

# 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 11, 2016  
Screener: Guadalupe Duron  
Panel member validation by: Ricardo Orlando Barra Rios; Annette Cowie  
Consultant(s): Christine Wellington-Moore

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

FULL SIZE PROJECT	GEF TRUST FUND
GEF PROJECT ID:	9288
PROJECT DURATION:	5
COUNTRIES:	Suriname
PROJECT TITLE:	Improving Environmental Management in the Mining Sector of Suriname, with Emphasis on Gold Mining
GEF AGENCIES:	UNDP
OTHER EXECUTING PARTNERS:	National Institute for Environment and Development in Suriname (NIMOS)
GEF FOCAL AREA:	Multi Focal Area

### 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):  
**Concur**

### III. Further guidance from STAP

STAP welcomes UNDP's proposal "Improving Environmental Management in the Mining Sector of Suriname, with Emphasis on Gold Mining". The objective is well defined, and the problem analysis makes it clear that integration is required between biodiversity conservation and sustainable forest management to address the drivers of environmental degradation in the target sites. STAP is also pleased that Suriname will pilot environmentally sustainable mining methods to curb mercury pollution through one component as it waits to sign onto the Minamata Convention on Mercury. STAP also welcomes Suriname's initiative to link the project outcomes to a future project on Chemicals & Waste that will address substantially mercury pollution. Additionally, STAP is pleased the project will seek to establish links with other on-going initiatives, or created by the project, to exchange knowledge on environmentally sustainable mining, biodiversity conservation and sustainable forest management. Opportunities for sharing knowledge are an important aspect for scaling-up the results from this project. During the project design, STAP encourages UNDP to apply the same rigor it used to develop the PIF.

To strengthen the project design STAP recommends addressing the following points:

1. In addition to describing the biophysical traits, STAP recommends detailing the social and economic aspects that characterize the project site, including institutions and governance aspects.
2. Equally important, STAP recommends identifying the interactions across scales. For example, it will be important to describe how gold prices may influence communities' livelihood strategies, impact biodiversity conservation and forest management in the target sites. Describing these cross-scale interactions will facilitate understanding changes that occur to the social-ecological system, and allow the opportunity to identify options for adaptive management before critical points are reached. Suriname and UNDP may wish to use STAP's Resilience, Adaptation Pathways and Transformation Assessment (RAPTA) to assess resilience, and identify options for adaptation and transformation before thresholds are reached. Further

information about the RAPTA and its guidelines can be found at: <http://www.stapgef.org/the-resilience-adaptation-and-transformation-assessment-framework/>

3. Given the multiple interests of the stakeholders, it would be good to engage a facilitator to strengthen stakeholder engagement, particularly to engage miners whose engagement appears limited (e.g. risk table).

4. The PIF mentions a World Bank project in Suriname on "Clean Gold Sluices". It also mentions a UNDP-GEF medium sized project on biodiversity conservation and gold mining in Guyana. STAP recommends detailing: 1) the challenges, including the barriers that hampered addressing the drivers of environmental degradation in these two projects; 2) the successes of these projects; and, 3) the mechanisms this project will put in place to embed this learning.

5. The STAP welcomes the promotion and capacity building activities associated with mercury abatement technologies (as part of Component 2 of the project). This will be a critical foundation and should help the country sign the Minamata Convention, as confidence in the use of mercury free technologies and approaches grows at ground level in the artisanal small scale gold mining (ASGM) community. One small comment might be that consideration be given to better quantifying levels of mercury consumption, emissions, and the modalities for import, access and availability of mercury in Suriname. This is suggested as there usually is need for some form of regulatory enhancement to control access and availability of mercury to ensure effective phase out of its use. Therefore understanding the magnitude of consumption, emissions, and costing out potential impacts to environmental and human health helps to frame the need for action, and justify investment in moving to alternatives. Further, if there is controlled sourcing of mercury across borders with Guyana, French Guiana and/or Brazil where gold mining is also prominent, there will be a need for customs and border control considerations.

Though not yet signatory to the Convention, the STAP would strongly recommend that Suriname 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", presented this past March 2016 at the 7th Intergovernmental Negotiating Committee Meeting of the Minamata Convention in Jordan

([http://www.unep.org/chemicalsandwaste/Portals/9/Mercury/Documents/ASGM/National%20Action%20Plan\\_draft%20guidance%20v12.pdf](http://www.unep.org/chemicalsandwaste/Portals/9/Mercury/Documents/ASGM/National%20Action%20Plan_draft%20guidance%20v12.pdf))

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 country 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:

a. UNEP (2015) " Developing Baseline Estimates of Mercury Use in Artisanal and Small-Scale Gold Mining Communities: A Practical Guide" ([http://www.unep.org/chemicalsandwaste/Portals/9/Mercury/Documents/ASGM/AGC%20Inventory%20Guide\\_v1\\_Oct2015.pdf](http://www.unep.org/chemicalsandwaste/Portals/9/Mercury/Documents/ASGM/AGC%20Inventory%20Guide_v1_Oct2015.pdf))

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

c. 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" ([http://www.unep.org/chemicalsandwaste/Portals/9/Mercury/Documents/ASGM/Formalization\\_ARM/Formalization%20Document%20Final%20June%202012.pdf](http://www.unep.org/chemicalsandwaste/Portals/9/Mercury/Documents/ASGM/Formalization_ARM/Formalization%20Document%20Final%20June%202012.pdf) )

In addition, for the development of guidelines on mining (Component 1), 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.

The following paper also may be useful in the project design to describe the biodiversity loss and environmental degradation in Brownsberg National Park: Ares, E. et al. "Assessment of gold mining on soil

and vegetation in Brownsberg National Park, Suriname".(2006). Alterra, Wageningen:  
<http://library.wur.nl/WebQuery/wurpubs/348736>

6. It would be useful to add maps that illustrate current land use, and land use change in the last 10 years, in the project sites.

7. Provide more information on how deforestation will be reduced. How much capacity is there to reduce deforestation in individual mining operations? Probably the most substantial reduction will arise from preventing mining on some high conservation value sites. However, for this measure to be effective, there must be alternative livelihoods available, to avoid illegal operations continuing. Provide further information on the strategy to generate alternative livelihoods.

8. To review important research publications on the issue of gold mining and the environment in Suriname that could aid to better define the intervention areas according to the environmental risks:

Heemskerk, Marieke Duijves, Celine Pinas, Mujenca (2015) Interpersonal and Institutional Distrust as Disabling Factors in Natural Resources Management: Small-Scale Gold Miners and the Government in Suriname SOCIETY & NATURAL RESOURCES 28(2):133-14 DOI 0.1080/08941920.2014.929769

Peplow, Daniel, Augustine, Sarah (2014) Neurological abnormalities in a mercury exposed population among indigenous Wayana in Southeast Suriname SO ENVIRONMENTAL SCIENCE-PROCESSES & IMPACTS 16(10):2415-2422 DOI 10.1039/c4em00268g ER

Cordy, Paul, Veiga, Marcello Crawford, Ben Garcia, Oseas Gonzalez, Victor Moraga, Daniel Roeser, Monika Wip, Dennis (2013) Characterization, mapping, and mitigation of mercury vapour emissions from artisanal mining gold shops ENVIRONMENTAL RESEARCH 125:82-91 DOI 10.1016/j.envres.2012.10.015

Wip, D, Warneke, T, Petersen, A. K. Notholt, J. Temme, C. Kock, H. Cordy, P. (2013) Urban mercury pollution in the City of Paramaribo, Suriname. AIR QUALITY ATMOSPHERE AND HEALTH 6(1) 205-213 DOI 10.1007/s11869-011-0162-3

Ouboter, Paul E. Landburg, Gwendolyn A. Quik, Jan H. M. Mol, Jan H. A. van der Lugt, Frank Mercury Levels in Pristine and Gold Mining Impacted Aquatic Ecosystems of Suriname, South America (2012) AMBIO 10.1007/s13280-012-0299-9

<i>STAP advisory response</i>	<i>Brief explanation of advisory response and action proposed</i>
<b>1. Concur</b>	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.
<b>2. Minor issues to be considered during project design</b>	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: <ul style="list-style-type: none"> <li>(i) Open a dialogue with STAP regarding the technical and/or scientific issues raised.</li> <li>(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.</li> </ul> <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>
<b>3. Major issues to be considered during project design</b>	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: <ul style="list-style-type: none"> <li>(i) Open a dialogue with STAP regarding the technical and/or scientific issues raised;</li> <li>(ii) Set a review</li> </ul>

	<p>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>
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