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 16, 2014 Screener: Guadalupe Duron

Panel member validation by: Annette Cowie
Consultant(s):

I. PIF Information *(Copied from the PIF)*
FULL SIZE PROJECT GEF TRUST FUND
GEF PROJECT ID: 5487
PROJECT DURATION : 4
COUNTRIES : Regional (Burkina Faso, Benin, Cote d'Ivoire, Cameroon, Guinea, Mali, Niger, Nigeria, Chad)
PROJECT TITLE: Integrated Development for Increased Rural Climate Resilience in the Niger Basin
GEF AGENCIES: AfDB
OTHER EXECUTING PARTNERS:
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): **Consent**

III. Further guidance from STAP

STAP welcomes the African Development Bank's (AfDB) proposal "Integrated Development for Increased Rural Climate Resilience in the Niger Basin". The project aims to strengthen water security, natural resource management and climate resilience in the Niger Basin. The Niger Basin Authority's Strategic Plan (SAP) serves as the basis for the proposal. In this regard, STAP appreciates the clear description of the problem, barriers, and the components, and their alignment to the SAP.

To strengthen the concept further, STAP recommends addressing the following recommendations during the development of the proposal:

1. STAP is pleased with the integrated nature of the project linking water, land and forest management to achieve water security and climate resilience in the targeted communities. The project has the ability to contribute to multiple global benefits through its integrated nature and focus on improved water management, sustainable agriculture, and sustainable forest management as a means to strengthen ecosystem resilience amidst climate variability in Sub-Saharan Africa. It also has the potential to contribute to sustainable development by improving food security and livelihoods in Sub-Saharan Africa â€“ a region dependent on rainfall agriculture and vulnerable to climate risks. Thus, there are tangible possibilities for the project to generate environmentally sustainable development.

In this regard, STAP recommends for the AfDB to consider sustainable agricultural intensification as an approach to addressing the barriers hampering the delivery of global environmental benefits and sustainable development in the Niger Basin (e.g. components 1 and 2). Sustainable agricultural intensification is defined as "agricultural activities which result in higher productivity while at the same time reducing the negative externalities on the environment and increasing the generation of other ecosystem services" â€“ including water flow (or quality). (Dile, Y. et al. 2013, complete reference provided below). The sustainability of water management and sustainable agricultural intensification are significantly intertwined, and share many of the same criteria such as: "1) improving water availability during droughts and dry periods; 2) improving agricultural yield for food security; 3) rehabilitating degraded lands to restore biodiversity: 4) minimize use of external inputs that has adverse effects on the environment; 5) sequestering carbon in terrestrial landscape to mitigate climate change"; 6) reduce downstream pollution of nutrients from upstream agricultural lands"; among other traits.

STAP recommends referring to the following paper (and its references) during the development of the proposal: Dile, Y. Karlberg, L., Temesgen, M., Rockstrom, J. 2013. The role of water harvesting to achieve sustainable agricultural intensification and resilience against water related shocks in sub-Saharan Africa. Agriculture, Ecosystems and Environment: 181: 69-79.

2. The proposal indicates it is responding to the SAP's request to "develop and implement measures for adapting production systems to climate variability and change (agro-forestry, land management and fisheries)". Thus, STAP recommends identifying biophysical indicators for component 1 and 2 to assess the impact of the intervention on water and soil conservation (or water and land management), and its effects on climate resilience of water resources. For component 4, indicators on fisheries will be useful. Identifying impact indicators, will assist the project monitor and track the global environmental benefits.

3. In component 4, STAP recommends identifying policies and institutional changes that inform and support adaptation planning in the fisheries communities. For example, developing alternative income generating activities may require policies that support its implementation in order to reduce the risk of an inadequate adaptation measure.

Furthermore, the AfDB may consider distinguishing between the fishing communities that are affected by the impacts of climate variability, and the fishing communities that will be less impacted, or may even benefit from climate change. As a result, this will assist the project identify policies that enhance adaptation and support opportunities brought by climate change. The following paper may be useful in developing component 4: Badjeck, M.C. Allison, E.H., Halls, A.S., Dulvy, N.K. 2010. Impacts of climate variability and change on fishery-based livelihoods. Marine Policy: 34: 375-383.

4. Given the integrated nature between water and land resources and the scale of the interventions (e.g. community, sub-basin and basin levels), STAP recommends for the project to contribute to the scientific-evidence of resilience in agricultural and fisheries sectors. In particular, the project can strengthen the ability to detect critical thresholds in a timely manner, while implementing positive feedback mechanisms between threshold states (e.g. for land and water management in rainfed agriculture, positive feedbacks include addressing biophysical processes, such as focusing on the amount of soil organic carbon which reinforces the process of rainfall infiltration and water holding capacity).

Y. Dile et al. (2013) and M.C. Badjeck et al. (2010) raise the need for empirical evidence to determine the thresholds between different states of social-ecological systems in water, agricultural, and fisheries sectors.

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.