Geographical distribution of technogenic pollutants including persistent organic pollutants (Trans POPs) in the soils of Shida Kartli

Ilia Kalandadze

E-mail: Ilia.Kalandadze@ens.tsu.edu.ge

Department of Geography, Faculty of Exact and Natural Sciences, Iv.Javakhishvili Tbilisi State University, 0179, Tbilisi, I.Chavchavadze #3

Solution to the problematic issues of environmental protection is associated with the scientific, economic, social and political issues of the country. Growing amounts of pollutants in some or other environmental object are accumulated day after day. A part of them does not participate in the natural cycle and accumulate in the biosphere having adverse ecological outcomes.

The work describes the issues threatening the human health and environment. Kvemo Kartli region is quite a busy region in respect of agricultural production. Owing to the favorable climate and fertile soils, they harvest three of four times a year in the region. On the other hand, an intense use of phyto-sanitary measures implies the use of various pesticides. In the region, we would name Bolnisi municipality with busy industry and extremely stressed environment. During the Soviet era, the premises to store weed and pest-killer chemicals and chemical fertilizers were built all over the Republic of Georgia. Today, those premises do not exist, but their ruins only, or alternatively, the locals have refurbished any survived premises and are using them as houses, barns, corn warehouses, etc. As for the pesticide residues, they are scattered all around, are washed away or washed into the soil under the action of surface or irrigation waters, or have been removed to Iaghluja special landfill. Alongside with many other pesticides, DDT (Dichloro-Diphenyl-Trichloroethane) is also found all over the area. It is an extremely poisonous persistent organic pollutant with a half-degradation period of 120 years and large-scale distribution in the environment.

Following the above-mentioned, it can be assumed that the pollution with pesticides is a very important issue in the world. The work describes the measures to restore the polluted environment as well as preventive measures.