International Mercury Treaty Enabling Activities Program (IMEAP)

Following the signing of the Minamata Convention on Mercury (the 'mercury treaty') in 2013 and the release of the IPEN Minamata Declaration on Toxic Metals, IPEN expanded its Mercury-Free Campaign and developed a broad program of treaty-enabling activities to be implemented in conjunction with IPEN Participating Organizations (POs). The International Mercury Treaty Enabling Activities Program (IMEAP) is geared toward raising awareness about the mercury treaty while generating data on key thematic elements of mercury pollution to help enable countries to implement the Minamata Convention.

IPEN launched IMEAP in early 2014 and continues to mobilise resources for IPEN POs to conduct activities that support implementation of the mercury treaty[1].

The key objectives of the IPEN IMEAP are:

1. *Preparing for Treaty Ratification & Implementation:* Creating synergies between NGOs in developing countries with ongoing UN agency or government-led mercury activities and NGO priority-setting.

2. *Enabling Activities to Prepare Countries for Treaty Ratification & Implementation:* Support to NGOs to carry out national and thematic mercury treaty activities.

3. *Communication of Issues Related to Mercury and Treaty Ratification & Implementation:* Global dissemination of project results & south-south collaboration.

The following project forms part of the overall IMEAP activities and contributes to the greater global understanding of mercury pollution issues while providing information that may contribute to Minamata Initial Assessments (MIA) and raise public awareness in preparation for early ratification of the Minamata Convention on Mercury.

[1] IPEN would like to acknowledge the financial contributions from the governments of Germany, Sweden and Switzerland, and the Swedish public development co-operation aid through the Swedish Society for Nature Conservation (SSNC) and other donors. The views herein shall not necessarily be taken to reflect the official opinion of any of these donors, including SSNC or its donors.

IPEN Mercury Treaty Enabling project: Russia

Name of the NGO: Eco-SPES
Date: December 2015 (IMEAP: 2014 Phase)
Country: Russia
Title of project: Mercury hot spots and mercury waste in Nizegorodsky district, Russia

Summary

This report details the IMEAP activities of the Russian environmental NGO 'SPES' in collaboration with IPEN EECCA Hub 'Eco-Accord' and another Russia NGO 'DRONT' (see separate IMEAP report for parallel activities undertaken by DRONT on mercury from used fluorescent lamps). The focus of this report is investigation of and awareness-raising about the mercury pollution sources in the Nizegorodsky district of Russia and on starting a broad outreach campaign on mercury pollution sources and mercury health risks throughout the country.

The project reports levels of mercury pollution in environmental media close to Igumnovo landfill and three nearby water reservoirs (bottom sediments and surface waters). Based on the information collected in Dzerjinsk, Nizny Novgorod and other places of the Nizegorodsky district, an information campaign aimed at raising public awareness on mercury health threats and pollution sources in Russia was started. A workshop based on the outcomes of the research project in Dzerjinsk, Nizny Novgorod, Volgograd and Krasnodar was held to highlight the importance of reducing mercury threats on people's health. This report summarises a detailed inventory of the mercury pollution sources in these localities. The project has highlighted the need to cleanup the contaminated sites and strengthen mercury waste separation and mercury waste management, which is related to Articles 11 and 12 of the Mercury Treaty - Mercury Wastes and Contaminated Sites. A detailed copy of the project report in Russian can be accessed via the links on the web page where this report has been posted.

Provide a physical description of the site(s).

Nizhegorodskaya oblast is located in the centre of the European part of Russia (administrative centre: Nizhniy Novgorod). The oblast with its land area of 76,624 km² belongs to the largest region of the country. The overall population (as at 2015) reached 3,270,203 residents.

Neighbouring regions: Kostromskaya oblast (NW), Kirovskaya oblast (NE), Mariy El Republic and Chuvashia Republic (E), Mordovia Republic (S), Ryazanskaya oblast (SW), and Vladimirskaya and Ivanovskaya oblasts (W).

Geographic location: 56°29' N 44°32' E.

Main industries of Nizhegorodskaya oblast include: engineering and chemical industries, ferrous metallurgy, timber, paper and pulp, light industry and food processing industries.

The city of Dzerzhinsk (the largest chemical industry centre of the former USSR) is the second largest city of the oblast in terms of its population and industrial capacity. It is located 30 km upstream of Nizhniy Novgorod, at the Oka River. In 2015, the population of the urban municipal district reached 244,000 residents (including 10,000 residents in suburban settlements).

The city is located in the zone of moderate continental climate with a flat topography. In the city area, W and SW winds dominate. E and NE winds are rare. Average annual incidence of no-wind conditions reaches 17%; in the summer it increases up to 25%. Air temperature inversions are observed in all seasons. Cumulative effects of surface temperature inversions and slow (under 1 m/s) winds create poor conditions for dispersion of pollutants in the atmosphere - on average, such situations are observed for 25% of cases of surface inversions. The lowest incidence of surface temperature inversions and slow winds is observed in autumn (17%), while the highest one is observed in summer (about 40%).

In the territory of Dzerzhinsk municipality and in the low riverbank part of Nizhniy Novgorod, large peatland areas are present. Soils are of sandy type. Karst-related phenomena are observed at the territory.

Water supply in the high riverbank part of Nizhniy Novgorod relies on two water supply facilities - "Sludinskaya" and "Malinovaya Gryada" - that use water intakes at the Oka river (downstream of Dzerzhinsk). In the low riverbank part of the city, the water supply system relies on "Novo-Sormovskaya" water supply facility, with its water intake at the Volga. In 2014, the overall volume of water supplied to the city distribution network reached 206.3 million m^3 (including 170 million m^3 supplied by "Nizhniy Novgorod Vodokanal" JSC).

In Dzerzhinsk, the city water supply system operates Teplovskiy GW intake (140 thousand m^3/day) and Zhelninskiy river water intake at the Oka river (108 thousand m^3/day).

Groundwater resources at the territory of Dzerzhinsk are associated with aquifers in Upper Quaternary alluvial deposits. The aquifer is shallow and not protected from contamination. Major sources of groundwater pollution are located upstream of Dachniy, Koodkino, Babino, Yurievets and Petryaevka settlements, including the following ones: "Beloye More" sludge pond, Volosyanikha open collector (bottom sediments of the collector have accumulated mercury, DDT, PCB, HCB and lead), and several waste dumps of former "Kaprolaktam" Plant and "Sintez" JSC that substantially affect groundwater quality. Results of many years of research suggest that groundwater in the aquifer does not meet applicable water quality standards such as GOST and SanPiN and cannot be used for household and drinking water supply purposes.

Industrial and municipal wastewater flowing into Dzerzhinsk undergoes treatment at municipal wastewater treatment facilities (ROS-350), operated by their owner - "Dzerzhinsk Vodokanal" JSC. After the treatment, wastewater is discharged to the Volga.

Two wastewater discharge points are located at the Oka river - 1) discharges via the channel of Dzerzhinsk thermal power plant (TPP) (discharges of the power plant itself and discharges of "Korund" JSC), with wastewater discharges commencing in the 1920s; and 2) discharges via Volosyanikha channel and a system of sedimentation ponds (wastewater discharges of

Igumnovo site of Dzerzhinsk TPP), with the latter discharge point in use since the late 1930s. In addition to that, up to 2014, blowdown water of "Ya.M. Sverdlov Plant" TPP was discharged to the Pyra River.

At the territory of Dzerzhinsk municipality, numerous unauthorised industrial waste dumps are located - these dumps are sources of environmental contamination by arsenic, mercury, lead, tetraethyl lead, PCB, DDT and other pollutants.

Report on the history of the site.
Identify the activities carried out in these locations that make it a contaminated site today.
Provide information about ownership; government regulatory actions etc:

The following are sources of mercury pollution at the territory of Nizhegorodskaya oblast:

1. The former production site of Granozan (ethylmercury chloride) pesticide production facility at the territory of "Sintez" JSC, namely: 2 production buildings and 1 auxiliary building. No information is available on any decontamination operations in these buildings, constructions or adjacent areas. According to information of former employees of the production facility, even after de-mercurisation these production buildings are contaminated by mercury.

The site owner is "Sintez" JSC. and the area is about 0.5 - 1 ha. The location is in the eastern industrial zone of Dzerzhinsk, Nizhegorodskaya oblast.

2. The former chlorine-alkali production site (with mercury process) at the territory of former "Kaprolaktam" Plant (now, it is "Oka-Polimer" Industrial Park). The production facility was operational from 1949 until 1982. Up to 1967, wastewater flows of the facility did not undergo treatment. The site owner is "Oka-Polimer" JSC. and the area is about 0.5 - 1 ha. The location is in the eastern industrial zone of Dzerzhinsk, Nizhegorodskaya oblast.

3. "Volosyanikha" channel. Bottom sediments of "Volosyanikha" channel accumulated mercury, PCB, dioxins, DDT and arsenic. In the period from 1935 to 1996, the channel (a drain of "Beloye More" sludge pond) received wastewater discharges of 5 chemical plants, 1 engineering plant and one TPP. Wastewater from the channel is discharged to the Oka river, upstream of the operational water intake of Nizhniy Novgorod. Results of research studies in the framework of 2 IPEN projects allowed us to identify mercury in water and bottom sediments in the channel. The site owner is Dzerzhinsk city administration (municipality). The water area is over 10 km. The location is in the eastern industrial zone of Dzerzhinsk, Nizhegorodskaya oblast.

4. Unauthorised industrial and construction waste dumps. "Voroshilovskaya" waste dump existed since the 1950s. In autumn 2011, instead of its remediation, the industrial waste dump was "improved". The municipality contracted analytical research studies that revealed the presence of 1st hazard class substances at the site (mercury, lead, arsenic). Moreover, in the course of improvement works, the integrity of the already compacted layer of soil and hazardous wastes (for 50 years) was disturbed and the dump height increased from 2.4 to 9 metres. The site owner is Dzerzhinsk city administration (municipality). The area was 2.36 ha before the "improvement" and 1.1 ha afterwards. The location is the eastern industrial zone of Dzerzhinsk, Nizhegorodskaya oblast.

5. "Aviabor" JSC. Up to 1997, the facility applied a technology for production of boron fibres that generated mercury-contaminated wastewater and gaseous emissions. Earlier, the facility stored its waste sludge (0.858 t) on-site. Now, the eventual fate of the waste is unknown and no information is available on the state of the collectors. The site owner is "Aviabor" JSC. The area is unknown. The location is the eastern industrial zone of Dzerzhinsk, Nizhegorodskaya oblast.

6. "Beloye More" sludge pond of the former "Kaprolaktam" plant was commissioned in 1973 and closed in 2013. The pond received waste sludges from different production lines of the plant (chlorinated organic products). Mercury levels in filtrates from the pond reach 1.2 MAC. According to results of chemical analysis of sludge samples in the pond, mercury concentrations reach 0.000091% at the depth of 1 m, 0.000023% at the depth of 3 m and 0.00076% at the depth of 4 m. Mercury concentrations in filtrate reached 0.0006 mg/l, and 0.065 mg/l in sludge water from "Beloye More" sludge pond. In 2012, according to transfer agreement of the RF Government and the Government of Nizhegorodskaya oblast, and pursuant to assignment # PR-1742 GS of June 20, 2011 of the President of the Russian Federation, RUR 39.3 million (more than $1 million) was allocated for remediation of the site and implementation of environmental actions to address the accumulated environmental damages at the territory of Nizhegorodskaya oblast, including RUR 24.5 million for delivery of soil for reinforcement of the western side of the sludge pond and removal of the upper soil layer at the eastern side of the pond. Planned finance allocations for remediation of the site included RUR 309.8 million in 2013, RUR 439.9 million in 2014 and RUR 453.2 million in 2015. So far, works under the sludge pond remediation project have not been started (as in 2015 the project was negatively evaluated by the state environmental appraisal and will be adjusted). The site owner is Dzerzhinsk city administration (municipality). The area is 55 ha. and the accumulated amount of sludge is 7.8 million tons. The location is the eastern industrial zone of Dzerzhinsk, Nizhegorodskaya oblast.

Potential sources of mercury contamination:

1. The site of "Igumnovo" landfill (the municipal waste landfill of Nizhniy Novgorod and Dzerzhinsk). Now, the landfill is closed (by a court decision of 2012) and its territory is not guarded. Access to the landfill site is free. Earlier, some attempts were made to dispose of bags with mercury-containing instruments at the site, and we found numerous burnt mercury-containing bulbs at the landfill site. The landfill is a potential source of mercury pollution. The site is located in a waterlogged area. The insulation layer at the landfill was completed only partly (such a layer is necessary to prevent contamination of groundwater aquifers).

Mercury levels in "young" landfill leachate (2015) do not exceed applicable standards. In 2012, according to transfer agreement of the RF Government and the Government of Nizhegorodskaya oblast and pursuant to assignment # PR-1742 GS of June 20, 2011 of the President of the Russian Federation, RUR 63.5 million (over $2 million) was allocated for remediation of the landfill site, including already utilised RUR 480,000 for a road construction. Planned finance allocations for recultivation of Igumnovo landfill included RUR 637.7 million in 2013 and RUR 562.2 million in 2014. At this stage (December 2015), remediation works have not been launched yet; the initial version of the project was adjusted.

The site owner is the Government of Nizhegorodskaya oblast. The area is 38.3 ha. Amounts of accumulated waste are over 4,500,000 m^3. The location is the eastern part of Dzerzhinsk, Nizhegorodskaya oblast.

2. The industrial waste dump nearby the territory of "Kaprolaktam" Plant. In 2014 - 2015, at the territory of the waste dump, illegal metal pickers intensively collected non-ferrous metals. In the course of their daily digging operations, "metal hunters" dispersed industrial waste that might contain mercury and mercury compounds. The waste dumpsite was crossed by a rainfall (ephemeral) stream from the territory of the former "Kaprolaktam" Plant. Multiple raids (in the period from 2012 to 2015) by police officers and representatives of the Federal Service for Supervision of Natural Resource Use to the dumpsite failed to stop illegal digging at the territory. These illegal metal collection activities damaged the integrity of compacted industrial waste layers, caused dust contamination of adjacent areas and the watershed area of "Volosyanikha" channel, and were finally stopped by joint raids of our activists with officials of the Federal Service for Supervision of Natural Resource Use in late 2015. The site owner: is Dzerzhinsk city administration (municipality). The area is up to 1 ha. The location is the eastern industrial zone of Dzerzhinsk, Nizhegorodskaya oblast.

3. The sedimentation pond of old wastewater treatment facilities of "Kaprolaktam" Plant, which operated in the 1939-45 war period and after the war (the one adjacent to now closed "Beloye More" sludge collection pond). Wastewater was from the pyrite and lewisite production lines (production units 311 and 311-A). The site owner is Dzerzhinsk city administration (municipality). The area is up to 1 ha. The location is the eastern industrial zone of Dzerzhinsk, Nizhegorodskaya oblast.

4. Industrial waste dump of Dzerzhinsk industrial zone/"Korund" Production Association in square 56 of Kozinskiy forestry at the territory of Balakhninskiy district of Nizhegorodskaya oblast. The industrial waste dump could be used for disposal of industrial waste of chemical facilities in Dzerzhinsk (including mercury-containing waste). Annually, up to 12,000 tons of waste were delivered to the dumpsite. The decision on siting of the dump and its associated processing facility was made in 1963. In 1974, the dump started to receive solid and liquid chemical production waste. Four years later, a survey allowed us to identify that the leachate insulation layer was damaged. Since the mid-1980s, at the territory of the dump (adjacent to 3rd sanitary protection zone of Teplovskiy groundwater deposit - one of the largest ones in Nizhegorodskaya oblast), levels of water mineral content tended to grow. In addition, phenol, benzene, formaldehyde, cyanides and oil derivatives were identified. The site owner is the administration of Balakhninskiy district of Nizhegorodskaya oblast (municipality). The area is 18.5 ha. The amount of accumulated waste is 384.2 thousand tons. The location is square 56 of Kozinskiy forestry, Balakhninskiy district of Nizhegorodskaya oblast (to the north from Dzerzhinsk city administrative boundary).

5. In the floodplain zone of Cheboksary Water Reservoir, 6 coal ash disposal pits of Igumnovo TPP are located. In the period from 1937 to 1990s, TPP-24 used Donetsk coal of an ash grade of poor quality, high ash (up to 42%), moisture and sulphur contents (up to 3.5%). Research data suggest that ash sludge may contain: mercury, zinc, arsenic, nickel and cadmium. The site owner is Nizhniy Novgorod subsidiary of "TGK-6" JSC. The area needs clarification. The amount

of waste accumulated is 8.6 million tons. The location is the eastern industrial zone of Dzerzhinsk, Nizhegorodskaya oblast.

6. Pits for disposal of bottom sediments that were removed from "Volosyanikha" channel after 1966. The site owner is Dzerzhinsk city administration (municipality). The area needs clarification. The amount of waste needs clarification. The location is the eastern part of Dzerzhinsk, Nizhegorodskaya oblast.

7. The sewage collector in the eastern industrial zone of Dzerzhinsk. In April 2015, in the course of a project implementation at the area to the north from "Volosyanikha" channel, the municipal administration of Dzerzhinsk contracted for removal of the old sewage main from the city to the municipal wastewater treatment facility. The collector was almost completely filled by silt-like sediments with a characteristic smell after many years of pumping of industrial and household wastewater. Metal pipes were removed from sandy soils, while the sediments remained on-site. The site owner is Dzerzhinsk city administration (municipality). The area is about 4 km. The location is the eastern part of Dzerzhinsk, Nizhegorodskaya oblast.

Explain the chemical characterization if more than mercury waste is present, including the nature of the mercury waste at the site and other chemicals. Report on any available monitoring data for the site, who generated it and any analysis of the data by NGOs or authorities.

In the framework of the project at the territory of Nizhegorodskaya oblast, samples of surface water and wastewater, bottom sediments and soils were collected within the Dzerzhinsk city area. In addition, landfill leachate samples were collected at "Igumnovo" landfill (the largest municipal landfill in Povolzhie region). Research results and information newly identified by NGOs on industrial mercury pollution sources in the region will be presented in the survey of mercury pollution sources in regions of the Russian Federation on the web-site of Eco-Accord Centre (http://www.ecoaccord.org/english/index.htm)

In order to assess the situation with sources of mercury pollution, industrial facilities, household and industrial waste dumps, and other potential sources were surveyed. To this end, data of federal and regional environmental bodies were analysed, as well as scientific publications and results of analytical research studies.

In the framework of the project, a survey of regional and local legislative initiatives in several regions of the Russian Federation was developed (the ones associated with collection of used mercury-containing bulbs and batteries) - in particular, the survey provided information on initiatives of NGOs, addresses of municipal facilities and private outlets.

Results of the survey of the situation with collection of used mercury-containing bulbs from residents of Russian cities will be presented in a special report on the web-site of Eco-Accord Centre.

Describe the environmental and health consequences of the contamination.

Provide evidence (if available) of damage to the community or environment including personal testimonies. Include any records of environmental and health incidences or investigations:

In the mid 1990s, in monitoring wells within administrative borders of Dzerzhinsk (nearby Dachniy, Igumnovo and Petryaevka settlements, located downstream of the former "Kaprolaktam" Plant, its industrial waste dump and "Beloye More" sludge collector pond, and mercury-based Granozan production unit of "Sintez" Plant), hydrogeologists registered mercury levels in excess of applicable MACs. In addition, mercury levels in excess of MACs were registered in soils of settlements of Babinskiy town council.

No medical information is available on health impacts of mercury and mercury compounds on local residents of Dzerzhinsk in vicinity of "Kaprolaktam" and "Sintez" plants.

Identify the party or parties responsible for creating the contaminated site(s) (if known):

Nizhegorodskaya oblast belongs to Povolzhie regions with the highest concentration of industrial facilities, and many of them for a long time were sources of environmental contamination by POPs and mercury.

Due to long-term impacts of chemical plants, areas such as Dzerzhinsk municipal district were contaminated by several persistent organic pollutants (dioxins, furans, PCB, hexachlorbenzene and pesticides) in concentrations several times higher than applicable MACs.

Identify the party or parties currently responsible for managing/supervising the site(s):

At the territory of the city district, the following certified analytical laboratories maintain environmental monitoring:
- The city municipality (Dzerzhinsk city administration) operates an analytical laboratory of its municipal facility (the Engineering Environmental Service of Dzerzhinsk) that controls the quality of surface water and groundwater, soils and air, as well as waste composition.
- RF Hydrometeorological Service (the laboratory of comprehensive environmental pollution monitoring of the Upper Volga Directorate) controls quality of surface water and groundwater, soils and air, as well as waste composition.
- Federal State Public Health Facility (the Centre of Hygiene and Epidemiology of Nizhegorodskaya oblast - Dzerzhinsk, Volodarskiy district) controls quality of surface water and groundwater, soils and air.

The leading federal environmental authority of Russia - the Federal Service for Supervision of Natural Resource Use - does not maintain its offices in Dzerzhinsk. The Service controls quality of surface water and groundwater, soils and air, as well as waste composition.

The Federal Service of Veterinary and Phytosanitary Supervision (subordinated to the RF Ministry of Agriculture) maintains control over safe management of pesticides and agrochemicals, ensuring soil fertility.

The regional environmental agency - the Ministry of Ecology and Natural Resources of Nizhegorodskaya oblast - is the only agency with operational office in Dzerzhinsk. The Ministry operates its analytical laboratory in Nizhniy Novgorod - "Regional Ecology" - that controls quality of surface water and groundwater, soils and air, as well as waste composition.

Describe any plans to clean-up the site(s):

Analytical reports of "State of Environment and Natural Resources of Nizhegorodskaya oblast" series, oblast-level dedicated program "Development of a System for Consumption and Production Waste Management in Nizhegorodskaya oblast for 2009-2014", other regulations and documents developed by the Ministry of Ecology and Natural Resources of Nizhegorodskaya oblast and the regional office of the Federal Service for Supervision of Natural Resource Use provide no information on areas contaminated by mercury and mercury compounds, their quantity, or results of research studies on such areas in Nizhegorodskaya oblast.

Describe the system (if any) your country has for recording and mapping contaminated sites:

A uniform register of sources of mercury pollution at the territory of Povolzhie region of the Russian Federation does not exist. In different regions, environmental authorities have scattered information on existing sources of mercury pollution. Environmental agencies predominantly check statistical reporting of state and private facilities on the amounts of discarded mercury-containing bulbs recycled and on identified storages of obsolete mercury-containing pesticides.

List the laws and regulations (if any) your country has for managing contaminated sites:

At the territory of the Russian Federation, sanitary standards for soils in human settlements are applied, as well as limits for mercury levels in surface water and groundwater, outdoor air in human settlements and workplace areas of facilities that use mercury and its compounds, and limit values for mercury-containing pesticides in soils.

Existing hygiene standards are applicable to the operation of municipal (household) waste landfills. However, now, in the territory of Russia, less than 10 municipal landfills may be fully compliant with these standards. There is a threat that discarded mercury-containing bulbs may be disposed of to existing municipal landfills.

Notwithstanding measures for inventorying stockpiles of banned and obsolete mercury-containing pesticides in regions of Russia, such pesticides are sometimes illegally buried by private businesses in unacceptable places, including residential areas and water protection zones of water bodies. As an example - in 3 cases, in the territory of Dzerzhinsk, more than 1,000 tons of obsolete pesticides were illegally buried in the period from 2006 to 2009.

Project Outcomes:

Describe the activity conducted:

In the course of the project implementation, sources of existing mercury contamination were identified (industrial facilities that use or used mercury and its compounds) in the territory of Privolzhskiy Federal District.

As a case study, information on amounts of collected discards of mercury-containing bulbs was gathered in Nizhegorodskaya oblast.

Information was collected in different regions of Privolzhskiy Federal District in connection with regional initiatives for collection of burnt mercury-containing bulbs, cells and batteries (including information on projects of commercial facilities).

Nizhegorodskaya oblast belongs to Povolzhie regions with the highest concentration of industrial facilities, and many of them for a long time were sources of environmental contamination by POPs and mercury.

In the course of the project, for the first time at the territory of Nizhegorodskaya oblast, heating boilers were registered in urban and rural settlements as sources of mercury emissions to the environment.

Additionally, in the course of the project we identified an inadequate storage of discarded mercury-containing bulbs in an education facility in Nizhegorodskaya oblast (in a lobby and without containers).

List communication materials and other documentation produced/received as part of the report .

In his letter of 03.06.2015, Mr. S.G. Sinitsin, the director of the Housing and Engineering Infrastructure Department of Nizhniy Novgorod, informed us that the Department has no information on collection of discarded mercury-containing bulbs in the territory of the city.

In his letter of 05.06.2015, Mr. G.V. Vinogradov, the Chief of Dzerzhinsk city Administration of Nizhegorodskaya oblast, informed us that the city Administration has no information on amounts of collected discarded mercury-containing bulbs in the territory of the city, including information on such bulbs being delivered for recycling by budgetary facilities of the city and by the city Administration itself.

In its letter of 17.07.2015, the Ministry of Ecology and Natural Resources of Nizhegorodskaya oblast informed us that, according to data from the regional waste register of Nizhegorodskaya oblast, in 2013, in the territory of the oblast, 198.188 tons of mercury-containing bulbs were neutralised. In addition, Privolzhskiy Federal District Department of the Federal Service for Supervision of Natural Resources Use, in connection with amounts of collected and processed mercury-containing bulbs in the territory of Nizhegorodskaya oblast, informed us that the Department collects, processes and compiles statistical data on management of production and consumption waste according to Order # 17 of the RF Committee for Statistics of 28.01.2011 (on Approval of Statistical Tools for Organisation of Statistical Control in the RF Service for Supervision of Natural Resources Use over Production and Consumption Waste), and according to Order # 828 of the RF Service for Supervision of Natural Resources Use of 14.11.2011 on Organisation of Works for Implementation of Federal Statistical Control According to Form #2-TP (waste) and Production of Official Statistical Information.

However, the above documents do not provide for generalisation of data on waste types at the level of constituents of the Russian Federation.

According to data of the Ministry of Ecology and Natural Resources of Nizhegorodskaya oblast, (based on the regional waste register of Nizhegorodskaya oblast), JSC "Ecoservis Povolzhiya" utilises mercury-containing bulbs and fluorescent tubular lamps with application of a proprietary technology.

In its letter of 21.03.2014, Privolzhskiy Federal District Department of the Federal Service for Supervision of Natural Resources Use, in connection with a request to clarify information on control over mercury emissions from point sources at industrial facilities and levels of contamination of environmental media by CW agents and their metabolites at the territory of Privolzhskiy Federal District, provided the following information:
- no fixed point sources of mercury emissions exist at the territory of Nizhegorodskaya oblast, Mariy El Republic, Permskiy Krai and Udmurtia Republic.
- in the territories of Kirovskaya, Ulyanvskaya, Samarskaya, Penzenskaya, Saratovskaya and Orenburgskaya oblasts, Chuvashia Republic and Mordovia Republic, in the course of regular and extraordinary inspections of production facilities, mercury emissions from point fixed sources are checked. No cases of non-compliance with emission limits at sources and MACs in sanitary protection zones were identified at facilities of Privolzhskiy Federal District.

Now, the site of former "Kaprolaktam" Plant (the one that used mercury in chlorine-alkali production from 1948 to 1982) belongs to "Oka-Polimer" Industrial Park JSC.

We sent a request to managers of "Oka-Polimer" Industrial Park JSC asking for clarification on the situation at the territory of building # 283 (mercury electrolysis unit # 202). The response letter of "Oka-Polimer" Industrial Park JSC of 16.07.2015, signed by Mr. A.A. Lukin, the director-general of the JSC, did not provide clarity for the matter.

Earlier (27.02.2014), Privolzhskiy Federal District Department of the Federal Service for Supervision of Natural Resources Use notified us that the Department had not received any documentation for the state environmental appraisal procedures in connection with dismantling building # 283 (mercury electrolysis unit # 202) at the site of former "Kaprolaktam" Plant in Dzerzhinsk of Nizhegorodskaya oblast.

Communication Efforts: Describe efforts to communicate this activity to the media and/or general public. Please include media coverage and/or photos or visuals:

Working meetings were held with researchers of the R&D Institute of Chemistry (N. I. Lobachevskiy Nizhniy Novgorod State University) to select sampling points.

Former employees of decommissioned production units of "Kaprolaktam" and "Sintez" plants were interviewed to gather insider information on nature and sources of mercury contamination at these facilities.

Information requests were sent to environmental authorities - the Ministry of Ecology of Nizhegorodskaya oblast (regional level) and Privolzhskiy Federal District Department of the

Federal Service for Supervision of Natural Resources Use (federal level). Their responses suggest that these authorities are interested in additional or insider information on sources of mercury pollution at the territory of industrial facilities, illegal dumps of mercury-containing waste, and sites of former disposal of municipal and/or industrial waste with mercury and mercury compounds.

Based on study of official information of environmental authorities, publicly accessible information sources, research publications and statistical data, we can conclude that so far no general information is available on amounts of industrial waste with mercury and its compounds at the territory of Nizhegorodskaya oblast and in the majority of Povolzhie regions.

The survey of pollution sources in several regions of the Russian Federation and study of regional experiences of separate collection of hazardous household waste (including discarded mercury-containing bulbs) will be the first such study presented by non-profit environmental organisations in Russia.

Communication with National or Local Authorities: Describe your interaction with your National Minamata Convention Focal Point or other authorities regarding this project:

Proposals were submitted to Mr. V. Shantsev, the Governor of Nizhegorodskaya oblast, and to the Chief of Privolzhskiy Federal District Department of the Federal Service for Supervision of Natural Resources Use in connection with inventory of existing sources of mercury pollution at the territory of former production facilities and potential sources of mercury pollution (industrial waste landfills, municipal waste dumps) at the territory of Nizhegorodskaya oblast.

Photos with descriptions of relevant sites are provided in the survey of mercury pollution sources.

Communication Efforts: Describe efforts to communicate this activity to the media and/or general public.

The project summary was announced in mass media outlets (including the survey of mercury pollution sources and updated information on collection of discarded mercury-containing bulbs and batteries, including addresses of collection points).

The following stakeholders are interested in identification of precise boundaries of land areas where chemical facilities operated earlier and applied mercury (at the territory of Dzerzhinsk municipality), as well as sites of potential mercury pollution sources: owners of relevant land areas (municipalities, private businesses), federal and regional environmental authorities, residents of nearby settlements, the environmental community, and mass media outlets.

Minamata Convention Focal Point: Provide the name and contact details of your National Minamata Convention Focal Point.

N/A

NGO Recommendations for next steps:

In the framework of the project, 2 analytical reports were produced.

The first report provides a description of sources of mercury pollution in Povolzhie regions.

The second report generalises information on amounts of discarded mercury-containing bulbs, cells and batteries in several regions of Russia, on local and regional programs for their collection and processing, and on initiatives of private businesses. The report provides addresses of collection points for burnt mercury-containing bulbs and batteries in cities of the Russian Federation.

Later on, both reports produced in the course of the project will be amended and updated by information from different regions of the Russian Federation, as information on new mercury pollution sources and new mercury waste collection points becomes available.

What, if anything, changed from the original plans and why?

In the course of the project implementation, in the territory of Dzerzhinsk of Nizhegorodskaya oblast, we collected samples of soils, bottom sediments and surface water in points adjacent to existing sources of mercury pollution:
- the area to the south from the site of former "Kaprolaktam" Plant that used mercury earlier for chlorine production
- the area to the south from the site of "Sintez" Plant that earlier produced Granozan pesticide (ethylmercury chloride)
- eastern, southern and western parts of "Volosyanikha" channel (to the south from the site of former "Kaprolaktam" Plant)

In addition, waste samples were collected at the territory of the closed industrial waste dump of Dzerzhinsk chemical facilities (at the territory of Balakhninskiy district of Nizhegorodskaya oblast):
- sludge samples from the old sedimentation pond to the south from the site of former "Kaprolaktam" Plant, adjacent to the closed 'Beloye More" sludge pond
- old wells at the southern part of "Sintez" Plant site

Mercury levels in all samples of soils, bottom sediments and water were found to be under applicable limits (MACs). These results may be attributed to mercury methylation in aqueous media and migration of mercury into deeper soil layers.

Natural mechanists of methylmercury generation are fairly complex and are insufficiently studied. They include several biochemical and chemical stages, which are very sensitive to environmental parameters.

Methylmercury may be released to the environment directly from landfills and wastewater treatment facilities; however, it is not clear whether these sources contribute substantially to the overall mercury contamination.