



REPUBLIKAN'I MADAGASIKARA
Fitiavana - Tanindrazana - Fandrosoana

GENERAL SECRETARIAT

GENERAL DIRECTION OF ENVIRONMENT

MINAMATA CONVENTION ON MERCURY

FINAL REPORT OF THE IMPLEMENTATION OF THE PROJETC INTITLED
« REPLACING MERCURY-ADDED PRODUCTS AND PROMOTING IMPROVED
MANAGEMENT OF MERCURY-ADDED PRODUCT WASTE IN MADAGASCAR »



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INTRODUCTION

Aware that there is a strong link between the human health and the quality of its environment, the Government of Madagascar, through the Ministry of Environment, in collaboration with other entities dealing with issues environment, is committed to fight against pollution and its various sources.

Thus, Madagascar has acceded to various international Conventions dealing with the management of pollution due to chemicals, especially the Stockholm Convention on POPs, the Basel Convention for the trans boundary movements of hazardous wastes, the Rotterdam Convention on the Prior Informed Consent knowingly applicable to certain hazardous chemicals and pesticides that are the subject of international trade and most recently the Minamata on mercury.

Malagasy population is exposed to health and environmental risks associated with the use of mercury-containing products such as dental amalgams, battery and lamp, thermometers and sphygmomanometers because Madagascar is still among the countries importing these products.

Madagascar has participated since 2001 in the Mercury UNEP Program. The Island has signed the Minamata Convention on mercury during the Plenipotentiary Conference of this Convention on 10 of October 2013 in Japan and ratified in national level on 10 of December 2014.

The strong political of Madagascar to effectively against the harmful effects of mercury on human health and the environment has led the United Nations Program for the Environment to respond to the request of Madagascar on the project entitle " Replacing mercury-added products and promoting improved management of mercury-added product waste in Madagascar ".

PROJECT OBJECTIVES

This project aims to:

- Identify the types of mercury-containing products per categories; investigate their trade, the mercury-free alternatives products and the current mode of management of the waste of products containing mercury;
- Conduct sessions advocacy and sensitization to those who are engaged in institutional markets, the general public, especially women's groups on the risks posed by mercury;
- Help Governments to control the import of products containing mercury, according to the Minamata Convention on mercury and promote the purchase of mercury-free alternatives;
- Strengthen the capacity at the national level for the environmentally sound management of waste products containing mercury.

EXPECTED PROJECT RESULTS

The expected outcomes of the project are:

- Report on the categories of products containing mercury, and information on the importation of these products and the current management of the waste of these products;
- Awareness of the risks posed by the releases of mercury in the environment through a clear government policy among decision makers and the general public;
- Recommendations for the control of the importation of products containing mercury compatible with Minamata Convention;
- Improved on the environmentally sound management of mercury-containing products and waste products of mercury;
- Awareness of the Minamata Convention.

RUNNING OF THE IMPLEMENTATION OF THE PROJECT IN MADAGASCAR

An inception workshop to launch the project began the implementation of all project activities. The following activities have been performed.

I. INCEPTION WORKSHOP OF THE PROJECT

The inception workshop of the project was held in Antananarivo, Madagascar from 26 to 27 March 2014. Doctor Desiree Narvaez, in charge of mercury program at UNEP had come to Madagascar to honor with her presence at this workshop.

The objectives of the workshop are:

- Gain a better understanding of the objectives, methodology and expected outcomes of the project;
- To inform participants on the UNEP mercury program, the Global mercury Partnership and Minamata Convention on mercury;
- Present officially the members of the National Committee for the implementation of the Minamata Convention on mercury;
- Validate the project activities.

1. Workshop Participants

Around fifty people from different ministerial departments (Environment and Forests, Public Health, Commerce, Fisheries and Marine Resources, Transportation, Population and Social Affairs, Finance and Budget including Customs, Public Works and Meteorology, Public Service and Labour, Decentralization , Farming, Mining, Agriculture, Energy, Industry), national research centers on Environment and Oceanography, civil societies (Consumers Association, Union of industries Madagascar, Association of Dentists) and focal points of Conventions or their representatives (Minamata Convention, Stockholm, Rotterdam, Basle) participated in the workshop (attendance sheet attached).

2. Themes developed and discussed during the workshop

During the two days of the workshop, the following topics were presented and discussed:

- The content and annexes to the Convention were shared by Ms Christine RALALAHARISOA Edmée, General Director of the Environment (DGE).
- Doctor Liliane RANDRIANOMENJANAHARY, focal point of the Minamata Convention on mercury outlined the background on mercury (characteristic, forms, release sources, health effects and environmental exposure limit values) and progress of UNEP mercury program.
- Doctor Desiree Narvaez of UNEP explained the history, evolution and prospects of the Global Mercury Partnership. She took the opportunity to congratulate and encourage Madagascar's intention to ratify the Minamata mercury by 2014 or no later than 2015. She added that the funding for this project was obtained through the Norway Government.
- The focal point of the Minamata Convention presented the results of the national inventory of mercury releases made in Madagascar in 2008 and those of Burkina Faso.
- A socio-economic study of the use of mercury-free alternatives is a prerequisite for any decision on the import control and progressive reduction in the use of mercury-containing products.
- The design and development of a training tool for the environmentally sound management of waste products containing mercury should consider the Directive of the Basel Convention on environmentally sound storage of mercury waste.

3. Presentation of the members of the Committee for the implementation of the Minamata Convention on mercury

Committee members for the implementation of the Minamata Convention on mercury were officially presented by the General Director of the Environment. These members are from the:

- Ministry of Industry
- Ministry in charge of Environment
- The Ministry of Public Health
- The Ministry of Agriculture
- The Ministry of Fisheries and Marine Resources

- The Ministry of Livestock
- The Ministry of Trade
- The Ministry of Higher Education and Scientific Research
- The Ministry of Finance and Budget
- The Directorate General of Customs
- The Ministry of Foreign Affairs
- The Ministry of Transport
- The Ministry of Public Works and Meteorology
- The Ministry of Population and Social Affairs
- The Ministry of Public Service, Labour and Social Legislation
- The Ministry of Decentralization
- The Ministry of Mines
- The Department of Energy
- The Association of Consumer Protection
- The Union of Industries of Madagascar
- The Association MIZAMI
- The Association Mirindra Environment
- The Association of Odontology oral surgeon of Madagascar
- Civil Societies

4. Group Work

The second day of the workshop was spent to planning the project activities for a period of eight months. Participants were divided into four groups and the results of their work are shown in the Appendix.

A debriefing session group work was carried out before the end of the workshop.

The following items were discussed during playback:

- It is necessary to update the inventory conducted in 2008 if possible.
- The development kits advocacy and awareness is important before performing outreach activities.
- It was also recommended by the participants of the workshop sessions that lobbying of executive (government) and legislative (National Assembly and Senate) will facilitate the ratification of the Minamata Convention. In addition, awareness groups or platforms of women and the public about the harmful effects of mercury on human health and the Minamata Convention is desired.
- It is important to use the directive of the management of mercury waste for environmentally sound management from the Basel Convention to improve the management of waste products containing mercury in Madagascar.
- Activity on capacity building in the environmentally sound management of waste mercury-containing products at the national level should be based on the activities of Information, Education and Communication (IEC) through kits of sensitization.
- The national focal point of the Minamata Convention on mercury has consolidated the results of group work and adjusted the activities proposed by participants in the activities already figured in the Contract Project or "SSFA". Finally, the workshop was closed by Madam the General Director of the Environment.

II. MEETING OF VALIDATION OF TERMS OF REFERENCE OF RECRUITMENT OF CONSULTANTS ON THE ACHIEVEMENT OF PROJECT ACTIVITIES

The implementation of the project activities to reduce the use of mercury-containing products and the improvement of their waste continues after the completion of the inception workshop of the project.

The inventory of mercury-containing products by category, identifications of current management of their wastes and mercury-free substitutes products, the investigation for the trade of products containing mercury, the feasibility study socio-economic use of mercury-free alternatives and the

design and development of sensitization tools and training on mercury are among the activities to be undertaken for this project.

Committee members for the implementation of the Minamata Convention on mercury decided during the inception workshop of the project, to hire consultants to perform these activities.

Then a validation meeting of the Terms of Reference (TOR) for the recruitment of consultants to carry out these activities took place in Antananarivo, April 29, 2014.

This meeting aims to validate the TOR recruitment consultants who will work for this project.

1. Participants

About 30 members of the Committee for the implementation of the Minamata Convention on mercury, from different departments, including the Ministries of the Environment, Public Health, Population, Mining, Trade, Jobs public, public Service, Energy, Fisheries, Agriculture, Finance and Budget, Decentralization, Livestock, Economy and Planning, the Directorate General of Customs, NGOs, civil society and national focal points Convention on chemicals attended this meeting (attendance sheet attached).

2. Highlights of the meeting

Two TOR recruitment consultants were discussed and finalized by the members of mercury Committee, namely:

- The completion of the inventory of mercury-containing products in their category, identifications of current management of the waste of these products and substitute products without mercury, as well as conducting a socio-economic study of the use of alternatives to mercury; and
- Design and develop sensitization tools and training on the harmful effects of mercury on human health and the environment and the environmentally sound management of waste products containing mercury.

For the first TOR, the selected consultant should perform the following tasks:

- Update the results of the inventory of mercury-containing products by their categories, conducted in 2008 using the draft toolkit latest version of UNEP.
- Identify similar products without mercury and current management of waste products containing mercury.
- Investigate the trade of products containing mercury in Madagascar.
- Conduct a study of socio-economic feasibility of the use of alternatives to mercury containing products.
- Present the results of these surveys and the feasibility study of the use of alternatives to mercury during the validation workshop.
- Develop and decision support tools, such as recommendation for the control mechanism of the marketing of products containing mercury, the description of the socio-economic analysis of the use of mercury-free substitutes and measures to take to manage mercury-containing products in Madagascar until the date of final cessation of the production, marketing and use of these products in 2020.

Participants suggested that the identification of alternative mercury-free products should be based on replacement products adapted to the Malagasy context. Thus, the investigation into the marketing of products containing mercury should consider the legal and illegal trade in these products.

For the second TOR on the design of sensitization tools and training on the harmful effects of mercury on human health and the environment and the environmentally sound management of waste products containing mercury, the tasks were:

- Design and develop sensitization tools on mercury in general and waste management of mercury-containing products to the public in particular;
- Design and develop training tools on the sound management of waste of mercury containing products according to the Basel Convention;
- Make available to members of the Committee on Mercury these training tools.

In addition, participants suggested that these tools should be simple, clear and easily understood by the target.

The meeting was closed by the General Director of the Environment after considering all the comments of the participants.

III. MEETING TRAINING INVESTIGATORS

The consultant who is responsible for carrying out an inventory of mercury-containing products, identification of current management of waste from these products, identification of alternative mercury-free products and the investigation into the trade of these products, worked with six investigators (attendance sheet attached) to help him to gather the information necessary for the implementation of these activities. Thus, meeting investigator training was conducted in Antananarivo, May 23, 2014.

The purpose of the meeting is to train investigators for the generalities on mercury, the methodology for the survey.

1. Implementation of training

For participants to have some knowledge on mercury pollution, the consultant presented the generality of mercury and adverse effects of these chemicals on human health and the environment.

The following items were discussed:

- Characteristics of mercury;
- Effects of Mercury on human health and the environment;
- Limit exposure to mercury;
- Warning signs of mercury toxicity;
- Release pathway by major source category.

Subsequently, the consultant explained to the participants the methodology to conduct the investigation. The various departments concerned with the mercury problem may have information useful to the investigation are the customs, the Ministry of Health and health care institutions, Ministries of Trade, Industry and industries manufacture of products containing mercury, the Ministry of Population, the National Institute of Statistics, stores that sell products containing mercury ...

A discussion session between the consultant and the investigators was performed.

Before closing the meeting, it was decided that four investigators conduct investigations in central level because most information search may be found in the Capital and two among them at regional levels (Toamasina, where found the largest seaport and custom in Madagascar and Antsirabe which is an industrialized city).

IV. REPORT OF THE SENSITIZATION MEETING OF THE MEMBERS OF PLATFORM WOMEN, SUSTAINABLE DEVELOPMENT AND FOOD SECURITY

Awareness of women about the harmful effects of mercury on human health and the environment is one of the objectives of the project. Members of the National Committee for implementation of the Minamata Convention on mercury benefited the general meeting of the Platform for Women, Sustainable Development and Food Security on 1 August 2014 in Antananarivo Madagascar to raise awareness about the harmful effects of mercury on human health and the environment and the content of the Minamata Convention on mercury.

The objective of this session is to inform and educate and raise awareness among women members of the Platform on the adverse effects of mercury on human health and the environment and the content of the Minamata Convention on mercury.

1. Participants

Women members of the National Platform, Sustainability and Food Security from five regions of Madagascar, such as Analamanga, Vakinankaratra, Itasy, Antsimo Andrefana and Menabe were attending this session (attendance sheet attached).

2. Proceedings of the outreach session

Ms. NOASILALAONOMENJANAHARY, President of the National Women Platform, sustainability and Food Security opened the speech.

She introduced Dr RANDRIANOMENJANAHARY HanitriniainaLiliane, national focal point of the Minamata Convention on mercury and its teams.

Thereafter, Madam focal point of mercury spoke. She thanked the members of this platform to accept the holding of the awareness session on mercury and the Minamata Convention.

The following items were discussed during the sensitization session:

- General characteristics and mercury;
- Different forms of mercury;
- Limit exposure to mercury;
- Sources of mercury releases through human activities;
- Materials containing mercury;
- Its toxicity to human health and the environment;
- Information on the environmentally sound management of waste containing mercury;
- Content of the Minamata Convention on mercury;
- Achievements and Prospects of mercury program in Madagascar.

The distribution of outreach materials was performed followed by questions answered before the closing of the meeting.

3. Adjournment

The awareness session was closed by Madam President of the National Women's Platform, Sustainability and Food Security, Mrs. NOASILALAONOMENJANAHARY and members of the Platform promised to make efforts to implement and share the information they received during this awareness session in their respective regions.

V. MEETING OF VALIDATION OF RESULTS OF INVENTORY OF PRODUCTS CONTAINING MERCURY CURRENT WASTE MANAGEMENT OF THESE PRODUCTS AND SUBSTITUTE PRODUCTS MERCURY-FREE MODE, THE INVESTIGATION ON THE MARKETING OF THESE PRODUCTS AND TOOLS Drafts EDUCATION AND TRAINING ON MERCURY

The meeting to validate the results of the work of consultants was held in Antananarivo August 13, 2014.

This meeting aims to:

- Validate the inventory of products containing mercury results, identification of current management of their waste, identifying alternative mercury-free products and the investigation of the trade of these products;
- Validate the tools to raise awareness about mercury and training tool for the management of mercury waste according to the guide of the Basel Convention.

1. Participants

Members of the National Committee for the implementation of the Minamata Convention on mercury composed of representatives of public, private, and civil society organizations concerned with the problem of mercury (attendance sheet attached).

2. Meeting Process

Officially opened and chaired by Madam the General Director of the Environment, the meeting began with successive presentations:

➤ Results of the inventory of mercury-containing products in Madagascar

The national inventory of mercury containing products used allows finding out the annual consumption of products containing mercury. In 2013, they were 21444T, and in 2012 they were 200907T. Concerning the amount of mercury in these products, they are around of 4, 075T to 15,130T.

In terms of weight of products containing mercury, it was found that approximately 94% of these products come from the products of other minerals and materials containing mercury, however,

the amount of mercury containing these products is only 32 to 1228Kg or 0.78 to 8%. Regarding consumer products containing mercury intentionally, there is only 5 to 6% of the weight of the amount of products or in other words, 12000T per year, while the mercury content contained in such products reached 90% to 97%, in terms of total mercury, 3,957T to 13,557T.

For this purpose, mainly the consumer products containing intentionally mercury contains the most mercury. Especially for the case of Madagascar, there are 3 products that contain more mercury such as cells and batteries contain 2767Kg/ year of mercury, then the switches and relays that contain 425Kg to 5317Kg of mercury, and finally, cosmetics 651Kg to 3257Kg.

The following tables show the annual consumption of major mercury-containing products in their category and the amount of mercury in these products.

- **Annual consumption of mercury-containing products by their category**

Table 1: Quantity of products containing mercury (Source: Inventory)

Main source category	Sub-category	Annual consumption (kg)	
		2012	2013
1. Production of other minerals and materials with mercury	Cement product	185 000 000	200 000 000
	Lime production and lightweight aggregate kilns	2 788 000	2 850 000
	Sub Total	187 788 000	202 000 000
2. Consumer products containing intentionally mercury	Thermometer	8 352	5 818
	Electrical switches and mercury relays	411 161	195 415
	Mercury light sources (pièces)	756 229	1 048 045
	Batteries with mercury	9 344 152	7 389 094
	Biocides and pesticides	1 968 500	2 320 700
	Paintings	400 000	435 000
	Cosmetics and related products	66 511	65 151
	Sub Total	12 954 545	11 459 223
3. Other uses of products / processes intentional	Amalgam dental fillings Hg	ND	ND
	Manometers and gauges	164 186	133 829
	Sub Total	164 186	133 829
	Total	200 906 731	213 593 052

- **Quantity of mercury in these products by their category**

Table 2: Mercury in these products (Source: Inventory)

Main source category	Sub category	Total Hg Products kg/year	
		Minimum	Maximum
1. Production of other minerals and materials with mercury	Cement products	24	1 220
	Lime Production and lightweight aggregate kilns	8,011	8,011
	Sub Total	32.011	1 228,01
2. Consumer products containing intentionally mercury	Thermometer	9,091	199,288
	Electrical switches and relays to mercury	425,000	5 317,000
	Light Sources mercury (pièces)	1,957	5,037
	Mercury batteries	2 767,135	2 767,135
	Biocides and pesticides	0,696	11,600
	Paintings	120,000	2 000,000
	Cosmetics and related products	651,510	3 257,550
	Sub Total	3 957,389	13 557,610
3. Other uses of products / processes intentional	Amalgam dental fillings Hg (population number)	53,151	212,605
	Manometers and gauges	ND	ND
	Sub Total	53,151	212,605
	Total	4 075,000	15 130,040

➤ **Mercury-free alternative products in Madagascar**

About products containing mercury, the substitutes of the most of these products exist already, and among them, there are those who are already used by the masses as rechargeable batteries and batteries alkaline, there are also liquid thermometers (alcohol) and digital thermometers.

In the case of measuring devices such as sphygmomanometers, there are electronics, sphygmomanometers, therefore for manometers, barometers, psychometers, hygrometers, hydrometers, there are electronic substitutes, but their use is uncommon.

For lamps, there are incandescent lamps that are most used in Madagascar. Lamps and LEDs are beginning to reach the market while still uncommon. These products are recommended to replace fluorescent lamps that are most used. As for discharge lamps, we can say that no substitution is still found in Madagascar. They can be found but they are not using for the population.

Concerning the dental fillings, substitution like composites and glass ionomer exist and used by dentists. However, there are some dentists who still use Conventional amalgam.

For electrical and electronic devices, substitutes exist, but depending on the tools used and the country of origin of the devices.

➤ **The result of the investigation into the trade of products containing mercury in Madagascar**

In terms of sales of products containing mercury, it was found that almost 99% are imported and formally enter in Madagascar by customs. It is difficult to know that these products containing mercury unless considering the country of origin, or consult the documentation mercury UNEP toolkit. From these data, we can conclude that such products contain or not mercury. The companies which import these products are around 400.

For the importation of products containing mercury in Madagascar, there are 3 categories of importers:

- State or State importing company.
- NGOs or individuals, or private projects or private companies that import goods for use for their activities.
- Professionals importing goods companies who are distributed them to the various vendors.

About the importation of products containing mercury, everything is formal and follows all procedures from the importation of goods to their entry in Madagascar, but in the internal market, the informal sector is unfortunately very solid.

The informal sector dominates trade in First Necessity Products, including batteries, various lamps. ..., and the formal sector focuses on few specific segments.

All products containing mercury are visible in all Hypermarkets or Supermarket which are responsible for the sale. But the formal retailers sell products containing mercury depending on the category of their market.

The grocery stores sell cells and batteries, and also the different lamps. Hardware stores sell electrical and electronic devices (switches and relays), and also sell different lamps, or apparatus for measuring air /gas, water, moisture.

It should be noted that cells, batteries and different fluorescent lamps are popular in street markets and mixed with other products.

➤ **Mode of current management of mercury-containing products waste in Madagascar**

Regarding the current management of mercury-containing products at end of life, there is no specific management, but they are treated with other waste. No separation of waste from such products is recorded both in the management of household waste at the level of medical waste, even if the management of industrial waste. They are considered as other waste, or we practice landfill or incineration according to the waste management chosen.

After these presentations, the participants focused on the final review of the Draft report of the inventory of products containing mercury, mercury-free alternative products, the investigation into the marketing of its products and the identification mode current management of these products waste. The draft of the report is approved by all sectors concerned with some corrections and additions from them. These corrections were considered in the final document of the report.

➤ **Discussion on the tool training content on the environmentally sound management of products containing mercury waste**

The training tool for the environmentally sound management of waste containing mercury, according to the directive of the Basel Convention was presented and discussed by the participants. It was noted during the discussion that it must be added in this document the simple practical context in Madagascar which always respects the Directive of the Basel Convention because the technology for storage and waste disposal products containing mercury is not yet available in Madagascar.

➤ **Discussion to improve the content of posters and the leaflet or folder.**

Finally, discussion session to improve the content of poster and leaflet for raising awareness about the harmful effects of mercury on human health and the environment have been carried out. Two posters were made. One of them is an informative poster that contains messages about the mercury-containing products, sources of releases and adverse effects of mercury on human health and the environment. The other poster is educational and outlines the steps to take in the fight against pollution by mercury. In addition, a leaflet informative and educational type was also crafted.

During the discussions, participants suggested to reduce the content of these tools so that they can easily be understood by the target. These awareness materials are already in Malagasy version and their contents are appropriate for the target.

Following the workshop, participants had still 5 days to communicate their last possible comments before finalizing these tools.

3. Conclusion of the meeting

The meeting was officially closed by Madam the General Director of the Environment. She thanked all Committee members for their active participation during the meeting. Finally, she reported that a study of socio-economic feasibility of restoration alternatives for mercury-free substitutes is underway to establish recommendations on the importation of products containing mercury and the decrease progressive of import, use and manufacture of products containing mercury to the year 2020.

VI. REPORT ON ADVOCACY AND SENSITIZATION SESSIONS ON MINAMATA CONVENTION ON MERCURY TO REGIONAL LEVELS

INTRODUCTION

Madagascar has signed the Minamata Convention on mercury on October 10, 2013 in Kumamoto, Japan, and Law on ratification of this Convention was promulgated by the Madagascar's President of Republic on December 2014.

Thus, the Minamata Convention on mercury aims to protect human health and the environment against the issue and the anthropogenic release of mercury and its compounds.

Madagascar is still among the countries importing mercury containing products (inventory report of mercury-containing products made in 2014). But most of the people are unaware of the harmful effects of the use of these products on human health and the environment. These products include measuring devices used in the health sector (thermometers and blood pressure), the dental amalgam, batteries, lamps, electrical and electronic appliances, cosmetics and soaps ... Furthermore, Article 18 of the Convention clearly states that every country has an obligation to educate the population about the harmful effects of mercury on human health and the environment, to reduce the anthropogenic release of mercury that is the cause these adverse effects.

So, the Ministry of Environment, Ecology, Sea and Forestry organizes awareness sessions on the application of the Minamata Convention of mercury in the South West regions and Vakinankaratra.

OBJECTIVES

The descent of the members of National Committee on mercury in the regions has the following objectives:

- Conduct advocacy meetings with decision makers at regionals levels on the implementation of the Minamata Convention on mercury;
- Improve knowledge of the population about the harmful effects of mercury on human health and the environment;
- Raise awareness on the use of mercury alternatives;
- Inform the public about the contents of the Minamata Convention on mercury.

EXPECTED RESULTS

The expected results of these sessions' advocacy and awareness are:

- Awareness of the risks posed by mercury to policy makers and the general public;
- Impregnation of decision makers and the public about the contents of the Minamata Convention on mercury.

PLACES

- Region South west (Toliara), where there are several gold mines and precious stones mines;
- Region Vakinankaratra (Antsirabe), industrial city of Madagascar;
- Eastern Region (Toamasina), which has the largest port of Madagascar who's in front door of most mercury-containing products.

1. MISSION REPORT OF AWARENESS SESSIONS IN THE SOUTH WEST

Date: January 31 to February 5, 2015

Missionaries:

- o Mr BERA Arsonina, focal point of Rotterdam Convention Support Unit in the General Direction of Environment at Ministry of the Environment, Ecology, Sea and Forestry, representing the National Director of the project,
- o Dr Liliane RANDRIANOMENJANAHARY Hanitrinaina, focal point of the Minamata Convention, Project coordinator.
- o Mrs Agnès RAHERIMALALA, a member of the National Committee implementation of the Minamata Convention on mercury;
- o Mrs RANDRIANASOLO Harisoa, a member of the National Committee implementation of the Minamata Convention on mercury;
- o Mr Stephane RABENARISOA, driver.

Development of the mission:

After two days of travel to reach the South West region, the first day of the arrival of missionaries in the city of Toliara was decided to the achievement of courtesy visits to conduct advocacy sessions with regional authorities.

Visit of the day:

- o The South West Region Manager;
- o The Regional Director of the Ministry of Environment, Ecology, Marine and Southwest Forests;
- o The Regional Director of Ministry of the public health ;
- o The Regional Director of the Ministry of Trade;
- o The Director of Customs

After making a brief presentation on the contents of the Minamata Convention, the adverse effects caused by the release of mercury on human health and the environment and the possibility of use of mercury substitute products in Madagascar, posters and brochures related to the implementation of the Minamata Convention of mercury were distributed to these departments.

Subsequently, a sensitization workshop on the Minamata Convention on mercury was performed on the second day.

1. Workshop Participants:

Thirty-eight people from different regional offices of ministries, like the Ministries of Environment, Health, Trade, Higher Education (University), Communication, Rural Development, Population, Tourism, Industry, Mines, Water, Fisheries and Energy; regional hospitals, anti-locust national center coordinators of the international organizations (WWF, WCS, GIZ International Youth House), associations, industrial, Civil Society and NGOs concerned with the issue of mercury were invited to participate in this workshop.

2. Opening of the workshop:

The opening of the sensitization workshop on the Minamata Convention on mercury in the South West Region has been marked by successive speech of Mr. BERA Arsonina, focal point of the Rotterdam Convention Support Unit General Management Environment in the Ministry of Environment, Ecology, Sea and Forestry, representing the National Project Director, Madam Regional Director of the Ministry of Environment, Ecology, the Sea and Forestry and Mr. representative of Region Manager who officially opened the workshop. Thus, these speeches have emphasized the importance of this workshop because most of the population in this region fails to recognize the harmful effects of mercury releases on human health and the environment and the possibility of the use of mercury alternative.

3. Workshop Process

- After the official opening of the workshop, the following topics were presented followed by discussions:
 - Mercury characteristics, discharge sources and its harmful effects on human health and the environment;
 - The achievements in the implementation of the Minamata Convention of mercury in Madagascar;
 - The outlook on the implementation of this Convention;
 - Presentation of the Minamata Convention on mercury
 - Presentation of the contents of leaflets and posters related to the awareness of Minamata Convention on mercury.
- The discussions focused on:
 - The application of permanent abandonment of production, import and use of mercury-containing products in 2020 in Madagascar, for most of the population still uses these products, and products containing free alternatives of mercury are more expensive for other people in developing country like Madagascar.
 - Statistics on mercury rejection of impacts on human health and the environment in Madagascar. A study of this situation did not exist in the country.
 - The mercury release sources in the environment in Madagascar. For this, the results of the inventory of mercury-containing products, made in 2014 were briefly explained to the workshop participants are aware of the sources of release of this substance in Madagascar.
 - The use of mercury in artisanal gold small mines in Madagascar.
 - The sources of human contamination by mercury.
- The workshop participants suggested:
 - The involvement of regions during the preparation of implementation of the national action plan of the Minamata Convention on mercury.
 - The involvement of all departments concerning by the mercury problem on workshops related to the program.
- The Madagascar Television representatives at regional, local newspapers and radio were also invited to the meeting and the broadcast important information presented during the workshop to the public.

4. Closure of the workshop

The workshop was formally closed by the South West Region Chief Representative. He focused during his closing speech that the workshop objectives are completed and the participants permeate the content of the Minamata Convention on mercury.

2. MISSION REPORT OF AWARENESS SESSIONS IN THE REGION VAKINAKARATRA

Date: February 8 to 11, 2015

Missionaries:

- Mr BERA Arsonina, focal point of Rotterdam Convention Support Unit in the General Direction of Environnement at Ministry of the Environment, Ecology, Sea and Forestry, representing the National Director of the project,
- Dr Liliane RANDRIANOMENJANAHARY Hanitrininaina, focal point of the Minamata Convention, project coordinator.
- Mrs Agnès RAHERIMALALA, a member of the National Committee implementation of the Minamata Convention on Mercury;
- Mrs RANDRIANASOLO Harisoa, a member of the National Committee implementation of the Minamata Convention on mercury;
- Mr Stephane RABENARISOA, driver.

Development of the mission:

The first day of the arrival of missionaries in the region Vakinakaratra was dedicated to the achievement of courtesy visits to conduct advocacy sessions with regional authorities.

Visit of the day:

- The Vakinakaratra Area Manager;
- The Regional Director of the Ministry of Environment, Ecology, Sea and Forests;
- The Regional Director of Ministry of Public Health;
- The Regional Director of Ministry of Industry

After making a brief presentation on the contents of the Minamata Convention, the adverse effects caused by the release of mercury on human health and the environment and the possibility of using product substitutions mercury in Madagascar, posters and brochures related to the implementation of the Minamata Convention of mercury were distributed to these institutions.

Thus, the Vakinakaratra Region Manager will include in its agenda for the next monthly meeting with all the heads of institutions in the Region a briefing, communication and distribution of awareness materials on the Minamata Convention on mercury. 200 hundred posters and leaflets were then deposited in the Regional Directorate of the Ministry of Environment, Ecology, Sea and Forests to perform Vakinakaratra this session. Subsequently, a sensitization workshop on the Minamata Convention on mercury was performed on the second day.

1. Workshop Participants:

Forty people from the regional authorities, including the District Head of Antsirabe I and the representative of the Head of the Special Delegation of the Urban Commune of Antsirabe and from the various regional offices of ministries, namely the Ministries of Environment, Health, Trade, Higher Education (University), Communication, Rural Development, Population, Tourism, Industry, Mines, Water, Fisheries and Energy; National Education, Transportation, regional hospitals, Chamber of Commerce and Industry of Antsirabe, representatives of dentists orders, doctors and pharmacist, associations, industrial, civil society and NGOs affected by the mercury problem were invited to participate in this workshop.

2. Opening of the workshop

The opening of the sensitization workshop on the Minamata Convention on mercury in Vakinakaratra Region was marked by successive speech of Mr. BERA Arsonina, focal point of the Rotterdam Convention Support Unit of the Directorate General Environment in the Ministry of Environment, Ecology, Sea and Forests, representing the National Project Director, Madam Chief District Antsirabe I and Mr. Vakinakaratra Area Manager who open officially the workshop. Thus, Mr. BERA Arsonina representing the central authorities thanked Vakinakaratra Region Manager for his presence at the official opening of the workshop, despite his many obligations. After that, he thanked all the workshop participants for attending to participate in this workshop. Madam District Chief Antsirabe I said that this program is very interested and is ready to contribute to the implementation of the Convention in Madagascar. The Vakinakaratra Region Leader is committed to inform all the public and private sectors in

the region so that they can participate in the implementation of the Minamata Convention on mercury. He focused in his speech that the implementation of this program is essential to protect human health and the environment against the anthropogenic release of mercury.

3. Workshop Process

- After the official opening of the workshop, the following topics were presented followed by discussions:
 - Mercury characteristics, discharge sources and its harmful effects on human health and the environment;
 - The achievements in the implementation of the Minamata Convention of mercury in Madagascar;
 - The outlook on the implementation of this Convention
 - Presentation of mercury-free alternatives;
 - Presentation of the Minamata Convention on mercury;
 - Presentation of the contents of leaflets and posters related to the awareness of the Minamata Convention on mercury.
- The discussion focused on:
 - The advantages of the use of mercury. District Chief of Antsirabe I asked the question about the benefits of the use of mercury because the presentations only talk about the harmful effects of mercury on human health and the environment;
 - The way to avoid the release of mercury during the volcanic explosion Vakinakaratra because the region is a volcanic soil;
 - Accompanying measures on the application of permanent abandonment of production, import and use of mercury-containing products on 2020 in Madagascar because the purchasing power of the Malagasy population is very low to buy alternative mercury-free products that are more expensive than those containing mercury;
 - Whether or not the supplier awareness of mercury containing products (medical thermometers, batteries, dental, amalgam...);
 - The current state of the contaminated site with mercury in Minamata; The result of the inventory of mercury-containing products in Madagascar that mounted fluorescent lamps recommended by the company for distribution of electricity in Madagascar (JIRAMA) contain mercury, while the incandescent lamps that consume more energy and emit CO₂ does not contain. It was explained that the LED lamps do not contain mercury exist in Madagascar and these lamps are more economical in the long term even if their prices are more expensive than other lamps.
 - Statistics on mercury rejection of impacts on human health and the environment in Madagascar. A study of this situation did not exist in the country.
- The workshop participants suggest:
 - The introduction in the environmental education including information about the Minamata Convention on mercury.
 - Making available to each department sensitization supports of the Minamata Convention on mercury so that workshop participants can educate their colleagues and their entourages again.
 - The involvement of regions during the preparation of the implementation of the national action plan of the Minamata Convention on mercury.
 - Awareness of the masses on this program.
- The representatives of the regional television and local radio were also invited to the workshop and broadcast important information presented during the workshop to the public.

4. Closure of the workshop

The workshop was formally closed by Madam District Chief Antsirabe I and stated that his presence during this workshop helped her to learn new information on the implementation of the Minamata Convention in Madagascar. Finally, she officially closed the workshop.

3. AWARENESS SESSION REPORT OF MISSION IN THE EASTERN REGION

Date: 15 to 18 February 2015

Missionaries:

- Mrs Christine RALALAHARISOA Edmee, General Director of Environment in the Ministry of Environment, Ecology, Sea and Forestry and National Project Director;
- Doctor RANDRIANOMENJANAHARY Hanitriniaina Liliane focal point of the Minamata Convention and project coordinator;
- Mrs RANDRIANASOLO Harisoa, a member of the National Committee implementation of the Minamata Convention on mercury;
- Mr Stephane RABENARISOA, driver.

Development of the mission:

The first day of the arrival of missionaries in the eastern region was devoted to achieving the courtesy visits to conduct advocacy sessions with regional authorities.

Visit of the day:

- The Region Manager
- The Regional Director of Ministry of Environment, Ecology, Sea and Forests;
- The Regional Director of the Ministry of Public Health;
- The representative of General Director of Customs

After making a brief presentation on the contents of the Minamata Convention, the adverse effects caused by the release of mercury on human health and the environment and the possibility of use of mercury substitute products in Madagascar, posters and pamphlets relating to the implementation of the Minamata Convention of mercury were distributed to these institutions. Thus, they promised to send representatives to the sensitization workshop on the Convention on the following day. Subsequently, a sensitization workshop on the Minamata Convention on mercury was performed on the second day.

1. Workshop participants:

Forty people from the regional authorities, including East Region Head of representatives of District Chief of Toamasina I, representative of the Head of the Special Delegation of the Urban Community of Toamasina, and from the various regional offices of government departments, namely the Ministries of Environment, Health, Trade, Higher Education (University), Communication, Rural Development, Population, Tourism, Industry, Mines, the Water, Fisheries and Energy; Education, regional hospitals, Chamber of Commerce of Toamasina, representatives of dentists, doctors, associations, industrial, civil society and NGOs concerned with the issue of mercury were invited to participate in the workshop.

2. Opening of the workshop:

The opening of the sensitization workshop on the Minamata Convention on mercury in the Eastern Region was marked by successive speech Mr. Regional Director of the Ministry of Environment, Ecology, Marine and Forests, Eastern Region Chief Representative and Madam General Director of Environment in the Ministry of Environment, Ecology, Sea and Forests who officially opened the workshop. Thus, Mr. Regional Director of the Ministry of Environment, Ecology, Sea and Forestry thanked the officials of this Ministry at the central level as they consider the Eastern Region among the priority areas to benefit from awareness sessions relating to the implementation of the Minamata Convention on mercury. Thereafter, the Eastern Region Chief representative said that this region is ready to participate in the implementation of this Convention. Madam General Director of Environment MEEMF welcomed all participants and wished their active participation during the workshop and she

opened officially the sensitization workshop on the implementation of the Minamata Convention on mercury .

3. Workshop Process

- After the official opening of the workshop, the following topics were presented followed by discussions:
 - Mercury characteristics discharge sources and its harmful effects on human health and the environment;
 - The achievements in the implementation of the Minamata Convention of mercury in Madagascar;
 - The outlook on the implementation of this Convention;
 - Presentation of mercury-free alternatives;
 - Presentation of the Minamata Convention on mercury;
 - Presentation of the contents of leaflets and posters related to the awareness of the Minamata Convention on mercury.
- The discussions focused on:
 - Measures to be taken by customs on the import of products containing mercury;
 - The exact statistics substitutions mercury-free products in Madagascar;
 - The lack of specific customs codes for products containing mercury. Customs codes are confused for mercury-containing products and those that do not contain it. This makes it difficult to know the exact number of products containing mercury free substitution, but the existence of these products in the market in Madagascar shows that these products exist in Madagascar.
 - The issue of ratification and the implementation of the Convention.
 - The possibility of permanent abandonment of application of the production, importation and use of mercury-containing products in 2020 in Madagascar, as the purchasing power of the Malagasy population is still low to buy alternative mercury-free products that are more expensive than those containing mercury.
 - The possibility to make available to each institution awareness materials on the Minamata Convention on mercury.
- The workshop participants suggested:
 - Strengthening cooperation between the various public and private institutions, NGOs and civil society in the implementation of the Minamata Convention of mercury in Madagascar;
 - Making available to each department sensitization supports of the Minamata Convention on mercury so that workshop participants can in turn educate their colleagues and their entourages.
 - The involvement of regions during the preparation of the implementation of the national action plan of the Minamata Convention on mercury.
 - The awareness about this program.
- The Television regional representatives were also invited to broadcast important information presented during the workshop to the population of the Region.

4. Closure of the workshop

The workshop was formally closed by Madam General Director of Environment. She thanked all the participants for their active participation in the workshop. Finally, she officially closed the workshop.

VII. REPORT OF TRAINING SESSIONS ON ENVIRONMENTALLY RATIONAL MANAGEMENT OF WASTE CONTAINING MERCURY IN THE REGIONS OF MADAGASCAR

INTRODUCTION

Mercury is a chemical concern, given its long-range atmospheric transport; its persistence in the environment has been introduced by humans, bioaccumulation potential in ecosystems and its effects harmful to human health, including neurotoxicity.

Madagascar is one of developing countries which import mercury-containing products. The use and waste of these products (sphygmomanometers and thermometers, dental amalgam, batteries, batteries and energy-saving lamps ...) exposed the Malagasy population to the harmful effects of mercury on human health and the environment.

Mismanagement of waste products containing mercury causes the pollution of the environment, including pollution of the soil and air. Thus, infertility of the land, the wildlife of sterility and contamination of water are the consequences caused by the release of mercury into the environment.

Aware that Madagascar is not immune to damage from the release of mercury, our country has signed the Minamata Convention in October 2013 during the Plenipotentiary Conference on the adoption and signing of the Convention in Japan and ratified this Convention in December 2014. Furthermore, Article 18 of the Convention clearly states that every country has an obligation to educate the population about the harmful effects of mercury on human health and the environment, and form on the environmentally management of wastes.

Therefore, the Ministry of Environment, Ecology, Sea and Forestry has organized training sessions for the environmentally management of mercury-containing waste in cities chief towns of three regions which in Toliara, Toamasina and Antsirabe.

OBJECTIVES

The descent of Minamata Convention on mercury's team in these regions aimed:

- To conduct advocacy meetings with decision makers at regional levels on the implementation of the Minamata Convention on mercury;
- To improve knowledge for policy makers and the public on the environmentally sound management of wastes containing mercury;
- To reduce the anthropogenic release of mercury into the environment.

EXPECTED RESULTS

The expected results of these advocacy sessions and training are:

- Awareness of decision makers on the importance of rationally, environmentally management of waste containing mercury.
- Capacities improved on the environmentally sound management of mercury-containing products and waste of these products among decision makers and the public.

ACTIVITIES CONDUCTED

To achieve the objectives, the team of Mercury Committee raised:

- To organize advocacy sessions on environmentally sound management of wastes containing mercury;
- To conduct training on the environmentally sound management of waste products containing mercury.
- To distribute awareness materials for mercury.

1. TRAINING SESSION REPORT OF MISSION ON ENVIRONMENTALLY SOUND MANAGEMENT OF WASTE CONTAINING MERCURY IN ANTSIRABE

Date: February 18 to 21, 2015

Missionaries:

- Madam Christine RALALAHARISOA Edmee, General Director of Environment in the Ministry of Environment, Ecology, Sea and Forestry and National Project Director;
- Doctor RANDRIANOMENJANAHARY Hanitriniaina Liliane focal point of the Minamata Convention and project coordinator;
- Mrs RANDRIANASOLO Harisoa, a member of the National Committee implementation of the Minamata Convention on mercury;
- Mr Stephane RABENARISOA, driver.

Development of the mission:

A session of team building between the central and regional teams was performed for the first day of the arrival of missionaries in the city of Antsirabe.

The second day was devoted to the achievement of courtesy visits to conduct advocacy sessions with regional authorities.

Visit of the day:

- The Head of Antsirabe Region;
- The Head of District I;
- Mayors of Antsirabe I and II;
- The Regional Director of the Ministry of Public Health;
- The Regional Director of the Ministry of Trade.

After making a brief presentation on the contents of the Minamata Convention, the adverse effects caused by the release of mercury on human health and the environment and the possibility of using products with mercury substitutions Madagascar, a brief explanation the importance of the environmentally sound management of mercury waste was conducted by Mrs. National Project Director. Regional authorities were convinced that the environmentally sound management of mercury content should be applied to Madagascar to reduce the release of mercury into the environment.

Subsequently, the stay of the core team at the regional level is marked by the organization of the training workshop on the environmentally sound management of mercury waste the last day. Fifty posters and 200 leaflets were then deposited in the Regional Directorate of the Ministry of Environment, Ecology, Sea and Forestry for Antsirabe to help them to organize awareness and training sessions on the environmentally sound management of waste containing mercury. Subsequently, the stay of the core team at the regional level is marked by the organization of the training workshop on the environmentally sound management of mercury waste the last day.

1. Workshop participants

Fifty people from the regional authorities, including representatives of Region Chief, Chief District Toamasina I, representative of the Head of the Special Delegation of the Urban Commune of Antsirabe and from the various regional offices of government departments, namely the Ministries of Environment, Health, Trade, Higher Education (University), Communication, Rural Development, Population, Tourism, Industry, Mines, the Water, Fisheries and Energy; Education, regional hospitals, representatives of dentists, doctors, associations, industrial, civil society and NGOs concerned with the issue of mercury were invited to participate in this workshop.

2. Opening of the workshop

The opening of the workshop on the environmentally sound management of mercury-containing waste was marked by successive speech of Mr. Regional Director of the Ministry of Environment, Mrs. the General Director of the Ministry of the Environment and National Director of the project, and the Head of Region Antsirabe which officially opened the workshop.

Thus, Mrs. National Director thanked the Antsirabe Region Manager for his presence at the official opening of the workshop, despite his many obligations. After that, she thanked all workshop participants for their attendance to participate in this workshop. The Head of Antsirabe said that it

is necessary to manage the earliest possible of waste that are scattered in the city and its surroundings to protect against the harmful effects caused by harmful substances in waste including mercury and he declared open the workshop.

3. Workshop process:

- After the official opening of the workshop, the following topics were presented followed by discussions:
 - Mercury characteristics, discharge sources and its harmful effects on human health and the environment;
 - The achievements in the implementation of the Minamata Convention of mercury in Madagascar;
 - The outlook on the implementation of this Convention
 - Presentation of mercury-free alternatives;
 - Presentation of the Minamata Convention on mercury;
 - Formation on rational environmentally sound management of mercury waste and mercury containing waste;
 - Presentation of the contents of leaflets and posters related to the awareness of the Minamata Convention on mercury.

 - The discussions focused on:
 - The lack of material and technical resources for the implementation of environmentally sound management of waste containing mercury.
 - The need for behavioral change of the population for the application of this method of waste management.
 - The need for the political will of decision makers in Madagascar to engage more financial support for waste management.

 - The workshop participants suggest:
 - The demand for building technical capabilities, equipment and technology transfer from international community on the environmentally sound management of waste containing mercury.
 - The commitment and willingness of policy makers to help achieve the environmentally sound management of waste containing mercury.
 - The distribution of simple and effective method to manage these environmentally waste by mass media national level.
 - Making available to each department training materials on this management, in order to help them to display and distribute widely circulated these media.
- The representatives of the Malagasy regional television and local radio were also invited to the studio and broadcast important information presented during the workshop to the public.

4. Closure of the workshop

The workshop was formally closed by Mrs.General Director of the Environment. She even thanked the participants for their active participation in the workshop. In the end, she officially declared the closure of the training workshop on the environmentally sound management of wastes containing mercury.

2. MISSION STATEMENT OF TRAINING SESSIONS ON ENVIRONMENTALLY SOUND MANAGEMENT OF WASTE CONTAINING MERCURY IN TOLIARA

Date: February 25 to March 2, 2015

Missionaries:

- Madam Christine RALALAHARISOA Edmee, General Director of Environment in the Ministry of Environment, Ecology, Sea and Forestry and National Project Director;
- Doctor RANDRIANOMENJANAHARY Hanitriniaina Liliane focal point of the Minamata Convention and project coordinator;
- Mrs RANDRIANASOLO Harisoa, a member of the National Committee implementation of the Minamata Convention on mercury;
- Mr Stephane RABENARISOA, driver.

Development of the mission

A session of team building between the central and regional teams was performed for the first day of the arrival of missionaries in the city of Toamasina.

The second day was devoted to the achievement of courtesy visits to conduct advocacy sessions with regional authorities.

Visit of the day:

- The Toliara's Region Manager;
- Toliara I and II Mayors;
- The Regional Director of Ministry of Public health;
- The Regional Director of the Ministry of Trade

After making a brief presentation on the contents of the Minamata Convention, the adverse effects caused by the release of mercury on human health and the environment and the possibility of using products with mercury substitutions Madagascar, a brief explanation the importance of the environmentally sound management of mercury waste was conducted by Mrs. The National Project Director. Regional authorities were convinced that the ESM (environmentally sound management) should be applied to Madagascar to reduce the release of mercury into the environment.

Subsequently, the stay of the core team at the regional level is marked by the organization of the training workshop on the environmentally sound management of mercury waste the last day.

Fifty posters and 200 leaflets were then deposited in the Regional Directorate of the Ministry of Environment, Ecology, Sea and Forests for Toliara in order to help them to organize awareness and training sessions on the environmentally sound management of waste containing mercury.

Subsequently, the stay of the core team at the regional level is marked by the organization of the training workshop on the environmentally sound management of mercury waste the last day.

1. Workshop Participants

Fifty people from the regional authorities, including the Head of District of Toliara I and the representative of the Head of the Special Delegation of the Urban Community of Toliara, and from the different regional offices of ministries, namely the Ministries of Environment, Health, Trade, Higher Education (University), Communication, Rural Development, Population, Tourism, s Industry, Mines, Water, Fisheries and Energy; National Education, Transportation, regional hospitals, Chamber of Commerce and Industry of Toliara, representatives of dentisites orders, doctors and pharmacist associations, industrial, civil society and NGOs concerned the mercury problem were invited to participate in this workshop.

2. Opening of the workshop

The opening of the workshop on the environmentally sound management of mercury-containing waste was marked by successive speeches of the Regional Director of the Ministry of Environment, Mrs. the General Director of the Ministry of the Environment and National Project Director and the Head of South West Region, which officially opened the

workshop.

Thus, Mrs. National Director thanked the Toliara Region Manager for his presence at the official opening of the workshop, despite his many obligations. Later, she thanked all workshop participants for their attendance to participate in this workshop. The South West Region Manager said it is necessary to manage the earliest possible waste that are scattered in the city of Toliara and its surroundings to protect against the harmful effects caused by harmful substances in waste containing mercury. He pledged to do his possibilities to manage waste within its region.

3. Workshop Process

- After the official opening of the workshop, the following topics were presented followed by discussions:
 - Mercury characteristics, discharge sources and its harmful effects on human health and the environment;
 - The achievements in the implementation of the Minamata Convention of mercury in Madagascar;
 - The outlook on the implementation of this Convention
 - Presentation of mercury-free alternatives;
 - Presentation of the Minamata Convention on mercury;
 - Formation on rational environmentally sound management of mercury waste and mercury containing waste;
 - Presentation of the contents of leaflets and posters related to the awareness of the Minamata Convention on mercury.
- The discussion focused on:
 - Accompanying measures on the application of permanent abandonment of production, import and use of mercury-containing products in 2020 in Madagascar, as the purchasing power of the Malagasy population is still poor to buy substitute products without mercury that are more expensive than those containing mercury.
 - Statistics on mercury rejection of impacts on human health and the environment in Madagascar. A study of this situation did not exist in the country.
 - The feasibility of the application of the environmentally sound management of waste containing mercury according to the Basel Convention, while Madagascar has no means in terms of technology and equipment to achieve.
- The workshop participants suggested:
 - The introduction in the curriculum of environmental education including the environmentally sound management of waste containing mercury.
 - Making available to each department training materials on this management so that workshop participants can in their turn educate their colleagues and their entourages.
 - The involvement of regions during the preparation of the implementation of the national action plan of the Minamata Convention on mercury.
 - Awareness of the masses on the program.
 - The involvement of all departments on the mercury problem on workshops related to the program.
- The representatives of the Malagasy regional television and local radio were also invited to broadcast important information presented during the workshop to the public.

4. Closure of the workshop

The workshop was formally closed by the representative of Toliara Region Leader. He stressed during his closing speech that the workshop objectives are met and that the participants were aware of the importance of the environmentally sound management of waste containing mercury.

3. REPORT WORKSHOP ON TRAINING ENVIRONMENTALLY SOUND MANAGEMENT OF WASTE CONTAINING MERCURY TOAMASINA

Date: March 4 to 7, 2015

Missionaries:

- Madam Christine RALALAHARISOA Edmee, General Director of Environment in the Ministry of Environment, Ecology, Sea and Forestry and National Project Director;
- Doctor RANDRIANOMENJANAHARY Hanitriniaina Liliane focal point of the Minamata Convention and project coordinator;
- Mrs RANDRIANASOLO Harisoa, a member of the National Committee implementation of the Minamata Convention on mercury;
- Mr Stephane RABENARISOA, driver.

Development of the mission

A session of team building between the central and regional teams was performed for the first day of the arrival of missionaries in the city of Toamasina.

The second day was devoted to the achievement of courtesy visits to conduct advocacy sessions with regional authorities.

Visit of the day:

- The Head of Toamasina region;
- The Mayor of Toamasina;
- The Regional Director of the Ministry of Public Health;
- The Regional Director of Ministry of Trade;
- The Director of customs.

After making a brief presentation on the contents of the Minamata Convention, the adverse effects caused by the release of mercury on human health and the environment, the possibility of using substitutions of mercury-free products in Madagascar, a brief explanation the importance of the environmentally sound management of mercury waste was conducted by Mrs. National Project Director. Regional authorities were convinced of the importance of the use of the environmentally sound management of waste containing mercury, to protect human health and the environment against the adverse effects of this substance.

Subsequently, the stay of the core team at the regional level is marked by the organization of the training workshop on the environmentally sound management of mercury waste the third day.

1. Workshop Participants

Around fifty people from different regional offices of ministries, namely the Ministries of Environment, Health, Trade, Higher Education (University), Communication, Rural Development, transport, Population, Finance, Industry, Mines, Fisheries and Energy; Public work and meteorology, dentists, regional hospitals, Customs officials, coordinators of the international organizations (WCS, Esthetic Institute, ADES, Care Madagascar, International Conservation), associations, industrial, civil society and NGOs women associations, vendors of electronic devices concerned with the issue of mercury were invited to participate in this workshop.

2. Opening of the workshop

The opening of the sensitization workshop on the Minamata Convention on mercury in Toamasina was marked by successive speech Mr. Regional Director of the Ministry of Environment, Ecology, Sea and Forests, Madam National Project Director, and Mr Representative Area Manager who officially opened the workshop.

Thus, these speeches have emphasized the importance of this workshop because most households in the region fail to recognize the harmful effects of mercury releases on human health and the environment and the importance of the environmentally sound management of wastes containing them.

3. Workshop Process

- After the official opening of the workshop, the following topics were presented followed by discussions:
 - Mercury characteristics, discharge sources and its harmful effects on human health and the environment;
 - The achievements in the implementation of the Minamata Convention of mercury in Madagascar;
 - The outlook on the implementation of this Convention
 - Presentation of mercury-free alternatives;
 - Presentation of the Minamata Convention on mercury;
 - Formation on rational environmentally sound management of mercury waste and mercury containing waste;
 - Presentation of the contents of leaflets and posters related to the awareness of the Minamata Convention on mercury.
- The discussion focused on:
 - The completion of the permanent abandonment of production, import and use of mercury-containing products in 2020 in Madagascar
 - The feasibility of the application of the environmentally sound management of waste containing mercury according to the Basel Convention, while Madagascar has no means in terms of technology and equipment to achieve.
 - The mercury release sources in the environment in Madagascar.
 - The sources of human contamination by mercury.
- The workshop participants suggested:
 - The involvement of regions during the preparation of the implementation of the national action plan of Minamata Convention on mercury.
 - Dissemination of simple and effective ways through the media masses, how to manage environmentally sound waste containing mercury.
 - The involvement of all departments on the mercury problem on workshops related to the program.
- Television Malagasy representatives at regional, local newspapers and radio were also invited and broadcast important information presented during the workshop to the public.

4. Closure of the workshop

The workshop was formally closed by the representative of Toamasina Region Leader. He stressed during his closing speech that the workshop objectives are met and that the participants were aware of the importance of the environmentally sound management of waste containing mercury.

IX. WORKSHOP REPORT VALIDATION OF NATIONAL SURVEY RESULTS ON THE CONTROL OF IMPORTS AND ESTABLISHMENT OF ALTERNATIVE OF PRODUCTS CONTAINING MERCURY IN MADAGASCAR

INTRODUCTION

Most of mercury containing products used in Madagascar are imported (99%), and formally entered at customs, according to the survey conducted in 2014 on the origin of these products. A study on the control of imports of mercury-containing products and the socio-economic feasibility of the use of mercury-free alternatives was conducted in Madagascar to help the Government to control the import of these products and to make recommendations to reduce their use and to promote the purchase of the similar products without mercury. The results of this study serve as a decision- support tool for phasing out the use of mercury-containing products.

Therefore, a national validation workshop of the study was carried out in Antananarivo February 24, 2015.

WORKSHOP OBJECTIVES

- Validate the document on the study of import controls for mercury-containing products and the socio- economic feasibility of using non-mercury alternatives products;
- Determine all the recommendations on the measures to be taken to reduce the use of mercury-containing products and to promote the purchase of substitute products without this substance.

PARTICIPANTS

Members of Minamata national implementation of the Convention Committee on Mercury, composed of representatives of public, private, and civil society organizations concerned with the mercury problem and women associations.

WORKSHOP PROCESS

Officially opened and chaired by Madam General Director of Environment, the workshop began with successive presentations:

- Reminder of the achievements and prospects for the implementation commissioning of the Minamata Convention on Mercury in Madagascar;
- Results of the study on the control of imports of mercury-containing products and the socio- economic feasibility of using mercury free alternatives products including:
 - ❖ Products accessible to the masses, including batteries, lamps are found in all sellers including supermarkets, retailers, hardware stores, grocery stores, sellers of electrical and electronic products, and even up among hawkers and vendors at the market. There are also mercury-free alternative products requested by the companies, laboratories and health centers, or certain category of people who need it, namely thermometers, measuring and control, shutter dental, medical devices including their use is sustainable and that the masses do not use them because of the ignorance of these products by lack of awareness.
 - ❖ For the moment, it is difficult to determine the percentage of the population and the social layer that use mercury-free alternatives. Despite this, the amount of produce sold showed that these mercury free products are sufficient for consumers. Thus, it is difficult to know the true statistics of these alternatives, but the fact that the products come in and they are consumed means that these products are wanted by the population.
- A discussion session was conducted and the following themes were central to the debate:
 - ❖ Development of regulations prohibiting the use of mercury containing products on which their substitutions are accessible by the masses;
 - ❖ Need to organize awareness sessions to inform the public of the existence of non-mercury substitutes and the advantage of using these products on human health and the environment;
 - ❖ Challenge to phase out the use of dental amalgam because it is a danger to human health;
 - ❖ Strengthening inter sector collaboration on the implementation of activities related to the Minamata Convention on mercury.
- After the discussion session and establishing recommendations for the control of imports of mercury-containing products and the promotion of the use of substitution without this substance, the workshop was formally closed by Mrs. the General Director of Environment.

X. GENERAL RECOMMENDATION

The following recommendations were adopted after the implementation of this project:

1. For the inventory of products containing mercury, the investigation into the marketing of these products, identifying alternative mercury-free products and the mode of current waste management of mercury- containing products:

- To conduct a complete inventory of mercury release sources in the environment in Madagascar;
- To organize meetings of advocacy and awareness on the Minamata Convention on mercury and on the adverse effects of this substance on human health and the environment;
- To conduct training on the environmentally sound management of waste containing mercury, according to the directive of the Basel Convention by using the training materials developed during the project in 22 regions of Madagascar.

2. To assist the Government to control imports of mercury-containing products and to promote the use of mercury-free substitutes products:

- The Customs Code should be amended by introducing the list of mercury-containing products so that they are separate mercury-free products.
- Organize advocacy meetings with decision makers, legislative and awareness sessions with the public, wholesalers, retailers and companies on the adverse effects of the use of mercury-containing products and the benefits of using replacement of mercury-free products.
- Discourage the import of products containing mercury by limiting the quantity imported or increasing the import tax and facilitate the import of mercury-free alternatives.
- Develop a regulation prohibiting the importation, marketing and use of mercury-containing products on which their substitutions are accessible by the masses (battery, lamp ...).

3. For sessions advocacy and awareness about the implementation of the Minamata Convention on mercury:

- To deliver simple messages tailored to the target and effective through the media masses, how to manage environmentally sound waste containing mercury
- To involve all departments regarding the mercury problem on workshops related to the program;
- To involve regions during the development of National Action Plan for implementation of the Minamata Convention on mercury;
- To provide each department sensitization supports the Minamata Convention on mercury so that representatives of these departments can in their turn educate their colleagues and their entourages;
- To increase awareness of the masses on the implementation of the Minamata Convention in Madagascar;
- To introduce in the curriculum of environmental education information on the Minamata Convention on mercury.
- To strengthen collaboration between the different public and private institutions, NGOs and civil society in the implementation of the Minamata Convention of mercury in Madagascar.

4. For training on the environmentally sound management of waste containing mercury:

- To intensify advocacy meetings with decision makers and training of the population on the ESM according to the directive of the Basel Convention;
- To provide each department training materials on environmentally sound management of wastes containing mercury that representatives of these departments during the workshops can in their turn train their colleagues and their entourages;
- To inform the masses about the importance of the environmentally sound management of waste containing mercury through the mass media at the national level;
- To introduce in the curriculum of environmental education the environmentally sound management of wastes containing mercury;
- To strengthen collaboration between the different public and private institutions, NGOs and civil society in the implementation of the Minamata Convention of mercury in Madagascar.

XI. LESSONS LEARNED AFTER THE IMPLEMENTATION OF THE PROJECT

The implementation of the project on reducing the use of products containing mercury and the improvement of waste management of these products has revealed the following:

- The situation of Madagascar on products containing mercury, mercury-free substitutes, waste management method of these products and the marketing of these products.
- Most of the Malagasy population ignore the challenges posed about the effects of mercury on human health and the environment. Therefore, it is necessary for Madagascar to have effective strategies or National Action Plan to manage mercury and its compounds and avoid the release of mercury into the environment.

FINAL CONCLUSION

The Government of Madagascar continues its efforts in the fight against mercury pollution.

This project is important to support the country in these efforts. In fact, the implementation of this project has assisted the Government of Madagascar to ratify the Minamata Convention on mercury. The process of ratification of the Convention at the national level has already been completed in December 2014. Madagascar is currently preparing to send the instrument of ratification to the General Secretary of the United Nations in New York.

Four major activities leading to the achievement of the project objectives have been realized during the implementation of this project.

This project has allowed Madagascar to identify key products containing mercury, the current mode of waste containing mercury, the free alternative products and marketing survey of these products. A study on the control of imports of mercury-containing products and the socio-economic feasibility of the use of mercury-free alternatives products was conducted in Madagascar to help the Government to control the import of these products, to make recommendations to reduce their use and to promote the purchase of similar products without mercury. The results of this study served as a decision-support tool for phasing out the use of mercury containing products until 2020. Awareness tools on Minamata Convention on mercury and training on environmentally sound management of wastes containing mercury, according to the directive of the Basel Convention were also developed during the project.

In addition, advocacy and awareness sessions on the Minamata Convention on mercury have been carried out in the regions of Madagascar. These sessions raised interest among regional authorities and workshop participants, as most of them still ignore the existence of this program prior to the workshops. Representatives of public and private institutions, NGOs, civil society and women's associations in the regions have actively participated in the sessions of discussions and they undertake to transmit and educate their organizations on the implementation of the Minamata Convention on mercury. Therefore, awareness of the masses was suggested during the sensitization workshop in the regions.

In addition, the advocacy and training sessions on environmentally sound management of mercury-containing waste was carried out in three regions of Madagascar.

Almost all participants of these workshops were convinced of the importance of the management of waste containing mercury in an environmentally sound manner to protect human health and the environment against the harmful effects of mercury. The information of the population on the management of waste containing mercury by the mass media was also suggested during the workshops.

To conclude, technical and financial assistance from the partners (UNEP, Developed countries, bilateral or multilateral cooperation...) are very important and requested in order to help Madagascar to manage mercury and its compounds in an environmentally sound manner at national level.

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