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 14, 2013   Screener: Guadalupe Duron

Panel member validation by: Brian Huntley; Annette Cowie
Consultant(s):

I. PIF Information *(Copied from the PIF)*
FULL SIZE PROJECT   GEF TRUST FUND
GEF PROJECT ID: 5327
PROJECT DURATION : 6
COUNTRIES : South Africa
PROJECT TITLE: Securing Multiple Ecosystems Benefit Through SLM in the Productive But Degraded Landscapes of South Africa
GEF AGENCIES: UNDP
OTHER EXECUTING PARTNERS: Department of Environmental Affairs (DEA), Council for Scientific and Industrial Research (CSIR); Agricultural Research Council â€" Institute for Soil, Climate and Water (ARC-ISCW); Department of Agriculture, Forestry and Fisheries (DAFF); Development Bank of South Africa (DBSA Drylands Fund); Endangered Wildlife Trust (EWT); University of KwaZulu Natal (UKZN); Rhodes University (RU)
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 this ambitious UNDP proposal on "Securing multiple ecosystems benefit through SLM in the productive but degraded landscapes of South Africa". The project will strive to strengthen knowledge and capacity on land management in three ecosystems in South Africa â€" the Eastern Cape, the Karoo, and the Olifants. The proposal provides a thorough context of the threats to sustainable land management and ecosystem resilience in each of the regions. It details the complex history of land use in South Africa and the need to redress past anomalies in access to, and use of rural lands. In this regard, STAP appreciates the various references used to characterize the threats, and the overall project description. Furthermore, STAP appreciates identifying the barriers (capacity, incentives, governance) that may hamper the sustainability of land management. It supports this initiative on the basis that strengthening knowledge and capacity of land users is an important driver of improving livelihoods while generating global environmental benefits from sustainable land management. However, STAP believes the proposal needs to be strengthened further in order for the activities to be firmly supported on a scientific/technical basis, and for the global environmental outcomes to be attainable.

The comments below are offered as suggestions to consider during the proposal development. It is clear that the teams to be involved in implementation are familiar with the literature and have extended experience in the SLM and related arenas â€" so the suggestions are made to ensure a stronger case for the full project brief.

1.   Overall, STAP recommends identifying clearly the global environmental benefits that this investment will generate. It also recommends including indicators to estimate and monitor the global environmental benefits. This information is provided briefly in the project framework (component 1), but not detailed sufficiently in other key sections of the proposal (e.g. incremental reasoning and global environmental benefits and the component section).

2.   STAP encourages the project developers to consider specifying further the following aspects in each target region â€" i) target populations; ii) their socio-economic characteristics; iii) the ecosystems they depend on; and, iv) how each component will contribute to improving ecosystem resilience and reducing vulnerability to climate risks and socio-economic impacts. Doing so will help strengthen the incremental reasoning and help define explicitly how each component will generate global environmental benefits.

3.   STAP suggests detailing further component 1 and component 2. Currently, these appear to be described broadly, particularly their sub-activities and their expected global environmental benefits. These are detailed to some degree in the project framework, but not in the main body of the proposal. For example, in component 1, it would be useful to describe further the soil and water conservation technologies (in addition to conservation tillage), and other practices that will be strengthened to improve capacities on ecosystem resilience. STAP also encourages the project developers to define further the rationale for selecting each technology based on the land users socioeconomic characteristics, their knowledge base of land management, and evidence that further justifies strengthening land management. In this regard, STAP recommends linking component 1 to outcomes from previous relevant initiatives, such as the Succulent Karoo Ecosystem Programme (SKEP) mentioned briefly on page 12.

4.   Furthermore, STAP recommends defining further the "geo-based climatic, agro-ecological and hydrological information system". It is unclear what this system will comprise (new model or integration of existing models? process-based or empirical?) and who the end users will be for this system (e.g. extensionists, agricultural and environmental ministries, land users), and the level of training required to apply the tools and methods. How will the level of training required influence the viability of the tools, and their purpose to address ecosystem resilience? Additionally, it would be useful to describe how the information system will complement the "capacity" outcome (component 1) focused on strengthening land management skills.

5.   The proposal indicates that climate risks and climate variability are influencing ecosystem resilience and livelihoods in the target areas. To strengthen further the links between climate, ecosystem resilience and livelihoods, STAP suggests providing climate variability data for the target regions (if possible) in the project description (section A.1). Two sources for this information could be the IPCC Data Distribution Centre, and the World Bank Climate Change Knowledge Portal. These sources also provide adaptation tools and socioeconomic baseline data that could further strengthen the project description and component 1. http://sedac.ipcc-data.org/ddc/baseline/index.html http://sdwebx.worldbank.org/climateportal/index.cfm

6.   STAP recommends defining as a risk relying uniquely on the information system as a knowledge source on rehabilitating degraded lands without complementing the tool with scientific evidence on the economic viability of restoring ecosystem functions. Restoration costs and benefits of restoring ecosystem functioning can vary across, and within, sites, and a geo-reference modeling system may not appropriately attribute these costs and benefits to land users. D.J. Crookes, et al. (2013) suggest a decision-making framework based on markets (including payment for environmental services) as a way of reducing risks and/or increasing rewards resulting from ecosystem restoration. (The paper focus in the Karoo region, among other regions.) The project developers may wish to use this source, among others, when developing the proposal. D.J. Crookes, et al. "System dynamic modeling to assess economic viability and risk trade-offs for ecological restoration in South Africa". Journal of Environmental Management, Volume 120, 15 May 2013, Pages 138-147.

7.   The proposal is based on the concept of "green economy". It would be useful to define further this term in the context of the project objective.

8.   A major component (component 2) focuses on development of a carbon accounting methodology for the "spekboom" shrublands, The objective is to devise a method, with low transaction costs, to encourage wider adoption. Though no detail of the proposed basis for the method is given in the project description, the need for remote-sensing based monitoring and verification protocol is mentioned elsewhere. While laudable, this will be extremely challenging. Currently remote sensing is used for baseline assessments (e.g. in Australia) to delineate forest and non-forest areas. Shrublands, however, are very difficult to discern. While airborne technology (esp LIDAR) may be effective in assessing C stock of forests such as uniform conifer plantations, costs are prohibitive. It is not currently possible to assess C stock changes even in such regular forests by satellite remote sensing. Successful application of remote sensing to assess C stock changes in shrublands with high spatial variability seems highly unlikely. Is there preliminary research that indicates that remote-sensing will be effective? Are researchers with expertise in remote-sensing of biomass involved in the project? Perhaps a combination of remote-sensing for the baseline assessment, and modeling for C stock change estimation, such as employed in Australia's carbon accounting system for national inventory and at project level (reforestation modeling tool http://ncat.climatechange.gov.au/cfirefor/) , could meet the needs for a low-transaction cost C estimation tool?

9.   The project has a six-year duration. While this is longer than most FSPs, it might still not be adequate to meet project goals. Achieving the output targets cited in section B 1 (1000 farmers adopting ecologically viable livestock farming; 25% of farmers adopting improved watershed management; conservation agriculture adopted by 10 000 households) are rather ambitious. The long history of failed â€˜stock reduction' policies and soil conservation programs in the region suggests that a more modest set of targets be considered. During the PPG it might be useful to review these targets and set more realistic indicators.

10. The project is well written, but Part ll. Section A.1 â€˜Context and Global Significance' is rather weak and contains inconsistencies in the use of terms such as biomes, ecoregions, communities. Other terms such as â€˜ecological reserve', â€˜climate-proofed', and â€˜resilience thinking' are not defined. Statements such as â€˜The xeric thickets and xeric shrublands have low to no levels of resilience and thus will not undergo Clementsian succession' are difficult to comprehend and seem out of place. STAP suggests that novel terminology should be defined in the full project brief.

11. The proposal identifies the many and significant barriers to achieving the stated outputs. While providing a comprehensive assessment of risks, it retains rather ambitious objectives that are unlikely to be met within the project timeframes. It refers to the very considerable baseline investments, which have very similar objectives to this proposal, but which have continued to fail in achieving their aims despite over 15 years of implementation. The expectation that the GEF investment will change the pace and direction of land rehabilitation and achieve zero net land degradation is perhaps over optimistic, as indicated above. STAP recommends the full project brief describe the coordination mechanisms to be used to ensure synergies and learning between the many existing land degradation projects in South Africa, and indicate how the GEF investment will add value to current initiatives.

12. The proposal identifies knowledge, capacity and governance as key challenges that it will address. It tends to disregard the very considerable knowledge base available in southern Africa on ecosystem structure, function and dynamics, agricultural practice in both commercial and communal areas, and on community based natural resource management.

13. During the development of the PPG, the basis of the UNCCD strategy should be interrogated within the context of available experience in the region. Further, the UNCCD model needs to be more clearly described in the PPG, especially as it relates to governance. No mention is made of coordination and integration of the numerous existing SLM related projects in South Africa, nor on how the critical institutional weaknesses will be addressed.

14. The proposal to establish new â€˜Soil Conservation Committees', although not described in any detail, is welcomed, as a sense of ownership and responsibility is of critical importance.

15. The PPG process should explicitly describe the mechanisms to engage with and sustain the active participation in decisions by local communities. Traditional subsistence farmers, with a high proportion of single women headed households, have important local knowledge to be contributed to the decision making process, and their direct contributions should be strongly supported. Mechanisms to achieve this should be described.

16. While the proposed â€˜capacity building' exercises led by the Rhodes University group will build on proven performance, it is not clear how institutional architecture and agricultural policy relating to incentives to implement soil conservation, rangeland rehabilitation, and stock reduction, will be implemented.

17. Capacity building for SLM is not a trivial activity, and given the failure of very large investments (several billion dollars) by the South African government in land restitution and small farmer development projects (which include capacity building investments) the task should not be approached with high expectations. This said, the approach proposed will introduce pilot models that might be of wider application. The cautious comments on the difficulties of establishing stewardship programs in communal lands are sensible.

18. The proposal to plant 100 000 trees as part of the rehabilitation process is welcomed, but it would be important in PPG to indicate which species will be used, and how their contribution to GHG and soil erosion reduction will be measured.

STAP advisory response	Brief explanation of advisory response and action proposed
1. Consent	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.

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. |
| 2. Minor revision required. | STAP has identified specific scientific or technical challenges, omissions or opportunities that should be addressed by the project proponents during project development.

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.
3.	**Major revision required**	STAP has identified significant scientific or technical challenges or omissions in the PIF and recommends significant improvements to project design. 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.