

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: April 12, 2012

Screeener: Guadalupe Duron

Panel member validation by: Michael Anthony Stocking
Consultant(s):

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

FULL SIZE PROJECT **GEF TRUST FUND**

GEF PROJECT ID: 4633

PROJECT DURATION : 3

COUNTRIES : China

PROJECT TITLE: Shaanxi Weinan Luyang Integrated Saline and Alkaline Land Management

GEF AGENCIES: ADB

OTHER EXECUTING PARTNERS: Weinan City Government

GEF FOCAL AREA: Land Degradation

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 welcomes the proposal "Shaanxi Weinan Luyang Integrated Saline and Alkaline Land Management" by the Asian Development Bank. STAP supports the clear links to previous GEF investments (LADA, PRAIS) to identify, and build on, best practices on sustainable land management. STAP also welcomes the intention to employ global knowledge platforms such as WOCAT to identify suitable practices for rehabilitated sites, and to link project outputs to UNCCD-PRAIS national reporting. These initiatives will considerably enhance the impact of the PRC-GEF Land Degradation Partnership for Dryland Ecosystems and meet some of the suggestions discussed with ADB and Chinese partners during the recent GEF Learning Mission to China.

However, there are a number of scientific and technical areas in the proposal that would merit further consideration by the partners in this proposal. To strengthen the proposal further, STAP recommends addressing the points below during the proposal development. STAP also would be happy to discuss its suggestions further with the Asian Development Bank if it helps clarify the observations stated below.

1. Overall, the project needs to identify clearly and explicitly define the global environmental benefits that this investment will generate. This must include detail as to how the global environmental benefits will be measured and monitored. STAP suggests that the methods for tracking and monitoring impact be harmonized with other projects and that specific international advice be sought on methods, for example, to track change in total system carbon, land cover, agricultural productivity and ecosystem resilience. This information is missing in the proposal. Without it the project is, strictly speaking, ineligible for GEF finance.

2. The project title identifies both saline and alkaline conditions requiring land management. The two conditions are very different, requiring radically different approaches. A third condition is also likely to be found associated with wetlands and land drainage, namely acid-sulphate soils [NB. the existence of sulphates is very briefly mentioned in the proposal in Section B]. It could be argued that alkalinity " or sodicity " and acid-sulphate soils are by far the more challenging situations, although their spatial extents would be far more limited. STAP is concerned that most of the proposal appears to focus on salinity. Granted, this is the condition most frequently found, primarily because it is derived from poor land management. Sodidity and acid-sulphate conditions are largely natural. So, for example, the Component 1 Expected Outcome is only about salinity and the three expected outputs also only about salinity, notwithstanding that the component title includes both salinity and alkalinity. STAP urges the project proponents to identify clearly a differentiation between land management for salinity, for alkalinity (very occasionally both may co-exist) and for acid-sulphate. At the very least, there must be clear evidence that the proponents recognize the differences and would not, for example, put drainage ditches on sodic soils, which would be disastrous, and drain

wetlands containing sulphide minerals (such as iron pyrites) turning the locality toxic with sulphuric acid and rendering agricultural production impossible. Such mistakes have happened elsewhere, providing a salutary lesson which needs to be recognized and heeded.

3. From the above point, STAP considers that the problem statement and the baseline in Section B1. To understand further the complexities surrounding the drivers and implications of desertification (including loss of soil resources), a more detailed and differentiated description of these issues is recommended. For example, it would be useful to provide data on annual precipitation, changes in rainfall patterns, and further details about the degraded sodic area of interest to the project (for example - size of targeted area, and a description of the basic soil profiles). This information also would contribute to strengthening the project baseline, without which it will be impossible to track beneficial impact of the project.

4. STAP also has concerns over the lack of identification of simple economic and financial assessment tools, such as Cost-Benefit Analysis of individual practices and private economic rationality of land users joining the new land management schemes. 'Best practices' are unfortunately usually supported mainly by their biophysical performance, rather than their rationality in contributing to local livelihoods. The WOCAT database can assist with this analysis, but there should be explicit intention to include such analysis because of its importance in achieving acceptance by local land users.

5. Under component 1, it would be useful to describe on what basis the selection of the ten best practices will be made. For example, the proposal indicates that WOCAT and PRAIS will be used to identify the best practices. WOCAT, however, is a global database that receives examples of best practice; and PRAIS is a national reporting system that may well shortly encourage countries to report on their best practices to the UNCCD. Neither is a deriver of best practices, though both when fully operative may give suggestions as to what may be tried as a suitable land management practice. It would be useful to describe explicitly the factors influencing the selection process for best practices, such as less costly to adopt and maintain the practice. The project developers also may wish to consider Singh, K., Pandey, V. (2012) et al. Ecological restoration of degraded sodic lands through afforestation and cropping. ECOENG-2142. The study analyses the restoration of sodic soils using afforestation and cropping systems in semi-arid regions in northern India. Its results indicate that afforestation measures induced greater changes in soil properties compared to cropping systems. Thus, the study and its findings may be helpful in the design of this project.

6. Also under component 1, STAP recommends to support the expected outcomes with scientific literature and/or rigorous local unpublished evidence. For example, the following statement could be supported with the proper references "This, in turn, will maximize the impact of the investment component of the project and ensure that promotion of SL/WM on rehabilitated land will lead to increase in provision of ecosystem services thanks to improved vegetation cover, improved storage of carbon in soils and vegetation, and improved irrigation flows."

7. Under component 2, STAP urges project developers to specify further how the selection of best practices will be made, and to support the expected outcomes with proper references (scientific literature and/or rigorous unpublished evidenced). The latter also holds true for section B.3 especially regarding the statement "Improved arable land will increase the available income; and thus, improve the living standards of women..." The gender dimensions of the project are inadequately explored or recognized.

8. On component 3, STAP recommends to refer to its advisory document on "Payment for Environmental Services and the Global Environmental Facility". The document highlights a number of potential barriers to PES effectiveness that would be useful to consider in the project development. Furthermore, the document outlines how GEF projects can help build the evidence base for PES effectiveness in case the project developers wish to consider this further. The document can be downloaded at www.unep.org/stap

9. In its current form, it is unclear what contribution component 4 will make to project monitoring, given that the land degradation tracking tool includes a number of indicators for this purpose. STAP prefers to see project monitoring, especially the scientifically-based tracking of the impact of project investments, integrated with the substantive components of the project, rather than be separated as an isolated component. Monitoring is an on-going exercise of identifying what is working and correcting what is not. It would be useful if the project developer could distinguish the monitoring activity further from the land degradation tracking tool and justify why it should be a separate component.

10. The Risk Assessment at Section B.4 is limited and partial. There are, for example, risks concerning the magnitude of livelihood benefits over and above the costs associated with implementing best practices. The proposal also assumes that soil productivity and soil resilience will be achievable throughout the targeted area. However, STAP recommends including the risk of non-recovery.

<i>STAP advisory response</i>	<i>Brief explanation of advisory response and action proposed</i>
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.	<p>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:</p> <ul style="list-style-type: none"> (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 <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 revision required	<p>STAP proposes significant improvements or has concerns on the grounds of specified major 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.</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>