



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: Market analysis of some medical devices containing mercury and their mercury free alternatives in the towns of Cotonou, Porto Novo and Parakou in Benin

NGO: Groupe d'Action pour la Promotion et la Protection de la Flore et la Faune (GAPROFFA)

Country: Benin

Date: January, 2013

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:

The study revealed that mercury thermometers are the mercury-containing medical devices that are most highly used (86%). It is followed by tensiometers (25%) and stethoscopes (14%). Mercury sphygmomanometers and esophageal dilators are less used. Overall, fever thermometers remain the medical device that is most used in hospitals and health care settings in these 3 towns in Benin.

Description of the most common forms of mercury exposure:

The most common forms of mercury exposure are when thermometers are damaged during handling by health care workers or by patients, especially children.

Each year, at least 17264 g of metallic mercury are released into the hospitals and health care settings environment of these three towns in Benin.

Description of human sources of mercury:

The human activity that releases mercury into the environment is the handling of thermometers. Health professionals and patients break mercury fever thermometers unwillingly and they therefore contaminate their environment with metallic mercury.

In Benin, artisanal gold mining is at the extreme north (Perma). The use of mercury has been reported, but no large-scale mine. Benin has hydraulic power plants (Adjarala dam) and gas turbines (Mariagleta-Godomey). A specific study should be conducted to identify the situation at this level.

Description of the levels of mercury release and exposure:

At the present time, there exists no comprehensive assessment and no statistical data at the national level.

Description of the damage caused by mercury:

The study revealed that fifteen (15) different maladies have developed in health care workers in the three towns in Benin. The most frequent (> 20 registered cases) are: headaches, asthenia, over sweating, and arterial hypertension. It is important to indicate that headaches and asthenia are observed in the highest number of cases. These clinical symptoms are manifestations of encephalopathy that are expressed by neurologic and renal effects that are mercury dose dependent.

The most vulnerable groups are nurses, midwives, and nursing auxiliaries who handle mercury devices daily at 35%, 23%, and 20% respectively.

There has not been a study of environmental impact assessment to identify possible damage to the environment. Further study is essential to clarify all this.

Description of the laws currently regulating mercury:

The law is the interministerial decree n° 040/MCAT/MDR/MSSCF/MEHU/MF/DC/DC/DCE of 23 May 1997 banning the importation and the marketing of anti-mosquito insecticides containing active ingredients and chemicals harmful to human health and environment. It is worth noting that products targeted by this decree are: aldicarb, aldrin*, chlordan*, chloropicrin, cyhexatin, clordécon, DDT*, dibromethan, demeton, dicifol, dieldrin*, endrin*, HCH, heptachlor*¹, methamidophos, methomyl, parathion-ethyl, parathion-methyl, phosphamidon, dinoseb, fluoroacetamid, chlordimeform mercury and its compounds.

In Benin, working groups are organized within the framework of the implementation of SAICM QSP-project to propose specific draft legislation to update our arsenal in the legal field.

¹ Les produits marqués d'une étoile font partie de la liste des produits visés par la Convention de Stockholm sur les POP

Description of the efforts to deal with mercury:

For now, there is no specific priority action on mercury.

But generally, the Benin Republic has been endowed with a series of documents on environmental issues which do express the country's strong will to engage itself on a path to sustainable development. The Environmental Action Plan (EAP), a national strategy document, is reinforced by the "Agenda 21 National", the long term national perspective study document <<Benin 2025>>, the Poverty Reduction Strategy document (PRSD) and the Government Action Program (GAP-II). An outline law on environment was adopted in 1999, to complete the legal arsenal already in force in the country. This environmental policy is also a constitutional concern which stipulates that "everyone has the right to a healthy, decent and sustainable environment and has the duty to defend it." The State watches over environmental protection (see article 27 of the 11TH December 1990 Constitution).

On the 5th of January 2004, the Republic of Benin ratified the Stockholm Convention on Persistent Organic Pollutants (POPs). This instrument fits into a legislative scheme that expresses the main concern of national political authorities concerning the issue of environment and human protection, although it does not address mercury.

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:

The Benin government, through the Ministry of Environment, Housing and Town planning, participates in the mercury negotiation.

GAPROFFA is accredited as an observer to the mercury negotiation meetings.

Civil society has mobilized its financial resources to participate in sessions on mercury treaty negotiation.

The POPs/SAICM NGO focal point and the national focal point consult each other to organize awareness-raising and training sessions with the vulnerable groups.

Researchers, NGOs working on chemicals and the environment and workers are made aware of the use of chemicals. But, specifically for mercury, information is very low and is limited to specialists.

Project Outcome:

Medical devices containing mercury that are used in Benin were identified.

Health risks and hazards that healthcare workers (who handle medical devices containing mercury in health care settings in Benin) experience or may experience were identified.

The availability and accessibility of mercury-free medical devices in the market in Benin were analyzed.

Description of the activity conducted:

The study was carried out in three sequential phases, namely: the documentary review, the exploratory phase and the round-up.

The documentary review formed the research basis. It consisted of collecting, exploiting, analyzing and summarizing the available documentation on mercury and their impacts on health and environment in Benin, in Africa and in the whole world. It enabled the collection of secondary information, including risks and dangers associated with mercury exposure, the effect of mercury in the human body, the behavior of mercury in the biosphere and different and statistical work on mercury.

The exploratory study was carried out in two phases: the distribution of study guides and pre-testing questionnaires

The round-up or individual phase permitted the collection of quantitative and qualitative information from different people who handle medical devices containing mercury and their alternatives. The reasonable sampling population was made up of medical doctors, nurses, midwives, health laboratory technicians, hygiene and sanitation technicians, auxiliary nursing staff, and people working in shops where medical devices are sold. These people were identified during the exploratory phase. Group discussions were organized to explain the objectives and the implication of the study before proceeding to the collection of individual information in every health center. A structured questionnaire was elaborated to collect individual data and a checklist was elaborated for the group discussions.

Data analysis started with the coding and tabulation of survey forms. The analyzed data were registered as mock up in Microsoft Excel 2007 sheets. The statistical package for social sciences (SPSS) version 16 software was used to analyze the data collected. The graphs were produced by Excel 2007 version.

All the stages mentioned above enabled the writing of a study report.

Impact on target groups:

The exploratory phase helped in:

- The identification of health centers and shops where medical devices containing mercury and their alternatives are sold;
- The characterization of health workers who handle medical devices containing mercury and their alternatives by category and according to sex;
- Questionnaires pre-testing;
- Getting in touch with people in charge of health care centers and those in charge of the distribution of medical devices containing mercury and their alternatives.

The exploratory study was carried out in two main phases:

- The distribution of the study guides;
- The pre-testing of the questionnaire

Two study guides were administered. One at the level of the health centers and the other at the level of the shops where medical devices containing mercury are sold. The guides were given to the main informants at each level.

A general questionnaire was elaborated and administered with the aim of ameliorating information collected from the main informants.

Therefore, the actions undertaken with the target group (doctors, nurses, midwives, the carers, etc. in hospitals in three cities in Benin) produced positive impacts in terms of improving knowledge (including about proper mercury handling techniques).

Impact on target policies:

The government of Benin generally gives allowance for risk to health professionals for their exposure. But this compensation does not take into account exposure to mercury, so it is urgent to continue raising information to equip health professionals to fight for the risks associated with exposure to mercury.

Outreach to stakeholders:

The stakeholders are medical doctors, nurses, midwives, health laboratory technicians, auxiliary nurses and managers of shops where medical devices containing mercury are sold.

Health and environment sectors participated in this activity.

The study revealed that, on average, 71% of the health workers break 2 mercury thermometers per week.

The study revealed that workers are not informed on the risks and hazards related to mercury exposure.

The highest percentage of those not informed was recorded in Porto- Novo (90%). These results are very important for the taking of future provisions on hazards related to the handling of medical devices containing mercury.

Deliverables, outputs and/or products:

Study report
Lessons on good conduct
Questionnaires and checklist
Photos

Communication efforts:

After the validation of the report by IPEN, communication of results will be done in collaboration with IPEN through: publication, radio, awareness-raising meetings, forms, and posters.

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

The main recommendations from the study are:

1. The training and awareness-raising of health workers and patients on mercury toxicity and its hazards.
2. Fight against the introduction and the use of medical devices containing mercury at the national level.
3. Promote and subsidize the use of mercury-free devices.
4. Make a discount on purchase price for mercury-free devices.
5. Make available and accessible to all mercury-free devices, especially fever thermometers