

STAP SCREENING TEMPLATE, May 2024

GEF ID	11546
Project title	Strengthening Indonesia's reduction and elimination in the distribution and supply chain of mercury from National Health (SIRENE)
Date of screen	30 May 2024
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1. Summary of STAP's views of the project

This proposal has two major thrusts. The first and dominant thrust is reducing the use of and the safe disposal of mercury-containing medical devices. The second is developing innovative circular approaches to handling mercury-free medical devices, which requires consideration along the lifecycle from device design to End-of-Life (EoL) options. The proposed EoL management for Hg-containing devices offers opportunities to reduce Hg emissions. The presence of 18,383 healthcare facilities in Indonesia with, for example, 48,581 mercury-containing thermometers illustrates the magnitude of the challenge for the sound handling of Hg-containing medical devices. The project is well justified as moving Indonesia towards compliance with the terms of the Minamata Convention for controlling Hg waste.

While the motivation and intent of the project are sound for Hg and could help address Hg emissions, the proposal description for achieving non-Hg emissions GEBs is best described as incomplete components, e.g., avoiding GHG and PBDE emissions. Specifically, ideas for developing circular approaches for medical devices and reducing e-waste have not been adequately developed throughout all project components. The logic in the Theory of Change that connects the root causes and barriers to outcomes focuses on Hg-containing medical devices without including the other components mentioned in the proposal. However, even some of the logic in the Theory of Change is insufficiently developed. For example, what is the motivation of the private healthcare actors for sound management of hazardous waste? Who will absorb the additional costs of sound management of hazardous waste – are there penalties for mismanagement under PP No. 101 concerning waste management, and is there a compliance monitoring system set up to levy such penalties? Who will absorb the cost of replacing Hg-containing medical equipment? Is the cost of equipment replacement a barrier? What is meant by increasing circularity, and how would this be achieved? How would improper disposal of e-waste be avoided, and how would the activities lead to better handling of e-waste?

The proposal mentions stakeholders from the private sector, including suppliers of medical devices and waste management companies, but not those from the hospital sector. While the inclusion of gender considerations is laudable, details are missing on what this actually means. The proposal would benefit from an explanation of the governance structure that would help to achieve project outcomes, including policy coherence.

STAP suggests that the Theory of Change considers all components of the project and includes assumptions and a broader rank of barriers, enablers, and risks (e.g., as mentioned below, the risk of Hg waste being mobilized by extreme weather events during handling and disposal). Such an expanded Theory of Change would then show the connections to the GEBs anticipated beyond Hg emissions since the logic for other GEBs is not apparent, e.g., reducing GHG emissions and uPOPs.

While STAP is rating this project as minor, mainly because some of the proposed activities/interventions are feasible and could deliver GEBs (Hg emissions) as designed (although focusing on Hg waste alone will mean a very unambitious project), the proponent needs to significantly revise the proposal (in line with comments above and Sections 2 and 3 of this screen) to ensure that it delivers a good return on GEF investments.

Note to STAP screeners: a summary of STAP's view of the project (not of the project itself), covering both strengths and weaknesses.

STAP's assessment*

- Concur - STAP acknowledges that the concept has scientific and technical merit
- X Minor - STAP has identified some scientific and technical points to be addressed in project design
- Major - STAP has identified significant concerns to be addressed in project design

Please contact the STAP Secretariat if you would like to discuss.

2. Project rationale, and project description – are they sound?

See annex on STAP’s screening guidelines.

1. Systems thinking. The system best considered is that of Hg-containing waste in the hospital sector. The system could be more comprehensively described by considering the waste handling sector dealing with Hg-containing medical devices, how this sector might change, and the implications of any change for effective and safe waste disposal. The system should also include the manufacturers and retailers of medical devices who will be affected by this equipment change-over. Is the system the same in more urbanized vs remote island locations, and if so, what are the implications? The system going beyond Hg-containing medical devices is not well described. For example, what e-waste is included? What system should be considered to increase circularity?

2. Uncertainty futures were not discussed but could be useful, e.g., the availability of Hg-free medical equipment. How will variability in replacement costs affect the project? Do some of the logic pathways in the Theory of Change depend on the timely cooperation of a stakeholder, and what would be the consequences of not having a timely response? Please consult STAP’s brief on [Future Narratives](#) for guidance on how to address uncertain futures through simple future narratives.

3. Baseline, barriers, and enablers. The baseline concerning Hg emissions to air is sufficiently well described. Barriers related to Hg-containing medical equipment are considered, e.g., for collecting, transporting, and disposing of Hg. However, more details could be provided to distinguish barriers relevant to urban vs. remote islands since the geography of Indonesia is raised as a challenge. Major challenges are explained regarding regulation, law enforcement, financing, and awareness raising, but not the availability of facilities or expertise in Hg waste handling. A limited budget was identified as a barrier, but how it would be addressed was not clear in the proposal.

4. Theory of Change (ToC):
The scope of the project needs to be better delineated. Most of the project concerns Hg-containing medical devices, but some parts of the proposal extend more broadly to consider medical devices that could include future e-waste under the umbrella of “circularity.” Details are insufficient regarding these other medical devices, including what “circularity” means. For example, “sustainable waste management technologies” are mentioned, but no details are given about how this fits into the activities.

The ToC has a limited description of the logic connecting the root problems, barriers, outcomes, and longer-term outcomes. A discussion of drivers and assumptions is missing. Some barriers are not explained or justified, e.g., why is limited public awareness a problem if this project deals with the healthcare and waste handling sectors? Some barriers, such as limited political capacity, geographic constraints, and limited budget, are mentioned but not dealt with.

5. Project Components
In general, all descriptions need to list critical assumptions and risks.

Component 1: The description here is very general but should address how efforts will be made towards policy coherence, particularly since this was identified as a barrier. This component should include a timeline for achieving specific milestones and how the barrier of poor law enforcement will be addressed. The proposal is inconsistent in describing the project's lack of regulations/policies along with operationalization vs the harmonization of existing policies and regulatory frameworks. The enforcement issue needs more explanation, particularly because the proposed engagement with healthcare units is described as follows: the “governance

and regulatory structure will also enforce sanctions on health services institutions that do not comply with agreed commitments.” What instrument will allow for levying sanctions, and is the capacity available to check for compliance and to levy and collect fines?

Component 2: More information is needed on how the private sector will be engaged (incentives and/or penalties and enforcement). The general description needs to consider targets and a timetable for phase-out and environmentally sound management (ESM). How do the planned activities and capacity for stabilization and storage relate to the magnitude of Hg-containing waste? Is there sufficient capacity available to handle and transport collected Hg-containing devices?

Component 3: A connection needs to be made with proposed activities that provide safe temporary and long-term storage of collected Hg. The title includes “circular models” – what is circular about Hg collection and disposal? The proposed technology [solidification and stabilization S/S] is meant for end-of-life disposal, so it is not circular. Also, have the pros and cons of S/S technology for mercury in Indonesia been assessed? Waste treated by S/S would require landfilling, as noted in the proposal, but is this feasible or advisable in a country that has been reported to have [landfills at risk of overcapacity](#)?

An explanation of what and how a “circular economy approach” and the mishandling of e-waste will be achieved is missing.

Component 4: The proposal needs to include more details about what will be monitored, documented, and shared. How do gender equality and social inclusion (GESI) fit into this project?

6. **Additionality.** The proposal clearly states that progress on controlling Hg emissions from the healthcare sector would proceed without GEF funding but at a much slower pace and without adequate attention to local circumstances. For example, some of the distant Indonesian Islands would not be served.

7. Engaging **stakeholders.** The proposal does well to list stakeholders from the private sector, including suppliers of alternative technologies, distributors, as well as waste management companies. However, the proposal did not explain how the listed stakeholders will be engaged. Stakeholders from the hospital sector were not listed, which seems to be a significant oversight. What is a “gender-responsive regulatory and policy framework”? Women are not included as stakeholders.

8. Calculations of **GEBs.**

The 20 tonnes of Hg collected was based on 176,946 units of Hg-containing devices (that’s a very certain number). How was this value calculated? What is the assumption of how much Hg is in the range of devices collected?

How will GHG emission reduction be achieved through the project? What specific activity will lead to emission reduction? How was the expected emission reduction arrived at?

The project description does not mention deca-BDE, but 5.00 tonnes are listed as being removed or disposed of. How was this number determined, and which components of the proposal will deliver this GEB?

How was 20,000 tons of avoided residual plastic waste determined, as this is not adequately discussed in the proposal?

The calculation of 20 g TEQ of organic pollution or uPOP was based on avoiding the incineration of medical devices. Did this calculation account for ~80% of hospital waste being landfilled or illegally dumped together with MSW?

8. The discussion of **policy coherence** needs further details. How will the proposal lead to policy coherence? Representatives from different government agencies were not listed amongst those consulted, yet their involvement would seem essential.

9. Analysis of **risks**:

The discussion of risk is overly general. For example, risks from climate change that are not discussed include potential releases of Hg from temporary or “permanent” storage sites due to extreme weather events such as flooding or fire. Increased temperatures will increase Hg release to air during transfer and handling. A climate risk screening is needed for this project.

Regarding “political and governance,” the proposal should consider how a change of government might affect Component 1, which seeks to improve regulations and compliance monitoring. Technological risks related to achieving circularity or identifying and properly handling PBDE-containing waste should be discussed.

Note: provide a general appraisal, asking whether relevant screening guideline questions have been addressed adequately – not all the questions will be relevant to all proposals; no need to comment on every question, only those needing more attention, noting any done very well, but ensure that all are considered. Comments should be helpful, evaluative, and qualitative, rather than yes/no.

3. Specific points to be addressed, and suggestions

The following are specific points the STAP recommends should be addressed in addition to comments made in Section 2 above.

- Revise the proposal to be more consistent on which aspects are included (e.g., Hg-containing medical devices), how other aspects are either included or not, and if included, how, e.g., PBDE-containing materials, e-waste, and management of waste plastic.
- Explicitly consider assumptions, drivers, and future narratives that could unfold depending on the outcome of assumptions, etc.
- Revise the Theory of Change as discussed above.
- Revise the description of project components as discussed above. Additional considerations:
 - Outputs 1.1.2, 2.1.1 – what makes Hg collection, distribution, and technical guidance for waste collection, etc., sensitive to gender? The gender dimension should be strengthened throughout the proposal.
 - For component 3 –what is the circularity in collecting and disposing of Hg-containing medical devices?
- Add details of how the project will be scaled up.
- Innovation is mentioned – about tapping into local innovation for Hg-free devices and sustainable waste management technologies. How will these devices be tested and brought to market? How will the waste management technologies also be tested, given the limited technical capacity that is cited as a barrier?
- Provide some details of the governance structure of the project, including how different government agencies will be involved to achieve policy coherence
- The list of stakeholders should include the hospital sector.
- The proposal should better consider financing that includes the expense of proper disposal of Hg-containing medical devices and the cost of replacing those devices.
- Risks should be better explored, as discussed above.

Note: number key points clearly and provide useful information or suggestions, including key literature where relevant. Completed screens should be no more than two or three pages in length.

**categories under review, subject to future revision*