MERCURY INVENTORY PILOT PROJECT IN PAKISTAN

BY

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> GOVERNMENT OF PAKISTAN MINISTRY OF ENVIRONMENT

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Objectives of the project

- To develop the basic data about the inventory of mercury and mercury products in Pakistan.
- To identify the mercury exposure resources in the country.
- To identify the groups of people at more risk.
- To create the awareness in the general public regarding the toxicity of mercury.
- To attempt the replacement of mercury containing commodities.
- To develop strategies to reduce the risk of mercury exposure.

Methodology of the Project

- Creation of Stakeholders Team.
- Identification of mercury and mercury products uses and releases by federal/provincial EPA's.
- The selection of areas susceptible/effected for mercury contamination in the country.
- Collection of samples of water, air and soil from the country with the help of federal/provincial EPA's.
- Analysis of the samples in the laboratories of Institute of the chemistry, University of the Punjab, Lahore.
- Data collection of mercury and mercury products from mercury usage markets/industries in the country.
- Technical working group and consultation meetings of all stakeholders.
- Training of Stakeholders Team by UNEP expert.
- Preparation of baseline data/inventory of mercury and mercury products about the current situation in the country.

Creation of Stakeholders team

S.#	Department/Organization	
1	Ministry of Environment	
2	Pak-EPA, Islamabad	
3	EPA – N.W.F.P, Peshawar	
4	EPA – Balochistan, Quetta	
5	EPA – Sindh, Karachi	
6	EPD – Punjab, Lahore	
7	Revenue Division, Federal Board of Revenue, Islamabad	
8	Institute of Chemistry, University of the Punjab, Lahore	

1. Meeting of Project Manager and Project Coordinator-Mercury Project with Director General EPA Sindh & EPD Punjab

Decisions

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- EPA Sindh & EPD Punjab will collect data and identify areas and will supervise the activities and coordinate with Ministry of Environment.
 - A team of officers and official was formed in this respects to act as focal point in Sindh & Punjab for mercury project.

Meetings

2. Meeting of Project Coordinator – Mercury Project with Project Manager, Kasur Tannery Waste Management Agency, Kasur

Decision

Kasur Tannery Waste Management Agency , Kasur (Operating 2nd largest common tannery effluent treatment plant of the world capacity 12700 M³/day) will collect data and identify areas in solid waste disposal sites and 237 tanneries and coordinate with Ministry of Environment.

3. First Technical Working Group Meeting of Stakeholders in office of Project Manager – Mercury Project, Ministry of Environment, Islamabad

<u>Decisions</u>

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- DG, EPA- N.W.F.P & Director, Institute of Chemistry, Punjab University, Lahore will prepare sampling criteria. Secretary Customs Tariff-I, FBR will provide the list of importers.
 - EPA-Sindh, Punjab, N.W.F.P, Balochistan and Pak-EPA will identify 200, 200, 125, 125 and 50 sampling points respectively as per toolkit and will give in written form to this Ministry till March, 2008.
- Each EPA will open a new desk for this project.
 - Analysis of samples will be conducted in the Institute of Chemistry, Punjab University, Lahore.

Meetings

4. Second Technical Working Group Meeting of Stakeholders in office of Project Manager – Mercury Project, Ministry of Environment, Islamabad and training of stakeholders by UNEP Expert, Mr.Guibert

<u>Decisions</u>

- All federal/provincial EPA's will collect samples from priority points as agreed and indicated by UNEP Expert till 15th June, 2008.
 - Ministry of Environment in collaboration with Federal Board of Revenue will formulate regulations to control informal import of mercury (Hg) and its products.
 - Sindh EPA will provide the report/study conducted by SEPA and Centre of Excellence, Jamshoro regarding Menchar Lake.

National Consultative Meeting of Stakeholders, Islamabad 5.

Participants

- Federal and Provincial EPAs
- UNDP, UNIDO, PMRC, NDMA
- Ministry of Science & Technology
- Ministry of Labour and Manpower
- Ministry of Petroleum & Natural Resources
- **Research Institutes and Academia**

Decisions

- \mathbf{O} Public awareness on environmental and health impacts of mercury should be disseminated by media like TV, Newspaper etc.
- Formulation of policies/laws/regulations on mercury (Hg) and their enforcement/implementation.
- Research & Development with stakeholder's coordination.
- Mercury (Hg) alternatives should be encouraged. 0

Meetings

Third Technical Working Group Meeting of Stakeholders in 6. office of Project Manager - Mercury Project, Ministry of Environment, Islamabad

Decisions/Recommendations

- Technology & infrastructure for disposal of mercury waste 0 should be imported from developed countries.
 - Recollection of mercury waste and its reuse/recycle especially from manufactures of lighting source like tube lights, bulbs etc.
 - Technology/treatment system/guidelines to control the smoke emitted by coal combustion, medical waste incineration etc. to protect workers in the vicinity of the activity.
 - Introduction of *cleaner production technologies* especially in hazardous waste like mercury.

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Decisions/Recommendations

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Mercury free alternatives should be encouraged .

- National Environmental Quality Standards (NEQS) of mercury should be introduced for air emission.
 - To strengthen awareness and education on mercury toxicology, exposure pathways and use & release in products & processes.
 - Laws/legislations posed by Government should be encouraged for reduction of mercury in products. These laws must be enforced strictly.
 - Products in which mercury is used during manufacturing (thermometers, thermostats measuring devices/gauges etc) should be discouraged.

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Meetings

Decisions/Recommendations

Medical societies should be encouraged to lead in the promotion of mercury free health care.

- Industries must be asked to;
 - a. Safe/control management of mercury waste to avoid environment damage.
 - b. Allocate funds for research & development on mercury free products

Incentives by the Government for manufacturers for non-mercury containing products.

Identification of Sampling Points for Mercury Inventory in Pakistan

S. #	Name of Province	Main Sampling Points
1	Punjab	Chlor-alkali plant, cement industries, power plants, glass, ceramic, steel re-rolling mills, waste incinerators etc
2	Sindh	Sugar Mills, pulp & paper industry, paint and pharmaceutical, cosmetic, informal dumping sites etc
3	N.W.F.P	Cement, chip board, mining, lamps manufacturing, fiber etc
4	Balochistan	Quetta and Hub Industrial zones, waste incinerator etc
5	Islamabad Capital Territory	Industrial area, steel re-rolling mill, marble cutting, pharmaceutical, plastic etc

Sampling Procedure

Liquids:

Streams/ waste drain channels:

One litre liquid sample should be taken from three depth levels, well mixed in a polyethylene container and filled in a 120 ml sample bottle (polyethylene), containing 20 drops of dilute HNO3.

Stagnant liquid reservoirs:

One litre liquid sample should be taken from three depth levels at four points in 10 meters rectangle, well mixed in a polyethylene container and filled in a 120 ml sample bottle (polyethylene), containing 20 drops of dilute HNO3.

Sampling Procedure

Solids:

Dry samples:

200 gms of the soil or other dried mass be collected in a zipper bag and sealed immediately.

Sludge:

Sludge underneath a water channel, 200 gms sample should be taken and be packed in dual zipper bags or if possible filled in 120 ml polyethylene bottle using a funnel containing 20 drops of dilute HNO3.

Labeling:

All the sample bottles/ bags must be immediately labeled using a permanent ink marker over a small strip of paper tape.

Results of Samples from Punjab (Lahore, Sheikhupura, Faisalabad etc)

S/No.	Sampling Point	Concentration of Mercury in ppb or ug/kg
1	Near tai company ravi road	1.26

预览已结束, 完整报告链接和二维码如下:



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