

Armenian Women for Health and Healthy Environment



Improvement of Environmental Safety in Rural Armenia



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Map of Armenia, Location of Burial Site

1 | Background

Rationale

One of the main problems in the Eastern Europe, Caucasus and Central Asia (EECCA) region is the problem of persistent organic pollutants (POPs), in particular obsolete pesticides and hazardous chemicals stockpiles. Great number of unsafe and obsolete pesticides, most of them are persistent and cumulative, was accumulated across the world threatening human health and the environment. Official statistics estimates for example that there exist 20 000 tons of POPs in Ukraine, 17 000 tons in Uzbekistan and 6600 tons in Moldova, stored in unprotected buildings or underground burial sites. Scientists believe that the quantity of identified obsolete pesticide stockpiles should be multiplied with 2 or 5 to get the realistic amount of obsolete pesticides.

It is often women who ring the alarm bell regarding health effects of these toxins for their families.

The local authorities in EECCA countries often have only a vague idea about which substances are stored. Packages are broken and leaking, reservoirs are corroded and toxic substances are leaking into soil, groundwater and evaporating into the air. Many of these obsolete pesticides described and are included in the Stockholm Convention on POPs.

Under Global Environment Facility (GEF) / United Nations Environment Program (UNEP) projects are going on for searching appropriate technologies for treatment of these toxic substances. This is a good instrument, but there is a lack of implementation. This is mainly caused by lack of local, national and international awareness and commitment. In particular, not enough financial support is available. Conventions alone are not sufficient.

Obsolete pesticides are one of the most important and urgent issues among environmental problems in Armenia. According to the official information of Ministry of Agriculture and Ministry of Nature Protection at the moment in Armenia there are about 200 tons of obsolete pesticides stored that need to be treated and disposed. So far there is no completed inventory on obsolete pesticides stockpiles in Armenia.

Armenia ratified the POPs Convention in November 2003 that allowed countries to receive the financial support from GEF for implementation of enabling activities/project.

The safe treatment and disposal of contaminated sites is the problem of a great concern. In 1982

banned and obsolete pesticide mopping up campaign was conducted in Armenia.

The biggest stock of more than 500 tons toxic obsolete pesticides was buried in the area located in Artashat region nearby to Yerevan. A clay lock (2-2,5 meters deep) was specially constructed for that purpose. More than 60% of buried pesticides were persistent organochlorines, such as DDT banned since 1972, granozan, pentachlorophenyl, hexachlorcyclohexan, etc. In 1991 after the collapse of the Soviet Union the situation changed dramatically. Regular investigation of the soil around the burial place was stopped. Almost all relevant documentation about the burial was lost, as well as the information about the location of the burial. NGO Armenian Women for Health and Healthy Environment (AWHHE) gathered information and searched for relevant people who were involved in this process in the past. In 2001 AWHHE started efforts to locate the site.

It was eventually found and lacked any measures to discourage public entry, such as security guards or barbed wire. AWHHE specialists conducted a preliminary investigation of the soil in the area. Out of 11 samples four contained DDT, DDE, HCH at average concentrations of 4.29 mg/kg, about 40 times the national maximum permissible concentration (MPC) of mg/kg in soil. In two of the samples pesticides residues exceeded the MPC by several hundred fold (23.9 and 54.55 mg/kg).

Deep cracks were found in the soil around the site. The integrity of the burial site is further complicated by its location in a landslide area on the top of the hill and only 800 meters from residential sites. In addition, the system of drains and pipes around the burial site was demolished and still there exists a real threat that pesticides will leak into ground water and the surrounding environment.

During two years (2001-2002) AWHHE carried out the monitoring of the burial. Alarming results were presented to several ministries that could be interested in this problem. Unfortunately there was no response from anyone. Only winning the series grant competitions, AWHHE got an opportunity in 2003 to address the aforementioned problem by bringing it to the focus of policy interest, involving all interested and relevant stakeholders.

AWHHE developed a 3-stage project “For a toxic free future in Armenia” that was supported financially by United States Agency of International Development (USAID) through Catholic Relief Services, World Learning, NGO Center of the Armenian Assembly of America. In the frame of the project AWHHE professionals conducted a detailed scientific investigation of the pesticide burial site and developed recommendations on provision of the safety measures.

A broad advocacy campaign and lobbying of policy makers on the issue of obsolete pesticide burial was initiated and by AWHHE via mass media. The campaign received support by Department of Emergency measures. An inter-departmental commission was established. As a result of the commission the Decree N526A on ensuring the security of the buried pesticides was adopted by Government on April 24, 2004.

The issue of POPs attracted the attention of the Armenian public, government, mass media and NGOs only after the appropriate information, advocacy and lobbying campaigns carried out by AWHHE since 1999. Up to present not many NGOs in Armenia are interested in the POPs issue.

Recently the Armenian government recognized the problem of POP stockpiles and the necessity to treat and dispose them and included this problem in National Implementation Plan of Armenia.

In collaboration with the International HCH and Pesticides Association the issue of pesticide burial in Armenia was raised at the highest political levels. As a result the Ministry of Nature Protection presented this issue during the hearings in Euro Parliament in Brussels in spring 2003.

AWHHE with support of its international partners WECF, USAID, GGF, IPEN carried out activities in 3 villages located below the burial in Ararat oblastj/marz to develop a solution for Improvement of Environmental safety of area around the pesticide burial.

Target audience: rural population, direct beneficiaries - 3000 inhabitants of 3 villages located below the burial, indirect -280000 inhabitants of Ararat marz (province)

Sectors involved: local authorities, local communities, local NGOs, education, mass media

Project duration: 16 months: from August 2003 till December 2004



Obsolete pesticides burial site nearby to Yerevan, Capital of Armenia

Overall Goal

Improvement of Environmental safety in Ararat marz

Objectives

1. To bring the problem of POPs pollution to the focus of governmental, non-governmental organizations and local communities through raising awareness on environmental and health risks associated with obsolete and banned pesticides
2. To establish the collaborative Committee in Ararat marz with involvement of representatives of civil society and local authorities
3. To advocate safety of burial site through achieving the decision made by Executive

bodies in June 2004

Approach

The project of AWHHE follows the Agenda 21 approach.

- “Promote primary environmental care activities that address the basic needs of communities, improve the environment for children at the household and community level and encourage the participation and empowerment of local populations, including women, youth, children”
- Equal gender balance in the Collaborative Committee with representatives of local authorities, NGOs and social groups develops the solution to reduce risk of environmental pollution.
- Community mobilization as a tool for raising awareness and participation in making decision process.



Women of AWHHE visit the burial site in Ararat Marz, Artashat Region

2 | Description of Action & Implementation

The project investigation and implementation phase was carried out from August 2003 till December 2004.

First project stage: community mobilization through wide information campaign

To bring the problem of POPs pollution to the focus of governmental AWHHE communicated and collaborated with the Emergency Agency, Focal Point of the Aarhus Convention, mass media, local authorities, environmental NGOs, associations, Ministries of Agriculture, Health and Nature Protection, Municipality.

A Collaborative Committee of 10 members for developing the collaboration between Communities in Ararat oblastj/marz and local authorities was established. Three representatives of the Committee were local citizens from villages (local NGOs) of Artashat region. The Committee aims at decreasing harmful impact of pesticides on environment and human health. The Committee enables to elaborate appropriate recommendations and prepares the draft of the resolution to be submitted along with collected signatures to corresponding authorities for making the decision on solution to the problem.

Broad information and education campaigns were conducted by AWHHE among the rural communities in the Ararat oblastj/marz with involvement of local and national mass media, 1 TV presentation, organization of 2 round tables, 1 press conference, 15 meetings, 8 seminars and 6 lectures in schools.



To challenge the problem of pesticides danger, AWHHE has chosen an innovative form of propaganda and dissemination of information mobilizing the children through theatrical performance. The main goal of the performance was to raise public awareness in attractive form

and to encourage public participation in the Improvement of Environmental safety in Ararat marz. For that purpose the fairy tale “Dwarf Nose” written by German writer Wilhelm Hauff was put on stage. The fabula of the fairy tale was a bit modified with the aim to introduce the pesticide issue. Schoolchildren were motivated to think about the pesticide problem and enjoyed learning through artistic activities. The performance was presented in 10 rural schools. Thus more than 2000 schoolchildren, teachers and parents were spectators of this play. As a result of the activities, the schoolchildren influenced adult and the wider community, raising awareness of POPs issue and producing a step change in public attitudes to the environment. The raised awareness of rural population promoted the reduction of risks connected with dangerous pesticides. The number of farmers using pesticides decreased by 10.8 % and public awareness increased by 40%.



The Committee for developing the collaboration between Communities in Ararat marz



Scenes from the performance

Second project stage:

Investigation and practical improvement steps

AWHHE initiated the geological investigation of condition of burial site to identify activity of landslide and for assessing trace of landslide. The investigation was done by Research Institute of Geology, Academy of Science RA. It was defined that the burial site has moved 10 m downhill and to the right. Pesticides were found at a distance of 50 m below the burial at different depths: at the surface 2m down. The recommendations were submitted to Ministry of Nature Protection. They included the necessity of continuing of monitoring of the burial site, reinforcement of drainage pipes, construction of hydro isolation barriers to prevent the leakage of pesticides into the environment. The recommendations are still under consideration by the Ministry of Nature Protection.

During the burial existence since 1982, the clay lock has destroyed and insufficient covering resulted in the creation of mixture of pesticides that could be even more dangerous than they are individually. The laboratory investigations were done by the national certified laboratory of the National Institute of Standardization.

The laboratory analysis of 123 soil samples, shows presence of DDT, its metabolites and HCH during 2003 and 2004 taken from different layers of soil and distances: surface, 0.5m 1m, 1.5m and 2m depth of the burial. Pesticides were found at the distance of 50 m below the burial at different depth from the surface till 2 m depth. Out of 123 soil samples 75% contained DDT, DDE, DDD, HCH in level from 0.3mg/kg to 3037.7 mg/kg. MPC level (0.1mg/kg)

The **governmental Decree** on ensuring the security of the buried pesticides was signed on April 24, 2004. The Agency of Emergency response was appointed as the responsible body for monitoring and implementation of concrete measures for the improvement of the situation.

A fence was installed and drainages were restored, but not reinforced. The repeated analyses on residues of pesticides were done with the results that confirmed AWHHE

findings.

AWHHE considers that the undertaken measures are temporary. Concrete measures of treatment and disposal are urgently needed to solve the problem of buried obsolete pesticides in Armenia.



Soil sample taking around the cracks
Burial site, 2004



Soil Sampling
Burial site, 2001

3 | Output

Evaluation and impact

- The awareness among the local population of Artashat region on environmental and health risks associated with obsolete and banned pesticides increased by 40% by the 2004. The theatrical performances were played in 10 schools of 10 villages and had a great success according to the results of the questionnaire. Ten articles were published in 6 national newspapers on issue of the safety of the pesticides' burial.



The burial site



Landslide around the burial site

- The project enhanced public participation in the decision making process through the Collaborative Committee. The collaborative Committee of Citizens and elected governance was established in February, 2004 in Ararat marz and continues its work.

- The real risk situation has been assessed. The burial site is located in the center of an active landslide area that has become more active during the last years. The burial site has been moved 10 m to downhill and to the right. Pesticides were found at a distance of 50 m below the burial at different depth from the surface till 2 m depth. Out of 123 soil samples, 75% contained DDT, DDE, DDD, HCH in levels from 0.3mg/kg to 3037.7 mg/kg. MPC level is (0.1mg/kg).

- The first steps towards solving /mitigating this problem were undertaken by the government. The Commission was established; the governmental resolution on ensuring the security of the buried pesticide's site on April 24, 2004 was decreed.

- The activities of AWHHE and the measures undertaken by the Armenian Government's Emergency Department have increased security of the burial site reducing the risk of people and animals entering the site. The fence was constructed, the drainage was repaired but not reinforced.



Repaired storm collector



Burial site and landslides



New digged drainage above burial

4 | Lessons Learned

The implemented project demonstrates:

- the importance of NGOs involvement in the activities regarding POPs through raising public and authorities awareness about the existing problems(e.g. importance of work on both grassroots' and authorities level)
- the need to enhance the cooperation among the national and international experts
- the necessity to involve all stakeholders in decision-making process
- the innovative approaches (e.g. theatrical performances) can be a very powerful tool for public awareness raising
- a key role of NGO to include lobbying activities, otherwise such big problems are not given priority by the authorities

Conclusion

This case study shows that it is essential to involve all sectors of community, mobilize the community and to give people means to advocate their rights on safe environment and health. The newly created Collaborative Committee continues its work and with the help of AWHHE and local NGOs, is looking for a final solution to treatment and disposal of pesticide stockpile.

The measures undertaken by Government following the resolution are temporary though the security of the site has increased. However as the area is still considered as an active landslide zone. The Government should develop better policies and guarantee the environmental safety of the pesticide burial in the framework of the National Implementation Plan of Stockholm Convention.

To achieve the goal to treat and dispose the polluted site AWHHE continues to cooperate with policy makers and governmental authorities nationally and internationally. This should allow to contribute to the development of relevant policies on the issues of environmental protection in general and pesticides burial in particular.



Collaborative Committee Meeting



Press conference



Meeting with local NGOs



Visit of international expert to burial site

