“Development of Capacity for the Substitution and the Environmentally Sound Management (ESM) of Mercury-Containing Medical Measuring Devices”

Project Completion Report

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Executive Summary

The document outlines the results of the implementation of the project titled “Development of Capacity for the Substitution and the Environmentally Sound Management of Mercury-Containing Medical Measuring Devices”, a Japan ASEAN Integration Fund (JAIF) project. The regional project is implemented in the Philippines and Indonesia. It is expected to contribute towards the promotion of environmentally sound management (ESM) of mercury-containing medical devices, which will eventually support attaining the goals of the Minamata Convention to protect the human health and the environment from anthropogenic emissions and releases of mercury.

The Environmental Management Bureau (EMB) of the DENR is the project proponent while the Asian Institute of Technology Regional Resource Centre for Asia and the Pacific is the implementing agency. Ban Toxics is the partner non-government agency to lead the implementation in the Philippines with the supervision of EMB. The project is also conducted in coordination and collaboration with the Department of Health (DOH). It was implemented from April 2021 to September 2021 for a total project cost of 80,000 USD.

Under the project, two main outputs are identified including 1) a national inventory of MCMMDs in the Philippines and an analysis of existing legal gaps, and 2) technical guidelines on the ESM of MCMMDs in the Philippines. Both documents aim to address the gaps in knowledge regarding the management of MCMMDs as well as to provide technical guidelines to address the needs identified.

In summary, the situational analysis reveals that the majority of health care facilities (HCFs) in the Philippines have shifted to mercury-free alternatives in accordance with national policies such as Department Administrative Order 2008-0021, which effectively banned the use of MCMMDs starting in 2008. Only 1% of the total respondents have confirmed that they still use mercury-containing thermometers by 2020, and 0.7% are still using mercury-containing sphygmomanometers.

A key issue identified during the implementation of the project is the lack of current programs as well as capacity to manage existing MCMMD wastes. These issues are addressed in the technical guidelines, which recommends actions to improve current regulation and monitoring mechanisms as well as programs to provide assistance to HCFs who intend to dispose of their stored MCMMDs.

PROJECT DESCRIPTION

Rationale

The project is conducted as part of the Philippine government's efforts to protect human health and the environment from the adverse impacts of mercury and mercury compounds. Since the enactment of Republic Act 6969, otherwise known as the Toxic Substances and Hazardous and Nuclear Waste, in 1990, the national government has conducted various efforts to regulate and control mercury and mercury compounds. In 1997, the Department of Environment and Natural Resources (DENR), issued Department Administrative Order (DAO) 1997-38, Chemical Control Order (CCO) for Mercury and Mercury Compounds. The CCO is meant to control mercury use and prevent or minimize release into the environment. The CCO applies to the importation, manufacture, processing, use and distribution of mercury and mercury compounds. It also addresses the treatment, storage and disposal of mercury-bearing or mercury-contaminated wastes in the Philippines.

In relation to the management of MCMMDs, the Department of Health (DOH), in 2008, issued DAO 2008-0021, Gradual Phase-Out of Mercury in all Philippine Health Care Facilities and Institutions. The DAO effectively bans the use of MCMMDs in healthcare facilities and encourages the shift to mercury-free alternatives. Furthermore, the issuance of Department Administrative Order 2019-20 or the revised Chemical Control Order for Mercury and Mercury Compounds effectively bans the production and trade of mercury-containing sphygmomanometers and thermometers in the Philippines, even for sectors outside of healthcare.

The project is part of the Philippines' efforts to comply with the Minamata Convention on Mercury which the country ratified in 2020.

Project Identification and Appraisal

"**Development of Capacity for the Substitution and the Environmentally Sound Management (ESM) of Mercury-Containing Medical Measuring Devices (MCMMDs)**" is a Japan-ASEAN Integration Fund (JAIF) project endorsed by the Association of Southeast Asian Nations (ASEAN) Working Group on Chemicals and Waste and the ASEAN Senior Officials on the Environment. The overall project design is formulated by lead implementing agency the Asian Institute of Technology Regional Resource Centre for Asia and the Pacific.

The project aims to contribute to the prevention of the adverse health and environmental impacts of mercury through the environmentally sound management of used thermometers and sphygmomanometers in ASEAN Member States. Specifically, the development of the national baseline and the technical guidelines will address the knowledge gaps and implementation challenges faced by national governments in the management of MCMMDs.

Objectives and Scope

The overall goal of the project is to contribute to the prevention of the adverse impacts of mercury on health and the environment through the ESM of mercury-containing sphygmomanometers and thermometers in the ASEAN Member States. The project is conducted in two countries, Indonesia, and the Philippines.

Specific project objectives include**:**

- To understand the present status of the usage, substitution, collection, storage, and disposal of MCMMDs as well as their substitution in the target countries as a basis for decision-making by key stakeholders
- To develop guidelines or evaluate the existing gaps in the application of existing policies for the environmentally sound management (including collection, storage, recycling and disposal) of used MCMMDs discharged by health care facilities in the target countries
- To promote the ESM of mercury wastes from MCMMDs through capacity building and awareness-raising activities in the target countries along with dissemination of the results of the project which may lead to its potential replication in the other ASEAN Member States.

Components

Under the project, the main activities include:

- The development or updating of an inventory of the use, substitution, collection, storage, and disposal of mercury-containing medical measuring devices (MCMMDs);
- Review and development of existing guidelines, evaluate the gaps in their application and propose recommendations on ESM of mercury waste from MCMMDs in the Philippines; and
- Raise awareness among stakeholders through knowledge sharing in-country and among stakeholders in the ten ASEAN Member States (AMSs).

Primary expected outputs for the project include:

Output 1.2. Development or updating of an inventory of the use, substitution, collection, storage, and disposal of mercury-containing medical measuring devices.

> Activity 1.2.1. In-country kick-off meeting with participation of the project proponent (EMB-DENR) and relevant stakeholders including the Department of Health of the Philippines.
>
> Activity 1.2.2. Situation analysis and data gathering about used thermometers and sphygmomanometers discarded by or stored in large-size (number of beds) health care facilities (both public and private)
>
> Activity 1.2.3. Conduct a two-day Inception cum Stakeholder Consultation Workshop
>
> Activity 1.2.4: Development or updating of an inventory from the information gathered in Activity 1.2.2.

Output 2.2. Review the existing guidelines, evaluate the gaps in their application and propose recommendations on ESM of mercury waste from medical measuring devices (thermometers and sphygmomanometers) in the Philippines.

Activity 2.2.1. Mapping of the existing guidelines and best practices on ESM of mercury waste from medical measuring devices, including measures for phase out of mercury in product and promoting mercury-free alternatives.

Activity 2.2.2. Develop an outline for the gap analysis between the existing guidelines and current practices for discussion with stakeholders in the Inception Workshop (activity 1.2.3).

Activity 2.1.3. Gap analysis between (i) the existing policy framework and actual practices in the field and (ii) the requirements of the Convention, technical guidelines of the Basel Convention and other relevant internationally recognized guidelines

Activity 2.2.4. Propose recommendations based on the gap analysis (activity 2.2.3) and propose revised guidelines, if deemed necessary on ESM of mercury waste from medical measuring devices.

Activity 2.2.5. Conduct a two-day Second National Stakeholder Consultation Workshop to review and finalize the guidelines on ESM of mercury wastes from medical measuring devices and discuss way forward on the implementation of the outline of Phase 2.

The outcomes of these activities will contribute towards the promotion of ESM of MCMMDs, which will eventually support the attainment of goals of the Minamata Convention on Mercury to protect human health and the environment from anthropogenic emissions and releases of mercury.

Implementation Arrangements and Schedule

The project is conducted by implementing agency the Asian Institute of Technology, Regional Resource Center for Asia and the Pacific (AIT RRC.AP) in partnership with the Environmental Management Bureau (EMB) of the Department of Environment and Natural Resources (DENR) and the Department of Health (DOH) through national project executing partner BAN Toxics.

Table 1: Project Stakeholders

Entity	Role	Specific Tasks
Association of Southeast Asian Nations (ASEAN) Secretariat *The ASEAN Secretariat was established to provide for greater efficiency in the coordination of ASEAN organs and for more effective implementation of ASEAN projects and activities.*	Project Endorser	Endorsement of the project through the ASEAN Working Group on Chemicals and Wastes and the ASEAN Senior Officials on the Environment

Japan-ASEAN Integration Fund *The JAIF was established by the Government of Japan to support the efforts of ASEAN member states towards the realization an open, dynamic, and resilient ASEAN community.*	Project Funding Agency	Project development, supervision, and support under the JAIF 2.0 program
Asian Institute of Technology, Regional Resource Centre for Asia and the Pacific (AIT, RRC.AP) *The AIT is an international institute of higher learning established in 1959 to help meet the region's growing needs for advanced learning in engineering, science, technology and management, research, and capacity-building.* *The RRC.AP is an institute-wide centre that works throughout the region by helping key stakeholders adapt cutting edge science into practical solutions for improved environmental outcomes.*	Implementing Agency	Overall management and guidance for the conduct of the project in the target countries of Indonesia and the Philippines
International Consultant *Mr. D. Wardhana Hasanuddin Suraadiningrat serves as the international consultant for the conduct of the project.*	Programme Adviser	Technical support and assistance for country project executing partners
Department of Environment and Natural Resources **Atty. Jonas R. Leones** *Undersecretary for Policy, Planning and International Affairs* **Foreign-Assisted and Special Projects Service (FASPS):** *The FASPS shall oversee, coordinate and facilitate the preparation, implementation and evaluation of the DENR's foreign assisted and special projects.* **Environmental Management Bureau (EMB):** *EMB is the national authority in the Philippines responsible for pollution prevention and control, sets air and water quality standards and monitors ambient and point source pollutants. It manages hazardous and toxic wastes under the Toxic Substances, Hazardous and Nuclear Waste Control Act and implements the Philippine Environmental Impact Assessment (EIA) system.*	Project Proponent	Provides overall direction, guidance and oversight for the effective and efficient implementation of the project
BAN Toxics *BT is a Philippine-based independent non-government environmental organization that works for the advancement of environmental justice, health, and sustainable development in chemicals and wastes with*	National Institutional Consultant, Philippines	NGO project partner working in close coordination with EMB-DENR and AIT-RRCAP

a special focus on women, children, and other marginalized sectors.		
Department of Health *The Department of Health (DOH) is the principal health agency in the Philippines. The agency is responsible for ensuring access to basic public health services to all Filipinos through the provision of quality healthcare and the regulation of providers of health goods and services.*	Supporting Government Agency	Provision of technical support to project executing partner

The table below presents a summary of the project timeline.

Table 2: Project Timeline

Target Date	Activity
April 7 2021	Kick-off Meeting
April 26 2021	Inception cum Stakeholder Consultation Workshop
April to June 2021	Data Collection
July 15 2021	Submission of Initial Draft to DENR for Review and Endorsement to the JAIF
September 6 2021	Stakeholder Consultation Workshop
September 25, 2021	Submission of Final Draft Reports
September 28 2021	ASEAN Dissemination Workshop
September 30 2021	Project End and Finalization of Project Outputs

Cost and Financial Arrangements

Funding for the project will be provided by the implementing agency, AIT RRC.AP to the project executing partner based in the Philippines, BAN Toxics. In accordance with the JAIF Project Budget, AIT RRC.AP will make available to BAN Toxics! Inc. funds up to the maximum amount of US$ 80,000 (Eighty Thousand US dollars), breakdown of the country project budget is shown in the table below.

Table 3: Financial Arrangements

Deliverable	Amount	Target Date
Upon Signing of Contract	$20,000	April 2 2021
Submission of Draft Documents (Technical Guidelines and National Inventory); Participation in Regional ASEAN Workshop	$30,000	July 30 2021
Submission of Final Documents (Technical Guidelines and National Inventory)	$30,000	September 30 2021

The first installment of US$ 20,000 (Twenty Thousand US dollars) will be paid to BAN Toxics! Inc. following signature of the LOA. The second installment of US$ 30,000 (Thirty Thousand US dollars) will be paid to BAN Toxics! Inc. after the review and approval/endorsement of draft reports and deliverables (updated inventory and gap analysis/guidelines) by EMB-DENR, Philippines (e.g., Project Steering Committee) and AIT RRC.AP. The final installment of US$ 30,000 (Thirty Thousand US Dollars) will be paid to BAN Toxics! Inc. after the review and approval of financial report and deliverables and other agreed-upon documentation

IMPLEMENTATION ACHIEVEMENT

The project resulted in two main outputs, namely, 1) the Situation Assessment for MCMMDs in the Philippines and 2) Technical Guidelines for the Management of MCMMDs in the Philippines. The results of both outputs have been disseminated and presented both at the national levels through the stakeholder consultation workshops and at the regional levels through the ASEAN regional dissemination workshop, in accordance with project objectives.

The Situation Assessment for MCMMDs in the Philippines successfully provided a baseline inventory of MCMMDs in healthcare facilities[1] in the Philippines. In total, 507 respondent HCFs were able to submit their data out of the total 1,466 contacted HCFs[2] (34.58% total response rate). The table below summarizes the results of the national inventory.

Table 4: Summary of Results - National Inventory

Criteria for DOH AO 2008-21 Implementation	Percentage of Respondents which complied to criteria	Additional Remarks
Hospital waste management committee	81%	Some health facilities were established after the DOH AO 2008-0021 (Chapter 4 Section 1), and thus have no experience using MCMMDs. Other health facilities, meanwhile, have already disposed of their MCMMDs, and do not have mercury management committees.
Mercury management committee	7%	
Has implemented a phaseout of MCMMDs	63%	Majority of the facilities phased out MCMMDs in 2010, although some facilities have only completed phaseout activities in the past five years. Additionally, some hospitals that were established past the enactment of the AO were not required to implement a phaseout, as they did not use MCMMDs in the first place.
Policy/ guideline for collecting and retrieving used/ discarded MCMMDs	20%	Some health facilities were established after the DOH AO, and thus have no experience using MCMMDs. Other health

[1] This includes licensed hospitals, clinics, infirmaries, and other related facilities.
[2] During project implementation, the national health facility registry provided by the Department of Health notes that there are 1,383 total licensed hospitals in the country.

Policy/ guideline for temporary storage of MCMMDs	20%	facilities, meanwhile, have already disposed of their MCMMDs, and do not have mercury-specific policies.
Policy/ guideline on managing mercury spills	22%	
Policy/ guideline for final disposal	18%	
Policy/ guideline on financing mercury management activities	9%	
Purchasing policy for mercury-free alternatives	25%	Only 9% have mercury-content disclosure agreement with vendors
Mercury audit	11%	Majority of the facilities conducted an audit around 2009-2010, although some facilities have only completed audit activities in the past five years
Mercury monitoring activities	21%	Majority conducts monitoring activities annually, but do not specifically monitor MCMMDs especially if none are present in the facility
Mercury information and education program	16%	Majority conducts information and education program activities annually, but mercury-related IEC programs are lacking
Safety training for healthcare staff focused on mercury	17-25% (depending on topic)	75% of the facilities conduct safety training for staff, but only 25% include discussions on mercury, which is done annually
Temporary mercury storage facility	28%	Not all of the storage facilities comply with storage requirements
Purchase and disposal of MCMMDs	Thermometers: 5% in 2010; 1% in 2020 Sphygmomanometers: 4% in 2010; 0.7% in 2020	In 2010, only 5% of the healthcare facilities purchased mercury-containing thermometers; and 4% mercury-containing sphygmomanometers. This subsequently declined by 2020. The same trend is observed in terms of disposal.

The Technical Guidelines for the Management of MCMMDs in the Philippines outlines specific international and national standards and guidelines for the management of MCMMDs. Furthermore, it identifies key implementation issues that need to be addressed. These issues are outlined and summarized in the table below.

Table 5: Summary of Results - Technical Guidelines

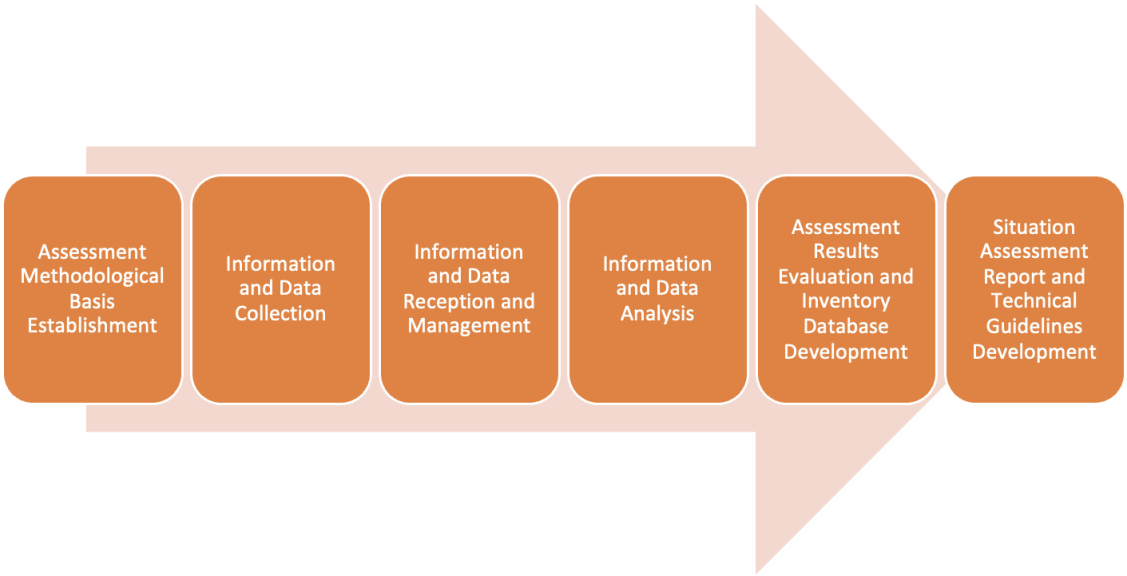
	ESM OF MCMMDs	**IDENTIFIED GAPS**
	Focused area/s for analysis	*Difference between the desired and current states*
Life Cycle Stages	Waste prevention and minimization	Generally, the current policy framework contains comprehensive provisions on mercury waste prevention and minimization. Policies that may be considered to strengthen current policies include: - Finalization of the draft FDA circular phasing out MCMMDs, to control retail sales of mercury thermometers and

		sphygmomanometers especially through online channels - Inclusion of sphygmomanometers in the list of regulated medical devices of the FDA Center for Device Regulation Radiation Health, and Research (CDRRHR), integrating WHO technical specifications.
	Inventories	DAO 2013-22 lacks the capacity to distinguish among several mercury wastes. There is a need for improved classification of mercury wastes as articulated and aligned with the definitions and categories stated in the Minamata Convention text to facilitate a more comprehensive inventory of mercury wastes. Utilization of internationally accepted tools such as the UNEP toolkit can also be explored.
	Handling, separation and collection	There is a need for a comprehensive collection system for MCMMDs, as healthcare facilities are required, as waste generators, to facilitate disposal by contacting waste transporters and TSD facilities. The implementation of final disposal of mercury wastes stored in hospitals (i.e., collection of MCMMDs) is key in increasing effectiveness of the phaseout program.[i] Interview with the DOH representative noted that collection can be coursed through the CHDs (regional offices).
	Transportation of mercury wastes	There is a need to set thresholds for the transportation of mercury wastes, as existing policies do not indicate upper limits for mercury content which would require licensed transporters.
	Interim storage	There is a need to integrate size and function requirements of TSD facilities in existing policies, which may be consist of differing requirements per facility category.
	Transboundary movement	The current policy may be strengthened by linking the manifest system to the movement document.
Cross-cutting ESM Elements	Financial resources and mechanisms	There is a need for improved access to financial and resource mechanisms, especially for healthcare facilities in low-resource settings who may not be able to afford the costs associated with the ESM of MCMMDs.

Implementation Performance

Design

The project's main outputs are to be developed through various research and data-gathering methods. Presented in the figure below is a summary of the project design:



Qualitative and quantitative data-gathering methods were employed for the study. In summary, basis is established through gathering data on MCMMDs from healthcare facilities as well as secondary data available from government and private stakeholders. Information and data collection as well as validation is conducted through the following means:

- *Desk Research* – involved the review of relevant and historical data on MCMMDs as well as a review of the legislative and regulatory framework for MCMMDs.
- *Key Informant Interviews* – involved the conduct of key informant inteeviews with relevant government agencies, HCF representatives, and other relevant stakeholders.
- *National Survey* – a national survey was conducted to gather data regarding MCMMD use, purchase, and storage data as well as to assess implementation success of various relevant policies on MCMMD management.

Organization and Management

The Environmental Management Bureau (EMB) of the DENR is the project proponent while the Asian Institute of Technology Regional Resource Centre for Asia and the Pacific is the implementing agency. Ban Toxics is the National Institutional Consultant and partner non-government agency to lead the implementation in the Philippines with the supervision of EMB. The project is also conducted in coordination and collaboration with the Department of Health.

In the implementation of the project, the Regional Offices of the EMB-DENR and the Department of Health (DOH) provided support in conducting the research activities.

Listed below are the specific teams in charge of the implementation:

Table 6: Project Team

Project Team
Implementing Agency: Asian Institute of Technology, Regional Resource Centre for Asia and the Pacific, Thailand
Mr. Guilberto Borongan, *Head of Waste and Resource Management Cluster*
Mr. Solomon Kofi Mensah Huno, *Senior Program Officer*
Programme Advisor
Mr. D. Wardhana Hasanuddin Suraadiningrat
Project Proponent:
Department of Environment and Natural Resources: Atty. Jonas Leones, *Undersecretary for Policy, Planning and International Affairs*
Mr. Angelito Fontanilla, *Director, Foreign-Assisted and Special Projects Service (FASPS)*
Mr. Conrado Bravante, Jr., *Chief, Project Preparation Division, FASPS*
Mr. Eddie Abugan, Jr., *Chief, Project Management Division, FASPS*
Ms. Marianica Philina L. Obmerga, *PEO II, FASPS*
Engr. William Cuñado, *Director, EMB*
Engr. Vizminda Osorio, *Assistant Director, EMB*
Mr. Geri-Geronimo Sañez, *Chief, Hazardous Waste Management Section (HWMS), EMB*
Engr. Maria Leonie Lynn Ruiz, *Engineer III, HWMS, EMB*
Engr. Santini Quiocson, *Engineer II, HWMS, EMB*
Engr. Kim Geo Berna, *EMS II, HWMS, EMB*
Project Partner:
Department of Health: Dr. Beverly Lorraine Ho, *Director, Disease Prevention and Control Bureau (DPCB)*
Engr. Jocelyn Soria, *Supervising Health Program Officer, Occupational Diseases Division, DPCB*
Mr. James Ryan Molina, *DPCB*
Institutional Consultant: BAN Toxics, Philippines
Mr. Reynaldo San Juan, *Executive Director*
Ms. Arleen Honrade, *Monitoring and Evaluation Officer*
Mr. Jashaf Shamir Lorenzo, *Policy Development and Research Specialist*
Research Team
Mr. Jashaf Shamir Lorenzo, *Policy Development and Research Specialist (BAN Toxics)*
Ms. Myline Macabuhay, *Policy Development and Research Specialist (BAN Toxics)*
Mr. Ronald Decano, *Consultant (Davao del Norte State College)*
Field Coordination Team
Mr. Renato Mabilin, *field staff (BAN Toxics)*
Ms. Myra Mabilin, *field staff (BAN Toxics)*

Cost and Financing

Outlined below is a summary of project costs.

Table 7: Summary of Costs

ACTIVITY COST (USD)	BUDGET IN USD[3]	BUDGET	EXPENSES	BUDGET BALANCE
	USD	PHP	PHP	PHP
Institutional Consultant Services	76,500	3,715,911	3,715,215.48	695.52
Local Transport	1,000	48,574	30,900	17,674
Secretariat Supplies	500	24,287	23,093	1,194
Communications	2,000	97148	96,800	348
Total	**80,000**	**3,885,920**	**3,886,008.48**	**19,911.52**

Performance of Consultants, Contractors and Suppliers

Project executing partner BAN Toxics initiated the hiring of external consultants for the conduct of the project. The hired consultants were selected due to their previous working relationships with the organization. This ensures timely execution of the project in line with BAN Toxics' quality standards.

Compliance with Loan/Grant Covenants

The project has been successfully approved by the implementing agency, the AIT.RRCAP. The project outputs have also been forwarded to the EMB-DENR for endorsement by the Director and to the Department of Health Undersecretary for endorsement as well.

Disbursement

The disbursement of funds has been successfully completed by the AIR.RRCAP. The table below outlines the timeline for the disbursement.

Table 8: Summary of Disbursement

DATE	AMOUNT		TRANCHE
	PHP	USD	
Mar 29 2021	961,142.40	20,000	1st Tranche
Aug 31 2021	1,480,454.4	30,000	2nd Tranche
October 11 2021	2,441,596.80	50,000	3rd Tranche

[3] Conversion rate computed at P48.574/1 USD

Performance of Funding, Executing, and Implementing Agencies

Primary implementing agency the Asian Institute of Technology Regional Resource Centre for Asia and the Pacific performed their duties satisfactorily. The AIT.RRCAP team spearheaded the coordination with key stakeholders for the project and ensured that outputs are delivered in a timely manner.

For monitoring of project milestones, the AIT.RRCAP conducted weekly catch-up meetings with project executing partner BAN Toxics to ensure that the project is conducted in accordance with the objectives.

In the delivery of funds, the AIT.RRCAP handled budget disbursements in a timely manner and in accordance with the conditions outlined in the terms of reference.

Project Results

Institutional Development

The project outputs contribute towards building the capacity of agencies in charge of monitoring and regulation as well as addressing the knowledge gaps regarding MCMMDs in the country. The project serves as an important step towards managing stock mercury in HCFs, and provides insight on trends relative to MCMMDs.

Economic Re-evaluation

In summary, the project costs are justified especially when considering the amount of delay and the limited implementation time. The project objectives have been successfully and satisfactorily accomplished. The main outputs have also been directly cited by the Food and Drug Administration of the DOH in developing new policies for MCMMDs, and may also be instrumental in future projects regarding the management of mercury stocks.

Socio-economic and Socio-cultural Results

The project does not contribute directly to socio-economic and socio-cultural development. However, through increasing our capacities to manage MCMMDs in the Philippines, it is expected that the health risks associated with mercury and mercury compounds will be further reduced.

Women in Development

The project does not contribute directly to women in development due to its nature as primarily research-oriented.

Environmental Impacts and Control

The project aims to contribute to the prevention of the adverse health and environmental impacts of mercury through the environmentally sound management of used thermometers and sphygmomanometers in the Philippines.

The two documents finalized during the project impact the environment positively through several ways. The outputs address existing knowledge gaps and identifies key issues that need to be prioritized with regards to the management of MCMMDs. The technical guidelines developed under the study will also serve to capacitate stakeholders to ensure that storage and disposal issues for MCMMDs can be addressed through internationally recognized procedures and guidelines.

Essentially, addressing the knowledge gaps and capacitating stakeholders in the context of managing MCMMDs will serve to minimize the impacts of mercury in the country.

Gestation and Sustainability

The project is part of the Philippines' continued efforts to comply with the Minamata Convention on Mercury. These efforts will continue beyond the project implementation, as outlined in various national policies such as the Revised CCO for Mercury and Mercury Compounds.

For the continuation of efforts specifically for the management of MCMMDs, the documents produced under the project are being used as reference by the Department of Health (DOH) in enacting guidelines under the Food and Drug Administration (FDA). Furthermore, a regional ASEAN stakeholder workshop was conducted during the implementation of the project to further discuss a potential phase 2 for the project.

Key Issues for the Future

The table below outlines the key issues identified in the situation assessment.

Table 9: Key Issues Identified

Key Challenge	Notes
MCMMDs Data Availability	There is a lack of data on MCMMDs with no data available from concerned agencies such as the DENR, the DOH, and the DTI, among others. As such, there is a lack of capacity to assess the success of phase-out implementation due to the lack of data and monitoring and regulation protocols. The dependence on self-monitoring for HCFs also poses a problem, as only total mercury waste is reported without distinction if the waste comes from MCMMDs. This is also a problem experienced by TSD facilities, as they do not sort their waste depending on source and type, leading to the lack of available data.

Lack of Access to Local TSD Facilities	One of the major issues faced by regions is the lack of access to accredited TSD facilities. This is also compounded by issues such as safe transport of waste and transportation management. Hospitals are also more likely to store their mercury-containing wastes for long periods of time rather than to contact transporters and treaters within the region. At times, MCMMDs are also disposed through municipal waste or third-party buyers due partly to the lack of access to proper TSD facilities. Finally, the completion of documents and other pertinent requirements are also delayed due to the difficulties of transporting waste to other regions within the Philippines.
Lack of Technical Knowledge on Waste Management	KIIs with relevant stakeholders reiterated the need for more training and knowledge sessions on managing of MCMMDs, including technologies that may be used to treat the waste. Furthermore, the study highlights the lack of training at the HCF-level regarding the risk associated with mercury, which may lead to the lack of capacity of staff to address mercury-related incidences.

LESSONS LEARNED

Some key lessons learned during project implementation include:

- Emphasize a multi-stakeholder approach
    - Given the tight project implementation timeline, achievement of project objectives would not be possible without the support from both the EMB-DENR and the DOH. The coordination between national agencies and their management of their regional teams allowed the project executing partner to conduct a national survey.
- Levelling off among stakeholders is important
    - Minimal delays were caused during project implementation due to the miscommunication between stakeholders. This led to various edits during the document writing phase which could have been easily avoided if concerns from all stakeholders were properly communicated. This issue was easily solved through close coordination between the implementing agency and the project executing partner during the last quarter of project implementation.

CONCLUSION

The project has been conducted satisfactorily and all objectives outlined in the terms of reference and the project description have been accomplished.

Recommended follow-up actions for the project include a continuation of efforts to strengthen capacities to manage MCMMDs and to address the key issues identified during the project implementation.

[i] *Ibid. Zordilla, Z. D.*