



Toxics issues in Mongolia

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INTRODUCTION

Mongolia is rich in raw materials of agricultural origin such as wool, leather, and cashmere. Until 1989, chemicals and most manufactured products were imported from the former Soviet Union (USSR) on a barter basis and the economy was centrally planned. The Government used to import chemicals and be in charge of distribution as well as of controlling use of chemicals. After 1990, when Mongolia shifted to democratic free market economy, many industries and organizations have been privatized.

In the transition period, centralized control and coordination of toxic substances have become irregular and have been insufficient. Different kinds of chemical substances have been imported both by organizations and economic entities and individuals. There has been no any legislative basis for exercising control. Therefore, the Government of Mongolia developed and approved the Law on Protection from Toxic Chemicals in 1995. Also, the Ministry of Nature and the Environment updated a list of restricted or banned chemicals in Mongolia, including POPs, in 1997. (Table 1.)

Table 1. List of toxic chemicals banned or severely restricted in Mongolia

Banned Chemicals	
1. Aldrin	10. Nitrofen
2. Dieldrin	11. Captafol
3. DDT	12. Toxapene
4. Dinoseb	13. Endrin
5. Fluoroacetamide	14. Phenol, pentachloro-
6. HCH (mixed isomers)	15. Ethylenedibromide
7. Chlordane	16. Heptachlor
8. Chlordimeform	17. Oxirane
9. Cyhexatin	
Severely Restricted Chemicals	
1. Zinc phosphide	8. Mercury (Hg)

2.Lindane	9.Mercury oxide (HgO)
3.Ugilec 121	10.Mercury chloride (Hg ₂ CL ₂)
4.Cyanide	11.Mercury dichloride(HgCl ₂)
5.Benzidine	12.Aminobiphenyl
6.Maleic hydrazide 3,6-Pyridazinedione,1,2-dihydro-	13.Propanoic acid, 2,2-dichloro-
7.Ethane,1,2-dichloro-	

In Mongolia, there is no complete and reliable statistics on chemicals and chemical management so far. Until 1980, organochlorine pesticides like DDT were used in Mongolia. Unfortunately, no monitoring has been done in the last years. DDT was banned since 1995, therefore it should not be available on the market. However, it has been still used in rural areas, and it may be available on the black market. Some primary insecticides have also been used as insecticides. A number of chemicals have appeared at the open-air markets without proper labels packed in small packages apparently from larger, bulkier consignments. This has resulted in misuse or inappropriate application of pesticides and other chemical formulations.

The use of chemical substances on a large scale in Mongolia was maintained in five main sectors: agriculture, manufacturing industries, livestock management, disease control, education and scientific research. The import of pesticides and fertilizers was controlled by the Ministry of Food and Agriculture; other toxic chemicals are under control of the Ministry of Nature and Environment.

According to the law (Protection from Toxic Chemicals 1995) it was pointed out that non-personnel inter-sectoral Council for coordinating utilization of toxic chemicals should be established. By this law, chair of the Council should be the Minister of Nature and Environment, and the Council should be comprised of experts from related Ministries and Departments. Accordingly, the Council has been established and the State Specialized Inspection Agency under the Prime Minister supervision exercises control on protection from and use of toxic chemicals.

INTERNATIONAL COOPERATION AND LEGAL ASPECTS

Mongolia has signed the Stockholm Convention. Currently Ministry of Nature and Environment had started activities on ratification of the Convention.

The Ministry of Nature and Environment is implementing GEF/UNIDO project “Enabling Activity to Facilitate Early Action on the Implementation of POPs” which started in June 2003 in Mongolia (USD362,000 for 2 years). Main objective of the project is development of Action Programme on the Implementation of POPs. Except for this project, any financial and technical support was not receive from international organizations and developed countries on toxics issues, before.

In view of the above mentioned situation in the country with regard to Toxics, it is vital to develop and implement Toxics programme of the WWF Mongolia within the framework of the protected areas, specifically in Altai-Sayan and Daguur Ecoregions.

National Legislation Related to Chemicals Issues

1. Current laws and regulations being followed for toxics issues in Mongolia:

- Mongolian Law on Environmental Protection
- Mongolian Law on Protection from Toxic Chemicals
- Mongolian Law on Environmental Impact Assessment
- The Law on Prohibition of Import and Transportation of Hazardous Waste
- Waste Reduction Programme
- Rules of the National Council for Chemical Safety in Mongolia
- Guidelines on Issuing permission to produce, export, import, trade with and use toxic chemicals
- National Classification of Toxic Chemicals
- Guidelines for Storage, Transportation and Disposal of Toxic Chemicals in Mongolia
- Procedure for Registration and Examination of Pesticides in Mongolia

2. Status of Mongolian's Adherence to the International Conventions:

- Stockholm Convention on Persistent Organic Pollutants
- Rotterdam Convention on Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade
- Basel Convention on the Control of Transboundary Movement of Hazardous Waste and their Disposal

TOXICS THREATS TO THE ENVIRONMENT

1. Industrial chemicals. Most of the existing industries in Mongolia are old and use outdated technology. Small and medium-size enterprises producing washing powder, soaps, phosphoric fertilizer and other chemical substances have appeared and more enterprises are likely to spring out. Particularly, the number of new industries where chromium is widely used has been growing in the countryside.

In Mongolia, electric capacitors and transformers are widely used. Polychlorinated biphenyls (PCBs) contaminated equipment was recognized as a major existing hazardous waste. Until now, no any monitoring on PCBs containing equipment has been conducted in the country.

The mineral deposits are potential sources of wealth. The techniques used to extract them and the waste materials that these techniques produce (often in enormous quantities and with high toxicity level) bring significant risks to the environment. Two of such deposits

are Boroo and Olon-Oboot gold hard rock deposits. Preparation to start for extraction is planned in 2003, and technology with sodium cyanide and other toxic substances will be used. In the future, more hard rock gold mines are likely to be exploited. Example of contamination of surroundings by mines is a gold mine in Selenge aimag where mercury was used 30 years ago. Mercury still remains there and contaminates the surroundings. Another example is river Boroo, contaminated with mercury. Ministry of Nature and Environment has recently implemented some projects on cleaning up and discharging mercury from the river. As a result, 25 kg of mercury have been discharged from 400 m³ of water in about 4 hectares of land. According to the law, Environmental Impact Assessment should be conducted prior to mining activities; however, this law is rarely enforced.

With respect to coal mining operations, the main environmental issues are air quality, reclamation and mine closure. Air contamination is caused by carbon monoxide from coal fires, coal dust from the operations and rock overburden piles. Carbon monoxide effect is particularly strong around the working area of the mines and can have an effect over a large area.

As of fluorite mining operations, the main environmental issues are groundwater and mineralized areas containing fluorite, that are harmful for health concentrations when used for drinking water.

In copper molybdenum mining operations, large quantities of acid and other chemicals are used. Monitoring of dust and water from the tailings impoundment is necessary in order to determine the scope of the problem.

2. Pesticide use. In Mongolia, not many chemicals are used for rodent control. The zinc phosphate was used widely since 1960 to 1987 and was banned but now still used illegally. From 2001, Bromadiolone has been used against rodents. In 2002, a total of 850 million tugrug was allocated from the central budget to control field voles over 410,000 hectares of pastureland. During the first half of the year, 85 percent of the planned work to control field voles was carried out over 348.5 thousand hectare areas of 31 soums of 7 aimags. Bromadiolone proved itself as a deadly rodenticide: besides Brandt's vole (*Microtus Brandtii*), it killed over non-targeted birds and mammals, several livestock. (TsevenmyadagN., and Nyambayar.B., 2002). The poisoning (0.5% bromdialone treated grain (which is prohibited for outdoor use elsewhere) the major proportion of the population physically died. The incident brought publicity to rodenticide usage and control issues in Mongolia at the international and local level. One of the alternative methods other than poisoning Brandt's vole is increase the number of predators: Saker Falcon, Upland Buzzards, Steppe Eagle, Fox etc. (Potapov E., *et.al.* 2003).

Table 1. The poisoned animals in bromadiolone from May to June 2002
(Tsevenmyadag N., and Nyambayar.B., 2002)

Poisoned animals	Total numbers
Birds:	
Demoiselle Crane (<i>Anthropodidesv virgo</i>)	149
Herring Gull (<i>Larus argentatus</i>)	152
Ruddy Shelduck (<i>Tadorna ferruginea</i>)	3
Whooper Swan (<i>Cygnus cygnus</i>)	3
Black Kite (<i>Milvus migranus</i>)	2
Upland Buzzard (<i>Buteo hemilasius</i>)	2
Saker Falkon (<i>Falco cherrug</i>)	2
Daurian Jackdaw (<i>Corvus dauricus</i>)	20
Total of birds	333
Mammals:	
Corsac Fox (<i>Vulpes corsac</i>)	2
Manul or Pallas'Cat (<i>Felis manul</i>)	2
Domestic sheep	3
Total of mammals	7

Grasshopper, dragonfly and meadow butterfly are widely spread on grazing and arable areas of Mongolia and big populations of Orthoptera grasshoppers are recorded in Western Mongolia. There are 56 subspecies of 35 species of 4 genera of grasshoppers and 12 species of dragonfly in Mongolian Altai alpine pastures. The area damaged only by Ortoptera grasshopper reaches 422.94 thousand hectares on the territory of 16 soums.

In addition, Siberian moth (*Dendiolimus superans*) and Jacobson's caterpillar (*Erannis Jacobsoni*) etc. invasion takes place every year causing massive damage to forest resources. As of 2000, pests spread over 1.2 million ha. of forestland.

Use of obsolete pesticides is one of the problems in the country. Pesticides that are no longer useful for the purpose they were intended for, empty contaminated pesticide containers, contaminated soils and buried pesticides comprise the toxic waste. The information gathered during surveys shows that over 88,417 kg of obsolete chemicals exist in the country. No information is available on cleaning up or disposal of these empty containers. There are cases when pesticide containers are used for domestic purposes.

List of Plant Pesticide 2003

Insecticides:	Herbicides:	Fungicides:	Rodenticides:
Mavric	Fluazifor-P	Brestan	Bromidiolone
Decis	Fenoxsapro-P Furore	Shirlan	Brodifacoum
Danitol	2.4D	Dividend star	Clerat
K-othrin	Gezagard	Copper sulfate	Biorat
K-obiol	Fenotiol	Colloidal sulfur	Calmonella-
Sumi-alfa	Basta	Tiram	entridis var 7/30
Sumicidin	Pound up	Topsin	
Kinmix	Sethoxydium	Zineb	
Pirimor	Sencor	Sumi	
Karate	Banvel 4C	Tilt	
Ambush	Dialensuper	Divident	
Sulfur		Sandofen	
Kasugamaycin			

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