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: October 08, 2011 Screener: Guadalupe Duron

Panel member validation by: Michael Anthony Stocking; Nijavalli H. Ravindranath

Consultant(s):

I. PIF Information *(Copied from the PIF)*
FULL SIZE PROJECT GEF TRUST FUND
GEF PROJECT ID: 4644
PROJECT DURATION : 4
COUNTRIES : Uganda
PROJECT TITLE: Addressing Barriers to the Adoption of Improved Charcoal Production Technologies and Sustainable Land Management practices through an integrated approach
GEF AGENCIES: UNDP
OTHER EXECUTING PARTNERS: Implementing partner: Ministry of Energy and Mineral Development (MEMD)
Other partners: Ministry of Water and Environment (MWE), National Agricultural Research Organisation (NARO), Uganda National Council of Science and Technology (UNCST)

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): **Minor revision required**

III. Further guidance from STAP

STAP acknowledges UNDP's proposal "Addressing barriers to the adoption of improved charcoal production technologies and Sustainable Land Management practices through an integrated approach" in Uganda. The burning of charcoal in Uganda and the demand for it from urban areas such as Kampala is a major threat to the delivery of GEBs in Central Africa. The problem statement is defined thoroughly, and captures the complexity of achieving sustainable charcoal production amidst growing livelihood needs and global environmental concerns. While drawing upon four focal areas in the GEF Strategy, the project is commendably focussed on the issues of charcoal production, which are so important to urban areas in this part of Africa. The project framework and baselines also are well-defined, and provide a good basis for developing the proposal. The global environmental benefits are detailed sufficiently for now (but will need to be substantially elaborated in the full proposal) and STAP looks forward to further specificity on indicators especially for sustainable land management. Below, STAP details its comments on how the proposal could be further strengthened.

1. Despite efforts to curb emissions and address unsustainable land use throughout the developing world, charcoal production continues to impact significantly the environment ("Review of Technologies for the Production and Use of Charcoal", D.Kammen and D. Lew, 2005). The factors driving this un-sustainable pattern are several, often intertwined, and complex as clearly defined in the proposal. For this reason, STAP strongly encourages UNDP to provide more details of the expected carbon balance of the charcoal cycle. Perhaps some of this information is in the proposal, but potentially could be captured better through an illustration.

2. Additionally, the proposal acknowledges that most of the charcoal users live in urban areas, while the producers are in rural areas. STAP recommends for UNDP to specify the distances between the charcoal production sites and the markets mostly located in the urban areas. It also highly encourages UNDP to include transportation in the analysis of the charcoal cycle, as well as train project recipients how to calculate for transportation in the carbon flow monitoring they will undertake.

3. The literature suggests the energy efficiency of the Casamance kiln is highly dependent on the skill of the individual operating the kiln, and that very good traditional kilns can compete with Casamance kilns ("Review of Technologies

for the Production and Use of Charcoal", D.Kammen and D. Lew, 2005). UNDP may wish to consider this point further as it develops further Component 2.

4. Even after improving efficiency of charcoal kilns, the energy balance is poor and the ultimate efficiency of conversion of wood to useful heat energy in a cooking device would still be low compared to most other cooking options. Thus the project could explore other renewable energy based technologies, as well as fossil fuel based efficient technologies for meeting the end-use needs â€“ for example, reduce greenhouse gas emissions from cooking and improve the quality of life of women.

5. The project expects to train community cooperatives in the use of the kilns. STAP would add that education also is important. Low technology adoption could be a result of lacking knowledge, or education, of the energy efficiency of the proposed technology. Therefore, UNDP should consider complementing the training with educational material on the Casamance kiln and the Adam retort and their energy efficiency characteristics.

6. The proposal notes several activities and interventions that seek to improve the efficiency of charcoal production systems. However, there is hardly any discussion on the end-uses of charcoal and production technologies for the efficient use of charcoal for cooking. It would be useful to elaborate further on this point during the project preparation.

7. There is a need to develop a baseline scenario of greenhouse gas emissions for charcoal production - current and projections into the future. Non-CO2 greenhouse gas emissions also are important from a charcoal production and end-use scenario. Similarly, there is a need for developing baseline rates of deforestation, degradation of forests and other lands.

8. The proposed fast-growing trees appear to be non-native species. Indeed, species such as A. mearnsii (or Black Wattle) have been noted as invasive weeds in the region. If this is true, STAP recommends including a risk assessment of invasive species, and/or identify the risk of invasive species and a mitigation strategy.

9. Component 3 intends to target sustainable land management mainly by managing sustainably the pilot woodlots. However, it is unclear how the woodlots, specifically the selection of trees identified in the proposal, will help curb the desertification and land degradation in the targeted region and contribute to the global environmental benefits defined in the proposal. Further clarification on this point is requested by STAP.

10. The proposal raises the potential climate risks and implication for carbon sequestration and production of biomass. A detailed assessment of the potential impacts of climate change using dynamic vegetation modeling may be necessary to assess the impacts and to develop adaptation practices since the project aims to cover vast area of over 50,000 ha.

11. Furthermore, STAP recommends including a mitigation measure to address climate change risks. Currently, a climate adaptation mitigation strategy is not detailed in the proposal.

12. Finally, STAP notes the use of improved kilns for charcoal production in Project 4639 Zambia - also proposed by UNDP - which is not acknowledged here. Please also refer to STAP's review of this project, as many of these will be equally valid for this project. It would be useful for the project proponents to consider testing basic assumptions around the expected use and uptake of this technology as suggested.

STAP advisory response	*Brief explanation of advisory response and action proposed*
1. Consent	STAP acknowledges that on scientific/technical grounds the concept has merit. However, STAP may state its views on the concept emphasising any issues that could be improved and the proponent is invited to approach STAP for advice at any time during the development of the project brief prior to submission for CEO endorsement.
2. Minor revision required.	STAP has identified specific scientific/technical suggestions or opportunities that should be discussed with the proponent as early as possible during development of the project brief. One or more options that remain open to STAP include: (i) Opening a dialogue between STAP and the proponent to clarify issues (ii) Setting a review point during early stage project development and agreeing terms of reference for an independent expert to be appointed to conduct this review 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.
3. Major	STAP proposes significant improvements or has concerns on the grounds of specified major

revision required	scientific/technical omissions in the concept. If STAP provides this advisory response, a full explanation would also be provided. Normally, a STAP approved review will be mandatory prior to submission of the project brief for CEO endorsement. 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.