

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 07, 2011

Screeener: Douglas Taylor

Panel member validation by: Sandra Diaz; Emmanuel Sanginga
Consultant(s):

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

FULL SIZE PROJECT **GEF TRUST FUND**

GEF PROJECT ID: 4464

PROJECT DURATION : 5

COUNTRIES : Nepal

PROJECT TITLE: Integrating Traditional Crop Genetic Diversity into Technology Using a BD Portfolio Approach to Buffer Against Unpredictable Environmental Change in the Nepal Himalayas

GEF AGENCIES: UNEP

OTHER EXECUTING PARTNERS: Nepal Agricultural Research Council, Local Initiatives for BD Research and Development (LI-BIRD);

BD International (Italy)

GEF FOCAL AREA: Biodiversity

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 recognizes the value of conservation of genetic diversity of traditional agricultural crops and their wild relatives, and accepts that the project aims to add value to existing projects in Nepal that have over at least a decade worked to conserve diversity through participatory crop varietal selection and participatory breeding programs targeting traditional landraces. STAP requests that minor revision of the concept be undertaken resulting in the full project brief adequately reflecting STAP's recommendations, which comprise:

1. The need for UNEP to quantify the baseline situation regarding status of the seven target crop species and status of areas that contain relevant wild crop relatives and to assess the expected change in status of each;
2. The need for UNEP to address the concern that the wild landscape will likely be put under greater pressure in pursuit of wild crop relatives, given the statement in the PIF that "This diversity has the potential to continue to evolve, as farmers access the wild landscape to use the reservoir of wild relatives for these crops in the region to increase intra-specific diversity in the production system and manage the traditional varieties currently within their system." (Section B, project Overview). In particular:
 - Given population increase, degradation of land due to climate change and increased land use pressures how can the project actively seek to conserve local wild crop relatives to insure against their loss or genetic erosion, for example is this based on a strategy of set aside of land rich in wild relatives? If so how will this be promoted?
 - what steps are or will be taken to reduce reverse hybridization of local wild relatives with crops thus potentially reducing the reservoir of wild type diversity?
 - Adequately reflect in the project risk table, the risk if any to wild crop relatives of project interventions.
3. Regarding Outcome 2.2, the project proposes certification as one tool, therefore STAP requests that the project should dedicate some of its monitoring resources to tracking the four main threats to effectiveness of certification programs: (i) weak standards; (ii) noncompliance; (iii) limited participation; and (iv) adverse self selection. The project should contain design elements that are explicitly chosen to increase the ease with which one can infer the program's impact and, if possible, the mechanisms through which impacts are realized. Please consult STAP's published advice to the GEF in this regard [see 1.].

4. STAP appreciates that Biodiversity International is a partner in the project which has previously noted [see 2.] that to be maintained by farmers, genetic resources must be:

- competitive with other options a farmer might have, and
- contribute to the security and possible increase in a farmer's income.

It is not clear what incentives are to be offered to farmers to maintain these genetic resources.

5. STAP notes that in the incremental reasoning (section B.2 of the PIF) UNEP cites locally-based participatory breeding programmes as one mainstreaming mechanism to strengthen uptake of local diversity and to reduce uptake of modern varieties. Yet Steele, et al, (2009) [see 3.] reported that in the Kaski district of Nepal that rice genetic diversity may be maintained even when landraces are displaced by modern varieties. In this case the modern varieties in question were developed through participatory breeding programmes. It was also reported that the partial replacement of landraces increased genetic diversity if the modern varieties were adopted on up to 65% of the area. STAP therefore recommends that UNEP critically address its assumptions concerning farmer preferences and genetic diversity trade-offs.

6. It is unrealistic to claim as an output under project component 1, that "Diverse sets of varieties are developed through breeding and technology adapted to buffer against unpredictable temperature and precipitation change". The project timescale will not accommodate this output, instead participatory selection would be feasible.

References:

[1] Environmental Certification and the Global Environment Facility, see <http://www.unep.org/stap/Portals/61/pubs/STAP%20Certification%20document%202010.pdf>

[2] Farmer selection, natural selection and crop genetic diversity: the need for a basic dataset - Devra Jarvis, Toby Hodgkin, Pablo Eyzaguirre, George Ayad, Bhuwon Sthapit and Luigi Guarino, In: Strengthening the Scientific Basis of in Situ Conservation of Agricultural Biodiversity On-farm. Options for Data Collecting and Analysis. 1997. Biodiversity International. http://www2.biodiversityinternational.org/publications/Web_version/256/, accessed April 7, 2011

[3] Has the introduction of modern rice varieties changed rice genetic diversity in a high-altitude region of Nepal? Steele, K.A., Gyawali, S., Joshi, K.D., Shrestha, P., Sthapit, B.R. and Witcombe, J.R. Field Crops Research Volume 113, Issue 1, 10 July 2009, Pages 24-30

<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.	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 revision required	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. 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.