

Scientific and Technical Advisory Panel

The Scientific and Technical Advisory Panel, administered by UNEP, advises the Global Environment Facility
(Version 5)

STAP Scientific and Technical screening of the Project Identification Form (PIF)

Date of screening: May 08, 2017
Screener: Sunday Leonard
Panel member validation by: Ricardo Orlando Barra Rios
Consultant(s):

I. PIF Information *(Copied from the PIF)*

| FULL-SIZED PROJECT | GEF TRUST FUND |
|---------------------------|---|
| GEF PROJECT ID: | 9444 |
| PROJECT DURATION: | 5 |
| COUNTRIES: | Regional (Ghana, Kenya, Senegal, Tanzania, Zambia) |
| PROJECT TITLE: | EHPMP - Environmental Health and Pollution Management Program in Africa |
| GEF AGENCIES: | World Bank |
| OTHER EXECUTING PARTNERS: | Governments of participating countries |
| GEF FOCAL AREA: | Chemicals and Waste |

II. STAP Advisory Response *(see table below for explanation)*

Based on this PIF screening, STAP's advisory response to the GEF Secretariat and GEF Agency(ies):
Minor issues to be considered during project design

III. Further guidance from STAP

The proposed programme, which is focused on mercury from artisanal gold mining, e-waste management, and uPOPs emissions reduction, has an overarching objective to "reduce environmental health risks related to harmful chemicals and waste through strengthened institutional partnership and capacity in pollution management in targeted countries in Africa". The programme aims to achieve this objective through the implementation of child projects in five sub-Saharan African (SSA) countries: Ghana, Kenya, Senegal, Tanzania and Zambia, with an additional child project focused on regional activities. The objectives for the child projects are as follows:

Ghana: Reduce Environmental health risks related to use of mercury and open burning of e-waste in Ghana through strengthened institutional partnership and capacity.

Kenya: Reduce emissions of uPOPs from open burning of e-waste and other wastes in the Kenya through strengthened institutional partnership and capacity.

Senegal: Reduce Environmental health risks by reducing the release of unintentional POPs and other toxic chemicals and establish an ESM of urban waste.

Tanzania: Reduce Environmental health risks related to use of mercury in Artisanal Gold Mining Sector in Tanzania through strengthened institutional partnership and capacity.

Zambia: Reduce Environmental health risks related to POPs in waste in the Zambia through strengthened institutional partnership and capacity

Regional: To coordinate participating country investments and promoting learning & knowledge exchange.

This is a revised version of an early PIF which the STAP had recommended that should be significantly changed because of major issues: inconsistencies in overarching programme objectives and those of the child projects; inadequate problem analysis; a lack of thoroughness in proffered responses and activities; and ultimately the lack of soundness in the overall theory of change.

STAP observes that the current document is substantially improved and has addressed most of the issues raised by the previous screen. There is now a detailed analysis of the problem and adequate linkage between the problem, proffered solutions and expected outcomes, as well as between the child projects and the overarching programme.

The STAP would however like to provide the following advice to be considered during the project design:

1. For the ease of effective monitoring, reporting and to encourage transparency during project implementation, it is suggested that expected outputs should be provided in Table B of the umbrella project, as well as for the equivalent tables for the child projects.
2. While the programme and child projects now mention tackling the challenge of inflow of e-waste into SSA countries, the STAP would like to emphasise that to achieve tangible results, the programme and child projects should take a two-pronged approach that addresses both the inflow of electronic products into SSA (the root cause) and the management of the end-of-life of electrical and electronic products through end-of-pipe technologies. It is important that the programme, especially the regional child projects, focus on developing a sub-Saharan Africa-wide policy, regulatory, and capacity building solutions for managing the inflow of illicit electronic products with a short lifetime. It should be noted that developing upstream solutions only in targeted countries will not solve the problem, but could result in isolated policy and regulatory reforms, and run the risk of shifting the problem to other countries.
3. With regards to end-of-pipe solutions to e-waste management, the project seeks to improve monitoring of "open burning of e-waste", and will provide protective equipment to collectors and recyclers in Ghana. Given that open burning is not the best available technology for e-waste management and is associated with significant climate, environmental and health impacts, we think the project should be more ambitious and seek to eliminate open burning of e-waste. The benefit of protective devices would only be maximized when used in a setting that applies the best available technologies. The project should first therefore seek to introduce the best available technology to e-waste management and make it a viable tool for alleviating poverty.
4. The programme and its associated child projects have the potential to generate more environmental benefits than is currently recognized. The reduction (preferably elimination) of open dumping and burning of wastes, including e-waste would not only reduce uPOPs emissions and provide health benefits, but would also yield climate and air pollution benefits. Opening burning of waste is a major source of black carbon which is a very potent climate forcing agent and doubles as an air pollutant "an important component of PM2.5 responsible for thousands of premature deaths globally including in Africa (see STAP advisory document - Black Carbon Mitigation and the Role of the Global Environment Facility: A STAP Advisory Document. <http://www.stagef.org/sites/default/files/stap/wp-content/uploads/2015/10/Black-Carbon-Web-Single.pdf> and Integrated Assessment of Black Carbon and Tropospheric Ozone - https://www.researchgate.net/publication/305280773_Integrated_Assessment_of_Black_Carbon_and_Tropospheric_Ozone). Furthermore, waste dumping, especially domestic wastes are a major source methane emissions "a very potent greenhouse gas with significantly higher global warming potential than CO₂, and a precursor to the formation of tropospheric ozone "another greenhouse gas which is also harmful to crops. Hence reducing emissions would not only benefit climate but agriculture and consequently food security (see: https://www.researchgate.net/publication/221749060_Simultaneously_Mitigating_Near-Term_Climate_Change_and_Improving_Human_Health_and_Food_Security). Furthermore, mitigating black carbon and methane emissions would also contribute to achieving the SDGs (see: <http://science.sciencemag.org/content/356/6337/493>). These benefits should be recognised when developing the full project and if possible, quantified during programme implementation.
5. It is welcome that a regional component has been included as a child project to coordinate participating country investments, and to promote learning & knowledge exchange. We think there should be a detailed analysis of how the child projects would bring in other countries to ensure that there will be effective transfer of lessons learnt and replication of the project outcomes. Ideally a target should be set for the number of countries which could replicate the project. We would also like to suggest that other countries should be engaged in the programme from the onset, and should be part of the Programme Steering Committee. We believe this will increase buy-in and chances for replication. It would also help reduce the risk of shifting the problem to other countries within the region as discussed earlier.
6. With respect to stakeholders, we suggest that the academia within and outside the selected countries should be included. They could provide useful input at the design stage and could also serve as a conduit for dissemination of lessons learnt.
7. Component 3 of the Tanzania child project aims "to reduce the amount of mercury to be procured and used and also reduce the amount of mercury emissions and wastage" by collaborating with SEDCO or local manufacturers to manufacture and replicate low cost centralized mercury management equipment to move away from individual retorts. While this approach would lead to reduction in mercury use and emissions, the STAP would like to suggest that the project should, if possible, first explore technologies that eliminate mercury use (non-mercury options) as the first priority BET solution. See UNEP's practical guide: reducing

mercury use in artisanal and small-scale gold mining: a practical guide for possible options:
http://wedocs.unep.org/bitstream/handle/20.500.11822/11524/UNEP_Tech_Doc_APRIL_2012_120619_with_links_web.pdf?sequence=1&isAllowed=y

8. Component 3 of the Zambia child project aims "to upgrade an existing dumpsite into a sanitary landfill (through IDA financing), and will conduct a feasibility study of short- and long-term BAT/BEP actions to determine the volumes and types of waste and the economic viability for private sector collaboration". The STAP advises that a complete life cycle analysis should be done during the design of the landfill to ensure that there is a closed loop that includes methane capture (with potential for waste-to-energy) and leachate management to reduce environmental and other negative impacts associated with landfills.

9. Component 3 of Kenya child project: with respect to the e-waste demonstration, the project description asserts that "Kenya is well poised to play a sub-regional role as a hub for e-waste recycling due to the presence of adequate infrastructure (port and road) necessary for investing in e-waste"; this is correct, based on available data and ongoing works in the sector. It was therefore expected that Kenya would be an ideal demonstration of how to apply technological tools and economic approaches, and be a pilot for a recycling hub for designing, based on the BAT. This would add to the sustainability of the programme, and could provide an opportunity for private sector engagement, create wealth, and provide lessons learnt for replication elsewhere. We therefore suggest that this should be considered.

10. We suggest that a detailed assessment of the risks and mitigation measures that would be (or have been) put in place should be provided for all of the child projects.

Previous STAP review of initial project document below:

The proposed programme states in the umbrella PFD that it seeks to "improve a shared understanding of current trends in environmental health associated with chemicals waste management in Artisanal and Small scale Gold Mining and unregulated waste dump sites in sub-Saharan Africa, and develop a regional collaborative platform to address it". The targeted countries and child project titles are as follows:-

- (a) Tanzania - Support Mercury Management and Land Rehabilitation In Artisanal Gold Mining Sector in Tanzania
- (b) Ghana - Reducing environmental health risks by improving waste disposal practices and remediating urban electronic waste dumpsites and artisanal gold mining contaminated sites in Ghana
- (c) Zambia - Reducing environmental health risks by improving waste disposal practices in Zambia
- (d) Kenya - Support Reducing Environmental Health Risks by Improving Waste Disposal Practices and Support to Electronic Waste Management System in Kenya

Whilst the STAP would not argue that the challenges in these African countries are real, it cannot ignore the considerable inconsistencies in the PDF, make provoke doubt in the reviewer as to the thoroughness of the problem analysis, the fullness of think through of related response and activities, and ultimately the soundness of the overall theory of change to be brought about with the proposed investment. The most immediate issues were:-

(i) Although the PFD seeks to improved shared understanding of environmental health trends associated with chemicals waste management in ASGM and unregulated dump sites, a look at the child projects immediately make it evident that the child projects are geared to actual investments in waste and chemicals management as opposed to studying trends in environmental health associated with chemicals management in the named sectors. This is reinforced on page 10, para 14 of the PFD which states that the EHPMP is focusing on pilot investments. Therefore the objective of the PFD needs reformulating such that one can see how the child projects feed into the whole.

(ii) The proposal is not properly grounded in the incremental action expected of a GEF project in that it doesn't show sufficient evidence of intent to build on a broad base of prior related initiatives, nor agreed upon, Convention-related, science-based guidance. As will be indicated in the detailed comments, this leads to incomplete consideration of issues contributing to the problems at hand, disjointed proposed solutions, incomplete assessments of risk, and missed opportunities for leveraging of technical, capacity-related and financial resources.

(iii) Related to the previous point, there doesn't seem to be enough consideration to delve into upstream causalities for the some of the core problems to balance out the focus on end-of pipe solutions (eg. The import of e-waste from developed countries is mentioned as a critical problem in the Kenya child project, and is likely true for other countries, but there is no attempt to formulate components to work with other partners and Customs to address this. The same holds true for lack of clear intended action related to the illegal

Mercury imports of Tanzania). Without such considerations, the GEF investment is less likely to make a long term impact, and GEBs are significantly diminished.

Overall, there is a disconnect between the apparent objectives and other information in the PFD and the child projects, and what precisely the real goal of the programme is to be. As will be explained in this review, this lack of coherence between PFD and child projects, and incomplete consideration of the problem, solutions and risk space, results in an apparent flawed theory of change, and misalignment between the baseline problems and issues and the proposed intervention activities.

The STAP hopes that the detailed advice and suggested partners and literature for consultation will help see a significant reconfiguration of this proposal to ensure elaboration of a firm objective at PFD and child project level, and better align of concomitant actions.

Comments and suggestions re: E-Waste activities

a) In reading the PFD, there is certainly mention of the end problems of e-waste, the threats to health, the lack of coordination of the informal sector and the like in the focus countries (Ghana, Kenya, Zambia). However, even at this early PIF stage, there appears to be no preliminary analysis of the sources of the waste (beyond the reproduction of an uncited map on page 51 of the document about known and suspected routes of e-waste dumping), and beginning thinking about tackling control of proliferation of the waste at source. This is surprising given the comparative advantage of the agency involved, and the number of reports issued over the years from developed country sources and others specifically discussing e-waste leakage to Africa, and the need for private-public, producer/consumer responsibility types of relationships that must be a part of assisting African countries with this problem (Eg "Building local capacity to address the flows of e-wastes and electrical and electronic products destined for reuse in selected African countries and augment the sustainable management of resources through the recovery of materials in E-wastes" by the Oko-Institut e.V. (2010) <http://www.oeko.de/oekodoc/1370/2010-451-en.pdf>). Focusing solely on flagging the hazards of handling e-waste to end-of-pipe handlers will not help curtail the e-waste problem overall.

One immediate recommendation is that there should be a better consideration of the various public-private efforts at collaborating to curtail entry of e-waste from developed countries. There is evidence in several published reports (and interestingly even within the Kenyan child project, though not the PFD) that waste enters many of these countries as illegal waste, or increasingly as "charitable donations" of second hand equipment that may or may not be actually functioning upon arrival. There are also examples of NGO-public-private sector e-waste initiatives with recognized multinational companies, that should be explored (see an example of Fujitsu Siemens action in South Africa http://www.massmart.co.za/wp-content/uploads/2013/12/Fujitsu_ewaste.pdf), noting that Acer, Apple, Dell, Ericsson, HP, Lenovo, LG Electronics, Motorola, Siemens, Sony Ericsson, Toshiba, Vodafone are also part of the Business and Human Rights Resource Centre global compact (<http://business-humanrights.org/en/about-us>), and as such might be good partners for such a large program. This could result in a high profile, on-the-ground, private-public partnership for the GEF, in line with its related policy. The omission of this, therefore represents a huge missed opportunity for all involved. The Oko-Institut e.V. (2010) report on building local capacity to manage e-waste in Africa (see "Building local capacity to address the flows of e-wastes and electrical and electronic products destined for reuse in selected African countries and augment the sustainable management of resources through the recovery of materials in E-wastes" by the Oko-Institut e.V. (2010) <http://www.oeko.de/oekodoc/1370/2010-451-en.pdf>) also has good diagrammatic consideration of the interplay between the informal and formal players in the e-waste life cycle overall, and this would further help with the appropriate stakeholder mapping for this program, better inform where formalization should take place, and the best way to incentivize such whether through policy or financial mechanisms.

b) Not fully analysing the sources also creates gaps in policy and stakeholders. The literature indicates that there are leakages in e-waste capture even in developed countries due to the various loopholes such as charitable donations, second hand equipment exports for refurbishment and the like. Similarly, at the developing country importer end, there is sometimes poor differentiation between import of new equipment and used equipment. This has implications for global Customs coding, and international cooperation.

c) Related to the above, the omission of the Customs inspectorate in the stakeholder mapping was rather glaring, but likely occurred due to the lack of consideration of curtailing waste at source, and the sole focus on end of pipe remedies, which will not be sustainable in the long term on their own. Taking points b) and c) together, the STAP would argue that there should be a component dedicated to streamlining customs coding with appropriate training of the Customs and borders inspectorate to curtail entry of illicit e-waste in the first place. Indeed the Kenya child project actually has a bullet under the Capacity Building and Institutional Strengthening section on page 42, that proposes development of systems for monitoring and enforcement,

that, given the admission of this child project of the problem of waste imports, will necessitate involvement of Customs and border controls.

d) That is not to say that there is no acknowledgement of previous efforts in the area of e-waste in Africa. The STAP acknowledges and welcomes that the PFD acknowledges the report generated in Ghana under the Basel e-wastes in Africa project (see Ghana e-Waste Country Assessment, March 2011 (Secretariat of the Basel Convention e-Waste Africa Project)

<http://www.basel.int/portals/4/basel%20convention/docs/ewaste/e-wasteassessmentghana.pdf>). However, one does not get the sense from reading either the PFD or the child projects, including that of Ghana, that there will be any attempt to use this current GEF investment to build upon or update the detailed equipment flows, inventories, policy and stakeholder mappings and implement the recommendations from the Basel exercise. Indeed the Ghana child project reiterates helping the Ghana government with inventorization and characterization of e-waste (see page 35, bullet 2 of the PIF), though it was done with significant detail only a few years ago.

The STAP would therefore recommend looking more closely at working with the Basel Secretariat, and the Basel e-waste project outputs, including the Ghana report, to learn more of the project experience, shortcomings and the like. And, should good dialogue be established with Basel Secretariat, where there may be no evidence of similar exercises in the other countries of this current proposed GEF program, the exercise carried out in Ghana should be replicated, with South-south sharing of lessons between Ghana and the less experienced countries, and improvements where necessary. This would be a good way to generate detailed baseline information on all aspects surrounding e-waste in countries (sources, quantities, characterization, policies, stakeholders, pollution loadings etc). It would also be a uniform modality for generating data and knowledge in the region, that can be replicated for additional countries should the program expand.

e) If there is systematic assessment of e-waste in the countries, since pollution impacts can also quantified in such assessments, then one can make informed assessments into site prioritisation for management and remediation, with attendant informed investments and selection of technologies.

f) The STAP hopes that in considering these recommendations, the project developers will see that there will be a better chance for the GEF investment to satisfy the PFD goals described on page 46 of the document (second bullet point) which states the programme is "â€¦ a programmatic and regional approach to chemicals management in Africa, based on building political commitment to strengthen capacity to analyse and plan, to reduce the risk of environmental health risks resulting from management of chemicals, and building capacity [to] provide the platform for subsequent national efforts to strengthen management of environmental health, economic and social risks from chemicalsâ€¦.[providing] the framework for new regional partnerships, linking the efforts of national governments and NGOs to better address risks of chemical management". Indeed, taking into consideration the points on private sector partners, the STAP would suggest that some version of this text on page 46 become the objective of the PFD.

Components on the Mercury/Mining aspects

In discussing the current issues associated with gold mining and mercury, the PFD focuses only on Tanzania and Ghana, and the large number of unregulated, small scale miners (as opposed to relatively few large mining operations), the poor management of mercury by the mining community in general (with concomitant contamination of soils, waters and toxicological impacts to environment and humans alike), and the fact that much of the mercury is illicitly obtained, illegally imported from neighbouring countries in some cases (it is cited in the child project that as much as 95% of mercury is illegally imported in Tanzania). There are also plans indicated to see site remediation of abandoned mines, specifically with phytoremediation. The activities in the two child projects of Tanzania and Ghana bear minor differences. That of Tanzania seeks to promote mercury abatement technology as well as to demonstrate phytoremediation of 2 small abandoned mining sites, and build environmental monitoring capacity of the Ministry of Energy and Minerals Inspectorate. One of the indicators of success of this latter component includes regulation of the mercury trade. That of Ghana also seeks to do pilot demonstration pilots for Ministry and licensed miners who are mandated to rehabilitate their mines based on the Mine Closure policy in the national Mining Act; and to strengthen the environmental capacity of the inspectorate.

Based on these proposed parameters, the STAP would comment on the following:-

a) Given the prospect of illegal trade in mercury (particularly as cited for Tanzania), again the omission of the Customs and borders inspectorate is glaring. They will need appropriate awareness raising and training to seize illicit mercury, where appropriate. Note also that anywhere there is to be promotion of mercury

abatement/alternative technologies, there will necessarily have to be a policy and regulatory response to control the import of, or access to mercury in the first place. So again, Customs will have to be a part of this exercise.

b) Whilst Ghana is on track with a licensing mechanism for the small miners, there should be some effort to do the same in Tanzania. Targeting training and resources at the few large mining operations will not help the unregulated activity of the artisanal mining community, nor the relatively large toxicological exposure presented by the sheer numbers of small miners, and their families. Note that often the gold separation takes place in homes, or nearby, so it is critical that a component be developed in the Tanzanian project in particular to organize and formalize artisanal miners (as is ongoing in Ghana) and to raise appropriate awareness in all cases on the hazards of mercury use.

c) The phytoremediation efforts should be carefully approached. A search of the literature indicates that whilst there is substantial research for use of phytoremediation for other heavy metals (Lead, cadmium, nickel etc), Mercury is particularly problematic.

Tangahu et. al 2011 (see Tangahu, et. al. 2011. A Review of Heavy Metals (As, Pb, and Hg) Uptake of plants through Phytoremediation <http://www.hindawi.com/journals/ijce/2011/939161/>) state that several factors must be considered in order to accomplish a high performance of phytoremediation result. The most important factor is a suitable plant species which can be used to uptake the contaminant. However one should consider a number of things, and the STAP flags but a few key potential things to note:-

(i) Phytoremediation can be a time-consuming process, and it may take at least several growing seasons to clean up a site.

(ii) The intermediates formed from those organic and inorganic contaminants may be cytotoxic to plants, leading to inhibited plant growth, and a secondary generation of waste in the form of toxified plant material. Where there are high contamination levels, there can be cases where harvested plant biomass from phytoextraction may be classified as a hazardous waste, hence, disposal should be proper. Consumption of contaminated plant biomass is also a cause of concern, as contaminants may still enter the food chain through animals/insects that eat plant material containing contaminants. Indeed there is a research paper arising from a study in Ghana which was able to show that consumption of animals which grazed near old and new mines posed a health risk to the ASGM community and their children in particular (see Bortey-Sam, N et. al. 2015. Human health risks from metals and metalloid via consumption of food animals near gold mines in Tarkwa, Ghana: Estimation of the daily intakes and target hazard quotients (THQs) <http://www.sciencedirect.com/science/article/pii/S0147651314004187>). This in turn has implications for control of site access during the phytoremediation period. It should also be noted that some plants reintroduce elemental mercury to the air as it works its way from root to leaf.

(iii) The success of phytoremediation may be limited by factors such as growing time, climate, root depth, soil chemistry, and level of contamination. Root contact is a primary limitation on phytoremediation applicability since roots must be in contact with the contaminant. As a result, surface contamination, with low frequencies of flooding or erosion, may be a better candidate than deeper contamination for this technology.

(iv) Phytoremediation is also limited by the growth rate of the plants. More time may be required to phytoremediate a site as compared with other more traditional cleanup technologies.

(v) Phytoremediation (depending on species) may not end up being a static exercise of planting and leaving a site, since age greatly affects the physiological activity of a plant, especially its roots. Generally, roots of a young plant display greater ability to absorb ions than do those of an old plant when they are similar in size. It is important to use healthy young plants for more efficient plant removal, though some larger older plants may make up for lower physiological activity with their size.

(vi) Further review of the potential species that might be utilized not unexpectedly showed great variation depending on soil and climate conditions, mercury species present, and global location of the site. The following literature references should be considered:

Shehu et. al. 2014. Hyperaccumulators of Mercury in the Industrial Area of a PVC factory in Vlora (Albania) https://www.researchgate.net/publication/269629648_Hyperaccumulators_of_mercury_in_the_industrial_area_of_a_PVC_factory_in_Vlora_Albania ;

Marrugo-Negrete, J et, al, 2015. Phytoremediation of mercury-contaminated soils by *Jatropha curcas*. <http://www.ncbi.nlm.nih.gov/pubmed/25655698> ;

Kumar, B. et. al. 2013. Plant mediated detoxification of Mercury and Lead.
<http://www.sciencedirect.com/science/article/pii/S1878535213002712> ;

Y. Su, F., et. al. 2007. Phytoextraction and Accumulation of Mercury in selected Plant Species grown in soil contaminated with different Mercury compounds.
<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.490.9291&rep=rep1&type=pdf> ;

Moreno, F.N., et. al. 2009. Phytoremediation of Mercury-Contaminated Mine Wastes.
http://kiwiscience.com/BookChapters/Environ_Regional_Air_Chapter.pdf

Moreno et. al. (2009) note in particular that Mercury in most soils is unavailable for uptake by plant roots. However, soil amendments can be used to increase the bioavailability of Hg to plants. This paper in particular examines the conditions by which the Hg concentration in the soil solution can be enhanced for plant uptake for three metal-contaminated mine sites where Hg pollution caused by anthropogenic or ASM activities are of concern., working in sites in New Zealand, China and Brazil. Looking across the samples of literature reviewed (some of which are footnoted here), recommendations for appropriate plant species range from *Jatropha curcas* to *Pteris vittata* (Chinese brake fern). But note that there could be implications for invasive species and the obligations of countries under the Convention on Biodiversity (CBD) in going about plant selection for phytoremediation, therefore all literature should be considered carefully. The STAP has also had informal exchange with the Society of Environmental Toxicology and Chemistry (SETAC), and it was pointed out that too often even scientists neglect to study the weeds and "wild plants" that grow over naturally on contaminated sites. Testing of these plants may yield a good hyperaccumulator that is indigenous, thus avoiding the problem of potentially introducing an invasive species.

d) In line with comments the STAP has provided in this current workprogramme to the Suriname Gold Mining MFA (GEF ID 9288), and given the areas in need of address in this project, the STAP would strongly recommend that this PFD take note of the guidance embedded in the UNEP Guidance Document "Developing a National Action Plan to Reduce, and where feasible, eliminate Mercury Use in Artisanal and Small Scale Gold Mining" (Download at http://www.unep.org/chemicalsandwaste/Portals/9/Mercury/Documents/ASGM/National%20Action%20Plan_draft%20guidance%20v12.pdf), presented this past March 2016 at the 7th Intergovernmental Negotiating Committee Meeting of the Minamata Convention in Jordan. This document provides guidance to countries in formulating NAPs that are compliant with the requirements of the Minamata Convention, and provides technical, legal and policy information on issues related to ASGM, which could be useful for the countries, Tanzania in particular, to prepare and organise its mining sector for the requirements of the Convention. It should be noted that document includes strategies for reducing emissions, releases and risks of exposures from Mercury, as well as information on managing trade of mercury, and preventing diversion for use in ASGM. Additional resource documents are:-

UNEP (2015) " Developing Baseline Estimates of Mercury Use in Artisanal and Small-Scale Gold Mining Communities: A Practical Guide" (Download at: http://www.unep.org/chemicalsandwaste/Portals/9/Mercury/Documents/ASGM/AGC%20Inventory%20Guide_v1_Oct2015.pdf);

UNEP (2012) "A Practical Guide: Reducing Mercury Use in Artisanal and Small-Scale Gold Mining" (Download at http://www.unep.org/chemicalsandwaste/Portals/9/Mercury/Documents/ASGM/Techdoc/UNEP%20Tech%20Doc%20APRIL%202012_120619%20with%20links_web.pdf);

UNEP (2012) "Analysis of formalization approaches in the artisanal and small-scale gold mining sector based on experiences in Ecuador, Mongolia, Peru, Tanzania and Uganda" (Download at http://www.unep.org/chemicalsandwaste/Portals/9/Mercury/Documents/ASGM/Formalization_ARM/Formalization%20Document%20Final%20June%202012.pdf)

In addition, for the development or improvement of guidelines on mining the project developers may wish to consult the "International Guidelines on Mercury Management in Small-Scale Mining" by Spiegel, S. et al. *Journal of Cleaner Production* 18 (2010) 375-385.

Miscellaneous comments

(i) The child project of Zambia (page 32) cites an objective related to reducing wildlife crime. This should be corrected.

(ii) Table D. of the document indicates that there are two sizeable allocations dedicated to regional level activities (totalling about USD 4,587,156 of the GEF grant). Yet the annexes do not have a corresponding regional level child project or component description. Perhaps this funding might be used to support the global/regional actions such as Customs activities, the PPP related aspects, and/or south-south cooperative actions suggested in this review.

Overall, the STAP does not doubt the importance of this programme, but considering the size of the investment, there needs to be a focus on the real objective of the programme, with concurrent alignment of child projects, and just a better problem and solutions analysis, even at this preliminary stage. STAP recognizes the value of the south-south cooperation stated in this proposal and look forward to see this component developed in a revised proposal. In addition, as relates to the e-waste aspects, to reduce duplication of effort, and to build on lessons and best practices, there should be involvement with the Basel Secretariat in particular, as well as the private-public initiatives that may be ongoing, or that might be built, also aligning with the GEF policy on PPP. There should be overall attention to sound Convention guidance in both the areas of e-waste and mercury, and the neglect of upstream mechanisms to tackle the source of issues, and incomplete stakeholder mapping (especially the neglecting of Customs in both e-waste and mercury related areas), are also areas that need to be addressed, with appropriate reconfiguration of components ahead of the CEO endorsement exercise.

| <i>STAP advisory response</i> | <i>Brief explanation of advisory response and action proposed</i> |
|---|---|
| 1. Concur | In cases where STAP is satisfied with the scientific and technical quality of the proposal, a simple “Concur” response will be provided; the STAP may flag specific issues that should be pursued rigorously as the proposal is developed into a full project document. At any time during the development of the project, the proponent is invited to approach STAP to consult on the design prior to submission for CEO endorsement. |
| 2. Minor issues to be considered during project design | <p>STAP has identified specific scientific /technical suggestions or opportunities that should be discussed with the project proponent as early as possible during development of the project brief. The proponent may wish to:</p> <p>(i) Open a dialogue with STAP regarding the technical and/or scientific issues raised. (ii) Set a review point at an early stage during project development, and possibly agreeing to terms of reference for an independent expert to be appointed to conduct this review.</p> <p>The proponent should provide a report of the action agreed and taken, at the time of submission of the full project brief for CEO endorsement.</p> |
| 3. Major issues to be considered during project design | <p>STAP proposes significant improvements or has concerns on the grounds of specified major scientific/technical methodological issues, barriers, or omissions in the project concept. If STAP provides this advisory response, a full explanation would also be provided. The proponent is strongly encouraged to:</p> <p>(i) Open a dialogue with STAP regarding the technical and/or scientific issues raised; (ii) Set a review point at an early stage during project development including an independent expert as required.</p> <p>The GEF Secretariat may, based on this screening outcome, delay the proposal and refer the proposal back to the proponents with STAP’s concerns.</p> <p>The proponent should provide a report of the action agreed and taken, at the time of submission of the full project brief for CEO endorsement.</p> |