



a toxics-free future

Production and use of highly hazardous pesticides in Armenia, Kazakhstan, Russia, Ukraine and Uzbekistan: trends and perspectives for transition to safe alternatives

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The global community is increasingly aware of the risks to human health and the environment posed by the use of highly hazardous pesticides (HHPs), the effects from which can permanently undermine human health and affect future generations. HHP poisoning ranges from seemingly mild symptoms to much more severe, which can lead to chronic disability or death.

First-of-their-kind comprehensive studies on the production and use of HHPs in Armenia, Kazakhstan, Russia, Ukraine and Uzbekistan were conducted and show an increasing trend in the use of highly hazardous plant protection products in these countries. The State Catalogue of Pesticides and Agrochemicals Allowed for Use in the Territory of the Russian Federation at the Beginning of 2020 registered 652 pesticide formulations (individual and mixed by active ingredient) [1]. This is considerably more than had been allowed for use in previous years. At the same time, it is emphasized that 106 pesticides (by active ingredients) used in Russia are included in the list of highly hazardous pesticides according to the Pesticide Action Network (PAN) criteria [2]. Of these, 38 HHPs have not been registered or are already banned in different countries [3].

Data is provided on the introduction of amendments to article 15 of the Federal Law "On the safe handling of pesticides and agrochemicals." These amendments remove the authority of the federal veterinary and phytosanitary watchdog and the Ministry of Agriculture of Russia to control the use of pesticides, including the state of soils in agricultural lands and the residues of pesticides in them. It is noted that when assessing the condition of agricultural lands, the state of soil fertility is monitored, but there are no direct instructions for monitoring soil contamination with pesticides in the revised Federal Law.

The study stresses that the long-term use of highly hazardous pesticides and agrochemicals in agriculture and forestry in Russia, including use that violates technology and rules of their use, has led to partial contamination of land and adjacent environments with harmful substances. Ensuring environmental safety is made more complicated by the lack of effective state supervision over the safe handling of pesticides and agrochemicals in agricultural production. Substantial environmental pollution has been observed in areas where obsolete and banned pesticides are located and stored.

The research infers that not all research centers in Russia, which are involved in the registration of pesticides, are accredited under the Good Laboratory Practice (GLP) standard. This leads to the fact that the results of their laboratory tests are not recognized by the EU registration authorities. As of July 2019, only 11 GLP laboratories were registered in the register of

the Russian National Monitoring Authority, most of which work in the field of pharmaceuticals, chemical products and pesticides.

The study from Armenia concludes that more than 60% of pesticides allowed by Armenian legislation belong to the category of HHPs. The fact that one third of HHPs permitted in Armenia belong to the category of carcinogens or possible carcinogens - according to the classification of WHO and the International Agency for Research on Cancer - is alarming against the background of the growth of cancer diseases and related mortalities in Armenia. The bulk of imported pesticides come from China and India, with annual increases.

Of the pesticides registered and officially used in Kazakhstan, many contain one or more active ingredients from the HHPs list. Analysis of pesticide active ingredients showed that as of March 2019, 74 active ingredients belonging to HHPs are in use in Kazakhstan. Of these, 25 pesticide active ingredients are banned in other countries but are used in Kazakhstan. Of the 1021 trade names of pesticides registered in Kazakhstan, 386 (or 38% of the total number of registered formulations) contain one or more active substances that are highly hazardous pesticides and are included in the PAN list.

In Uzbekistan, 59 HHPs are allowed for use, 34 of which are banned in various countries, but continue to be used in Uzbekistan.

In Ukraine, the Country Review of Highly Hazardous Pesticides presents the analysis data of 3,966 preparatory forms of pesticides and agrochemicals from the State Register of Pesticides and Agrochemicals Allowed for Use in Ukraine (as of 31.12.2019). [4] The analysis showed that among 3,966 preparatory forms of pesticides there are 1,125 formulation forms containing from one to three active ingredients of highly hazardous pesticides. This means that about one third of pesticides and agrochemicals allowed for use in Ukraine are highly hazardous pesticides. The total number of active ingredients of HHPs in preparative forms of pesticides and agrochemicals allowed for use in Ukraine amounted to 83 active ingredients, 41 of which are already prohibited in other countries, but continue to be used in Ukraine.

The data obtained from the studies led to recommendations to reduce and eventually eliminate HHPs in the Eastern Europe, Caucasus and Central Asia region. Information on safe substitution of HHPs, including the use of the ecosystem-based approach and traditional knowledge in agriculture, will support pesticide-free initiatives in the countries. Parties to the Stockholm Convention on persistent organic pollutants, for example, banned endosulfan, one of the HHPs, replacing it with safe alternatives and an ecosystem-based approach to agricultural pest management. [5] Another

example is the initiative in many countries to eliminate the use of glyphosphate [6], which has a potential to cause adverse health effects. Lessons learned from this process could be collected by the Regional Focal Points to the Stockholm Convention on persistent organic pollutants and then shared with the national officials to facilitate the switch from HHPs to safer alternatives.

Table1. Proportion of HHPs used in 5 EECCA countries

S/N	Name of Country	No. of HHPs	No. of HHPs banned in other countries but utilised in 5 EECCA countries
1.	Armenia	95	48
2.	Kazakhstan	74	25
3.	Russia	106	38
4.	Ukraine	83	41
5.	Uzbekistan	59	34

Literature list:

[1] The State Catalogue of Pesticides and Agrochemicals Allowed for Use in the Territory of the Russian Federation at the beginning of 2020

<http://mcx.ru/upload/iblock/668/668c05331c00034912f836624416ce2c.zip>

[2] PAN International List of Highly Hazardous Pesticides (PAN List of HHPs) March 2019

http://pan-international.org/wp-content/uploads/PAN_HHP_List.pdf

[3] PAN International Consolidated List of Banned Pesticides

<http://pan-international.org/pan-international-consolidated-list-of-banned-pesticides/>

[4] Государственный реестр пестицидов и агрохимикатов, разрешенных к использованию в Украине <https://menr.gov.ua/content/derzhavniy-reestr-pesticidiv-i-agrohikativ-dozvolenih-do-vikoristannya-v-ukraini-dopovnennya-z-01012017-zgidno-vimog-postanovi-kabinetu-ministriv-ukraini-vid-21112007--1328.html>

[5] <http://chm.pops.int/Implementation/Alternatives/AlternativestoPOPs/ChemicalslistedinAnnexA/TechnicalEndosulfan/tabid/5867/Default.aspx>

[6] Glyphosate <http://pan-international.org/wp-content/uploads/Glyphosatemonograph.pdf>