЕ ВОЗДУХА В ЦЕНТРАЛЬНОЙ АЗИИ

AIR POLLUTION IN THE CENTRAL ASIAN

Хабибуллаев Амет Жандуллаевич
ассистент,
Каракалпакский госуниверситет имени Бердак
bjd1962@mail.ru

Нурузова З.А.
профессор,
Ташкентская медецинская академия

Аннотация. В статье рассмотрены некоторые острые проблемы современной экологии и охраны окружающей среды. Отмечено, что отходы являются источником загрязнения атмосферного воздуха, подземных и поверхностных вод, почв и растительности.

Ключевые отход, утилизация, переработка, загрязнение, процесс, уровень развития, безотходная технология, природа.

Habibullaev Amet Jandullaevich
Assistant,
Karadalpak State University
named after Berdak
bjd1962@mail.ru

Nuruzova Z.A.
Professor,
Tashkent Medical Academy

Annotation. The article discusses some of the acute problems of modern ecology and environmental protection. It was noted that waste is a source of pollution of atmospheric air, groundwater and surface water, soil and vegetation.

Keywords: waste, utilization, processing, pollution, process, level of development, waste-free technology, nature.

Air pollution in the Central Asian countries in the last decade, caused by their release to the atmosphere of harmful substances, mainly depended on the economic condition of the sectors with utmost impact on the environment (power engineering, fuel and metallurgy industry, chemistry and oil-chemistry, mining industry, etc.), on the state of big municipalities, on the changes in the volumes of land transportation as well as on the production of construction materials. In general there is a tendency all over the region of decreasing pollutant emissions from stationary sources. If in 1990 the amount of emissions equaled 6793 thousand tonnes, then by 1995 this number decreased by 2084 thousand (the growth rate over 5 years was 30,7 %).

For the period concerned, the maximum share in average pollutant emissions to the atmosphere, belongs to Kazakhstan and is 68 %. The share of other Central Asian countries is as follows: 18 % for, 10 % for Turkmenistan, 2 % for Kyrgyzstan and Tajikistan – 2 %. The ratio between the emissions of solid and gaseous- liquid substances has been changing little. On average over the period 1990 – 1993, maximum pollution from stationary sources was from gaseous and liquid substances, 71,7 %. Despite production decline and reduced emissions from stationary sources, automobile transport releases in the total volume of pollutants have increased to 78-80 %, in particular in big cities. For instance, in Kyrgyzstan the share for autotransport in the total volume of pollutants changed from 69,7 % in 1990 to 78,4 % in 1995. There is a tendency of reduced emissions also for the group of basic admixtures (dust, sulphuric gas, carbon oxide, nitric oxide) mainly related to the fuel combustion processes. Overall pollution of the atmosphere is mainly caused by suspended particles and sulphur dioxide: 42,3 % and 33,4 % accordingly. Carbon oxide «contribution» is 14,4 %, and for nitric oxide it is 9,9 %.

The reduced release of the basic group of pollutants depends on how intensive is functioning of power engineering industry and transport sectors in the Central Asian countries. Maximum emissions reduction on average for all basic pollutants has been noted for Tajikistan (~85 %) and Kyrgyzstan (~60 %). For Kazakhstan the emissions reduction for the concerned period of 1992–1995 was 25,8 %. In Turkmenistan increased amount emissions has been observed for nitric oxides (11 %) and sulphur dioxide 14 %). This situation is similar also Uzbekistan for nitric dioxides. Here the number of nitrogen wastes increased by 8 % in 1995 in comparison with 1992.

The analyses of average annual recurrent concentration of basic pollutants exceeding maximum permissible coefficient (MPC) showed that on average over the period of 2006–2010 the sample percentage in the region was as follows:

- carbonoxide – 16,2 %;
- suspendedparticles – 26,5 %;
- nitrogenoxides – 9,1 %;
- sulphurdioxides – 5,9 %.

The studies of the urban air pollution on the territories of the republics showed that the following cities should be on the list of cities with utmost atmosphere pollution level:

Kazakhstan: Almaty, Djambul, Zyryanovsk, Temir-Tau, Ust-Kamenogorsk, Shymkent;

Kyrgyzstan: Bishkek, Osh;

Tadjikistan: Dushanbe;

Turkmenistan: Chardjow;

Uzbekistan: Almalyk, Andijan, Kokand, Tashkent, Fergana.

The pollutants emissions into the atmosphere from stationary and non-stationary sources were 1,8 million tonnes in 2012, while it is 2 millions less than in 1991. The wastes from the stationary sources decreased from 1,214 to 0,874 million tonnes, and from non-stationary – 2,591 to 0,983 million tonnes. Specific wastes decreased more than twice and were 80 kg per personIn2012 pollutant emissions as compared to 2010 decreased by 165 thousand tons, including the stationary sources with decrease by 47 thousand tonnes. The emissions decreased by 32,7 thousand tons as a result of suspended activity of harmful production shops, sections and construction work. And here one should point out that these data do not include data on the substances present in atmosphere as a result of exploitation of air, railway and river transport, cattle-breeding complexes, individual stoves,burning dumps and wastes tailings, dust contents of quarries and other pollution sources.Of total pollutant emissions, nitric oxide accounts for more than a half, sulphurous anhydride and specific highly toxic substances are responsible for 15 % , hydrocarbons – for 8 %, solid substances – for 5 % and nitrogen oxides – for 45 %. More than 150 different pollutants are released to the atmosphere by the stationary sources.

In the total volume of wastes sulphur dioxide is 395,130 thousand tons, carbon oxide is 108,027 thousand tons, methane is 100,287 thousand tons. Automobile transport is the biggest source of air pollution; its emissions depend on the quality, regime of the engine operation and their technical condition, which conditions the content of carbon dioxide, hydrocarbons and nitric dioxides in exhausted gases.

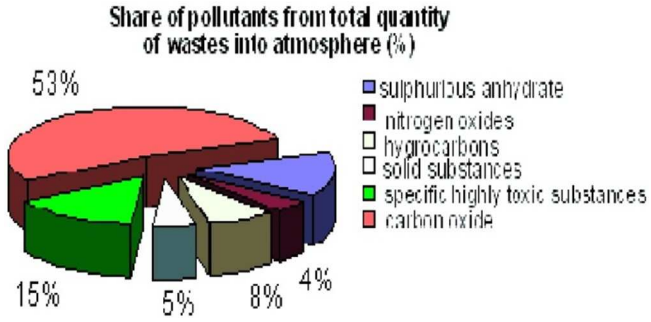

Figure 1

The share of car transport discharges in the total amount of pollutants, penetrating into the atmosphere, is more than 59 % and in some towns (Andijan, Bukhara, Samarkand, and Tashkent) is about 80 %. During the last years there is a stable tendency to the decrease of these wastes. If in 1991 the car transport wastes on the whole in the republic were about 2,6 million tons, then in 2010 they were about 1,5 million tons. It is the result of air-protection measures and first of all maintenance of car park in good technical condition, the obligatory control and adjustment of engines for toxic rate as well as the decrease of the quantity and improvement of the control for consumed fuels

References:

1. On the environment state and natural resources use in the Republic of Uzbekistan : National report / State Committee of UR on environment protection. – Tashkent, 2000.

2. Mukhamedgaliev B.A. The ecological safety. – Tashkent, 2013.