

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: September 11, 2014

Screener: Christine Wellington-Moore

Panel member validation by: Hindrik Bouwman
Consultant(s):

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

FULL SIZE PROJECT GEF TRUST FUND

GEF PROJECT ID: 6928

PROJECT DURATION : 5

COUNTRIES : Colombia

PROJECT TITLE: Reducing UPOPs and Mercury Releases from Healthcare Waste Management, e-Waste Treatment, Scrap Processing and Biomass Burning

GEF AGENCIES: UNDP

OTHER EXECUTING PARTNERS:

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 components in this project are well thought out for the most part; however the biomass burning component does not appear to have the same thoroughness of thought towards generation of global Environmental Benefits as the other components.

Sugar cane burning of fields is cited as a problem, with the solution largely focusing on proper programming of sugar cane field burning as opposed to diminishing the use of burning altogether, and showing economic benefits as well as the environmental benefits of doing so for the long term. Acknowledging that this practice was done to originally make manual labour easier (and in some places, protect labourers from snakes and dangerous wildlife hiding in the field), research shows that many major producers are moving away from this practice. Franca et. al. (2012) highlight that in spite of the fact that regions like Brazil's Sao Paulo state, for example, have expanded sugar cultivation, they have seen the wisdom of increasing the use of eliminating the traditional pre-harvest burning process. Mechanical (green) harvest (where the machine cuts the entire above-ground plant and stalks are automatically separated from the leaves or "trash") means that they can eliminate pre-harvest burning by 2016; and now other states in South-Central regions of Brazil such as Rio de Janeiro and Minas Gerais are following suit. The economic and environmental benefits of this have been realized, not only from an emissions standpoint (GHGs, tropospheric ozone precursors, particulates, uPOPs), but also from a soil health perspective, and savings in erosion and need for chemical fertilizers and the like. Working with Brazilian Cerrado soil, Rachid et. al. (2013) have re-affirmed older informal wisdom and scientific research that sugar cane agriculture in and of itself greatly simplifies soil biome community structure. Sugar cane burning greatly exacerbates this. This team has been able to show that the microbial community selected for by green cane management seems to be more similar to the microbial community observed in areas under native vegetation compared than that selected by burnt cane, indicating a lower impact of green cane management on microbial bio-indicators. In other sugar producing countries like Barbados, sugar cane was never burnt to maintain higher yields of cane juice, and hence sugar, and also to ensure that the cane trash left behind protected the soil once the cane was removed.

Therefore partnerships with the Brazilian Sugarcane Industry Association (UNICA) and the Brazilian Trade and Investment Promotion Agency could help this project go further in eliminating the use of pre-harvest burning and generating multiple co-benefits from the land degradation, chemicals and climate aspect of things.

Under Project Component 6, GEF Supported Activities, there is mention to provide support to a laboratory to conduct UPOS analyses. It may be advisable to do a small survey of UPOS and mercury concentrations in key environmental media first so that priority compounds can be identified. Targeted capacity can then be developed to address those identified as priorities, preferably with the assistance of an experienced laboratory if needed.

Care should also be taken with the definition of UPOPs. Unintentionally produced compounds under the SC refer mainly to de novo formation of chemicals such as dioxins and PCBs (Annex C of the SC) during combustion. However, with WEEE (Project component 3), many intentionally produced POPs may be released such as brominated flame retardants and PFOS (which are mentioned), but by definition these are not considered as UPOPs. It may therefore be prudent to view POPs in a wider and situation-relevant context where POPs of all sources may have quite significant environmental and human health impacts.

Under A3 (Gender consideration), mention is made of human exposures to UPOS but not to mercury. STAP suggests that mercury be added as the impacts of mercury on women may be significant, even in relation to POPs. There may already be laboratories in Columbia that can do Hg analyses, but otherwise the many commercial labs that do POPs analyses (see A4 risk table) should also be able to accommodate Hg determinations. In general, it might be useful to consider training and capacity development holistically across the Project Components.

Finally it should be noted that there are other project experiences from which this project could benefit eg. SAICM-KeMI Health-care-Without-Harm Latin America work to remove chemicals like mercury from the health care sector, and other SAICM projects aimed at the elimination of mercury in health care sectors.

Citations:

Daniela de Azeredo França , Karla Maria Longo, Turibio Gomes Soares Neto , José Carlos Santos , Saulo R. Freitas , Bernardo F. T. Rudorff , Ely Vieira Cortez , Edson Anselmo and João Andrade Carvalho Jr. 2012. Pre-Harvest Sugarcane Burning: Determination of Emission Factors through Laboratory Measurements. Atmosphere 2012, 3, 164-180; doi:10.3390/atmos3010164 See <http://www.mdpi.com/2073-4433/3/1/164/pdf>

Rachid CTCC, Santos AL, Piccolo MC, Balieiro FC, Coutinho HLC, et al. (2013) Effect of Sugarcane Burning or Green Harvest Methods on the Brazilian Cerrado Soil Bacterial Community Structure. PLoS ONE 8(3): e59342. doi:10.1371/journal.pone59342 see <http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone59342>

<i>STAP advisory response</i>	<i>Brief explanation of advisory response and action proposed</i>
1. Consent	<p>STAP acknowledges that on scientific or technical grounds the concept has merit. However, STAP may state its views on the concept emphasizing any issues where the project could be improved.</p> <p>Follow up: The GEF Agency is invited to approach STAP for advice during the development of the project prior to submission of the final document for CEO endorsement.</p>
2. Minor revision required.	<p>STAP has identified specific scientific or technical challenges, omissions or opportunities that should be addressed by the project proponents during project development.</p> <p>Follow up: One or more options are open to STAP and the GEF Agency: (i) GEF Agency should discuss the issues with STAP to clarify them and possible solutions. (ii) In its request for CEO endorsement, the GEF Agency will report on actions taken in response to STAP's recommended actions.</p>
3. Major revision required	<p>STAP has identified significant scientific or technical challenges or omissions in the PIF and recommends significant improvements to project design.</p> <p>Follow-up: (i) The Agency should request that the project undergo a STAP review prior to CEO endorsement, at a point in time when the particular scientific or technical issue is sufficiently developed to be reviewed, or as agreed between the Agency and STAP. (ii) In its request for CEO endorsement, the Agency will report on actions taken in response to STAP concerns.</p>