



a toxics-free future

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International SAICM Implementation Project (ISIP)

In 2010, in an effort to demonstrate SAICM implementation via IPEN Participating Organizations, IPEN launched an International SAICM Implementation Project, also known as ISIP. ISIP aims to mobilize resources for initial enabling activities pertaining to national priorities, in keeping with the work areas set out in the strategic objectives of section IV of the SAICM Overarching Policy Strategy.

In particular, the ISIP supports the Governance objective of SAICM's Overarching Policy Strategy paragraph 26, which calls for enhanced "cooperation on the sound management of chemicals between Governments, the private sector and civil society at the national, regional and global levels."

In addition, ISIP builds on the 2008-2009 Global SAICM Outreach Campaign to raise awareness about SAICM and strengthen collaboration among the public interest, health and labor sectors.

ISIP Objectives

ISIP's four objectives include:

- Promoting the need for sound chemicals management
- Advancing National SAICM Implementation
- Promoting global SAICM implementation by global civil society
- Building capacity among NGOs developing countries and countries with economies in transition

Title of activity: Mercury pollution in Azerbaijan

NGO: "Ruzgar" Environmental Society

Country: Azerbaijan

Date: October, 2012

Elements of SAICM Covered:

Promote reduction of the risks posed to human health and the environment (57); Help develop comprehensive national profiles or country situation reports about mercury (1, 166); Programs to monitor mercury to assess exposure (66, 82); Promote the development and use of products and processes that pose lesser risks (44); Take immediate action to reduce the risk to human health and the environment posed on a global scale by mercury in products and production processes (59); Participation in activities related to the negotiation of a legally binding instrument on mercury

Description of mercury that is available in the market:

In Azerbaijan, mercury is present at the market as liquid (metal) mercury that is used for different purposes, including use in scientific experiments, as well as mercury in mercury-filled manometers, fluorescent bulbs, thermometers, mercury valves, cells/batteries, etc. In industry, mercury is used by the chlorine and alkali production plant in Sumgait. In addition, mercury compounds are used by national mining industries.

Description of the most common forms of mercury exposure:

Mercury vapour enters a human body via respiratory organs. Mercury easily enters blood stream and accumulates in different organs (liver, intestine, lungs, etc.). Mercury acts as a potent nerve agent, particularly as methylmercury. Mercury also accumulates in brain, bone marrow, spleen, etc. In cases of mercury poisonings, mercury predominantly concentrates in internal organs, not in blood. Mercury is mainly excreted from human body through kidneys and intestine, certain amounts of mercury are also released with saliva, sweat and breast milk. Mercury in blood stream irritates vascular receptors. Mercury affects brain core afferently and initiates inhibitory processes. Mercury poisoning makes affected persons flaccid and is accompanied by headache, metal taste, intensive urinary excretion and salivation, nausea and odynophagia. Mercury induces ulcers on intestine mucous membrane, accompanied by abdominal pains. In the most well known mercury poisoning case - the Minamata disaster in Japan - many people were disabled for the rest of their lives by mercury discharges. In environmental media, metal mercury quickly transforms into organomercury compounds. Besides that, organomercury compounds are known to bioaccumulate in food chains and are often found in high concentrations in fish tissues.

Accounting for severe health and environmental impacts of mercury, actions against mercury pollution belong to action priorities of environmental NGOs, particularly the ones dealing with chemical safety issues.

Mercury exposure of the general population is predominantly associated with household applications of metal mercury (thermometers, batteries, cells, manometers, etc.) and mercury compounds. In industry, severe deterioration of production equipment resulted in maximal possible mercury losses. In chlorine production, mercury losses reached up to 1 kg/t of produced chlorine, while now these losses were reduced to 300 g/t (in the case of normally functioning equipment the figure varies at the level of 2 to 3 g/t). The old plant consumed large amounts of mercury; some amounts of mercury were lost in sludges (by-products), due to evaporation, leaks or inadequate handling.

Description of human sources of mercury:

In the country, the overall annual generation of burnt-out, broken and unusable fluorescent bulbs reaches more than 1.5 million. However, up to the time being, none of applicable waste disposal standards is met in cities of the country - the bulbs are disposed to municipal landfills (sometimes to unauthorised waste dumps) where the bulbs are broken, releasing their mercury contents to soils. Large amounts of mercury were used at the old chlorine and alkali production plant in Sumgait. At the plant, some amounts of mercury were lost in sludges (by-products), due to evaporation, leaks or inadequate handling. Due to deteriorated equipment of the plant, mercury losses were extremely high. In the chlorine production process, mercury losses reached up to 1 kg/t of produced chlorine, while now these losses were reduced to 300 g/t (in the case of normally functioning equipment the figure varies at the level of 2 to 3 g/t).

Description of the levels of mercury release and exposure:

National Environmental Protection Reports periodically reflected issues of mercury contamination and management of mercury-containing waste in the country. In addition, some data are available on medical examination of workers of chlorine production plants who work with mercury compounds.

Description of the damage caused by mercury:

The most serious mercury contamination problem in Sumgait is associated with application of a mercury-based process for production of chlorine and alkali. Mercury contamination is associated with operations of two chlorine and alkali plants located in Sumgait industrial area. One of these plants is still operational, while another plant in the area was decommissioned in 1981.

Mercury losses in the chlorine production process are associated with air emissions, discharges with the plant's wastewater and releases into solid waste (sludges) of the plant. At the contemporary level of production, amounts of mercury-containing waste are expected to increase by up to 6 - 7 thousand tons per annum. About 200 thousand tons of mercury-containing sludge have been already accumulated - the sludge contains 0.1 - 0.3% of mercury and its storage poses a potential risk of groundwater contamination and infiltration into the Caspian Sea. Discharges of untreated wastewater might substantially contaminate bottom deposits of the Caspian Sea nearby Sumgait.

Description of the laws currently regulating mercury:

- 1) Law on Industrial and Household Waste (1998 and 2007) of the Republic of Azerbaijan.
- 2). Law on Environmental Security (08.06.1999)
- 3). Law on Public Health (26.06.1997)

Regulations of the Cabinet of Ministers

On Rules of Road Transportation of Hazardous Cargo (27.01. 2000)

On Rules of Railway Transportation of Hazardous Cargo (20.11. 2000)

On Rules of Certification of Hazardous Waste (31.03. 2003)

Description of the efforts to deal with mercury:

The following documents pertain to addressing problems of hazardous solid waste:

- The State Program for Poverty Eradication and Economic Development (2002)
- The National Program of Environmentally Sustainable Socio-economic Development (2003)
- Presidential Decree on Main Directions of Socio-economic Development (2003)
- The State Strategy of Hazardous Waste Management of the Republic of Azerbaijan (2004)
- The Program for Development of Regions (2004)
- World Bank (WB) Absheron Rehabilitation Program (ARP) II: Integrated Solid Waste Management Project
- Complex Plan of Actions FY 2006-2010 to improve the ecological situation in the Azerbaijan Republic, dated September 28th, 2006.
- Decree of the President of the Azerbaijan Republic about the improvement of household waste management in Baku city, dated 6th August, 2008.
- Decree 185 of the Cabinet of the Azerbaijan Republic on determination of the fee for "Waste collection, disposal, utilisation, and neutralisation of wastes", dated 12th of August, 2008, Baku.
- Status, Main Deficiencies and Operational Perspectives of Solid Domestic Waste Management, 2005", respective instructions of the Ministry of Ecology and Natural Resources (MENR),
- Decision of Cabinet of Ministers No. 41, 31 March 2003 and Rules for Inventory of and Classification System for Waste Generated by Industrials and Municipal Services, Certificate No. 419 of 1 July 2003.
- Action Plan of the Azerbaijan Republic on European Neighbourhood Policy (2006).
- Decree 185 of the Cabinet of the Azerbaijan Republic on determination of the fee for "Waste collection, disposal, utilisation, and neutralisation of wastes", dated 12th of August, 2008, Baku.

The National Hazardous Waste Management Strategy was developed in Azerbaijan - the document incorporates provisions on addressing problems of mercury-containing waste.

An order of the Public Health Ministry of Azerbaijan stipulates that workers dealing with mercury and its compounds should undergo medical examination by specialists with application of laboratory tests and instruments. Persons under the threat of mercury exposure should be examined in the Occupational Health Institute or provided alternative occupations. In order to prevent mercury poisonings, workers are issued individual protection gear. While at work, they are advised to wash mouth by a potassium permanganate solution. To enhance their physical resilience, such workers are advised to practice active recreation (walks in the open, sea swimming, physical exercise) and consume food with high vitamins and protein contents.

Description of what forces support and oppose the Mercury Treaty, the public participation consultation process, and the level of public awareness of the treaty process:

NGOs are mainly informed via IPEN and Eco-Accord which is IPEN EECCA Hub. IPEN POs in Azerbaijan disseminate IPEN position on mercury treaty among Azerbaijan government, local authorities and general public. There is lack or no information about the treaty process coming from the governmental information sources.

Project Outcome:

Description of the activity conducted:

Public environmental monitoring actions were conducted in 6 industrial cities of the country to check presence of mercury-containing waste at municipal landfills. All mercury-containing medical wastes and fluorescent bulbs were found to be discharged with household waste. Mercury-containing wastes are not separated and are not insulated from the environment. At the same time, at some landfills, waste flows undergo separation and people may contact mercury-containing wastes.

- 1) Laboratory measurements of mercury contents in soil samples were made - the samples were collected at municipal landfills in industrial cities of the country. In the case of Sumgait landfill, in some locations mercury levels were found to exceed relevant standards due to disposal of mercury-containing waste with municipal waste.
- 2) A booklet was produced - "Azərbaycan Civə tullantılarına "YOX" deyir (*No Mercury "Hot-Spots" in Azerbaijan*) (*enclosed*). The publication was disseminated among stakeholders.
- 3) 3 press-conferences were organised (Zagatala - December 11, 2011, Sheki - February 27, 2012, Baku - January 24, 2012). The press-conferences were attended by representatives of mass media outlets and stakeholders in the sphere of management of mercury-containing waste.

Impact on target groups:

Target groups were selected accounting for their potential mercury exposures. To a greater or lesser extent, the target groups are affected by chlorine production with application of mercury, by impacts of mercury-containing wastes nearby the chemical plants, waste dumps and by production and household use of mercury compounds. These population groups include residents of separate neighbourhoods of Sumgait, Mingechevir, Shirvan and Gyanji. In Sakatala - Belokanskiy region, mining operations involve mercury-containing natural minerals. In this connection, our project activities were focused on the above target groups. Our public awareness raising activities on mercury contamination matters allowed us to improve people's knowledge and skills of dealing with mercury-containing wastes.

Impact on target policies:

Several press-conferences were organised in the framework of the project. We invited representatives of key stakeholders to these press-conferences, including the Ministry of Ecology and Natural Resources, "Azerkhimia" Co., the Public Health Ministry, etc. Central and local media outlets published articles on mercury contamination and associated health and

environmental impacts. Stakeholders' representative expressed their willingness to build technical capacity for management of mercury-containing waste; for monitoring mercury levels in environmental media and human mercury body burdens. Works are under way to expand the specialised waste disposal facility for hazardous waste, providing thus preconditions to contain 120 thousand tons of mercury-containing waste and prevent mercury releases to the environment.

Outreach to stakeholders:

In Azerbaijan, the range of stakeholders in the sphere of mercury contamination incorporates the following parties:

- 1) "Azerkhimia" Co. operates the chlorine production plant that releases mercury-containing wastes, and the company has to manage these waste flows.
- 2) The Ministry of Ecology and Natural Resources is responsible for mining and environmental monitoring.
- 3) The hazardous waste disposal facility is a private operator and deals with disposal of mercury-containing waste. Now, the facility undergoes some extension to ensure complete containment of mercury-containing waste.
- 4) The Public Health Ministry applies mercury in medical instruments and bears responsibility for management of hazardous medical waste. In addition, the Ministry conducts preventive medical examinations of workers under risks of occupational contacts with mercury in the course of production and application of mercury compounds.
- 5) The Ministry of Emergency Response implements actions to mitigate health and environmental impacts of mercury releases.
- 6) Milli Mejlis (Parliament) of the country approves laws and improves the legislative framework of mercury management.
- 7) Non-governmental organisations and mass media outlets raise public awareness of matters pertaining to mercury contamination, its prevention and handling of mercury-containing substances.

Deliverables, outputs and/or products:

Laboratory measurements of mercury contents were made - samples were taken at landfills of 6 districts. In the case of Sumgait landfill, mercury levels were shown to exceed the applicable standard.

Mercury levels in soil samples from municipal landfills (mg/kg)

Regions	Mercury levels in soil samples (mg/kg)	Standards, mg/kg	
		Industrial areas, mg/kg	Residential areas, mg/kg
Sheki	0.065	50	2
Gyanja	0.055	50	2
Mingechaur	0.27	50	2
Shirvan	0.03	50	2
Sumgait	69.27	50	2
Balakhany	0.63	50	2

In the course of the project implementation, a major body of information was collected - the information served as a base for development of the campaign against mercury contamination. A booklet on mercury contamination was produced and broadly disseminated.

Communication efforts:

Publications on mercury contamination, associated problems and options to address these problems were published in central press and in particularly affected districts:

1) "Olaylar" newspaper (central) - February 14, 2012

Regional newspapers

2) "Zagatala" - February 25, 2012

3) "Region - Sheki" - February 2012

4) "Imaylly Kheberleri" - February 2012

5) "Gabala" - March 2012

SAICM National Focal Point:

Ganbarov Mirsalam - the Chief of the Control Sector of the Environmental Protection Department of MENR - 99412-5392401

Recommendations, from a public interest, NGO perspective, on reducing and eliminating human sources of mercury:

In the course of the information campaign we demonstrated results of laboratory analysis of water and soil samples collected at municipal landfills - in some cases mercury levels exceeded applicable standards in several tens of times. The situation is associated with the fact that residents tend to dispose of mercury-containing items with household waste. Our NGO was supported by a UNDP project on solid waste management and we conducted joint actions for household waste separation and removal of hazardous mercury-containing waste. Now, we initiate a campaign for separation of mercury-containing waste from municipal waste flows.