

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 12, 2016
Screener: Virginia Gorsevski
Panel member validation by: Brian Child
Consultant(s):

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

FULL-SIZED PROJECT	GEF TRUST FUND
GEF PROJECT ID:	9449
PROJECT DURATION:	6
COUNTRIES:	Brazil
PROJECT TITLE:	Sustainable, Accessible and Innovative Use of Biodiversity Resources and Associated Traditional Knowledge in Promising Phytotherapeutic Value Chains in Brazil
GEF AGENCIES:	UNDP
OTHER EXECUTING PARTNERS:	Ministry of Environment
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 issues to be considered during project design

III. Further guidance from STAP

STAP feels that this project, as written, is logical but so generic that we are not confident that it incorporates a sufficiently empirical understanding of the issues, challenges and potentials to translate intention into the intended results. The PIF provides no baseline or scientific confidence with respect to what value chains will be developed, nor any pathway for how exactly these value chains will be developed into on-the-ground results, in terms of the geographic location of these species and how their use can be leveraged to improve landscape conservation.

As currently envisaged, the project will map and strengthen value chains, develop "ABS compliant community-science-industry partnerships" (?), and improve the national health policy framework. Scoping potential value chains, developing new products, linking this to communities and better land management by communities, and strengthening the enabling environment is quite possibly a 15+ year process that will only be successful if the project combines vision, champions at several levels (in research institutions, community support, and entrepreneurial product development), realistic products, etc.

There is little evidence that the rather linear and administrative approach outlined in this project information form contains these operational ingredients or is realistic. It is perhaps overly-ambitious, lacks operational clarity and STAP believes that there is a high likelihood that the project is unlikely to deliver the proposed GEBs and project outcomes. Value chain development will require a much longer term programmatic approach that involves (1) experimentation with value chain development to better understand the operational issues (2) scoping and broadening this experience and (3) developing the enabling environment. Realistically, this project could perhaps focus on one of these, while providing a baseline to develop the other aspects in follow on initiatives.

The project is largely a scoping exercise, and lacks specific scientific or operational knowledge of which plants and plant value-chains might be developed and how this will be translated into the 3 million hectares of better managed production landscape. This needs to be rectified during the PPG stage which must:

1. Identify potential plant value chains using the scientific literature and in discourse with research institutions and the private sector
2. Provide specific evidence and describe the pathways by which product development will occur, and having done this, also describe pathways by which these products will provide local added value to communities, and how exactly this will translate into improved landscape management.

The PPG also needs to incorporate a much more technical and realistic understanding of plant value chains and the process of product development. Product development is a complex, challenging and highly entrepreneurial activity, as is the development of value chains.

Several key ingredients appear to be missing from the Project Summary or theory of change:

3. The PPG absolutely needs to identify which value chains can be developed and their anticipated impacts on communities and habitat conservation.
4. To increase the probability of innovation and transformative learning, the PIF/PPG should seriously consider a long-hook, short-hook approach to inject experiential (adaptive) learning into the project. To achieve this, it needs a much stronger emphasis on implementing site-based pilots as the mechanism for testing and adapting methods for developing value chains (output 1.2), partnerships (component 2), and identifying legislative constraints (component 3).
5. Furthermore, it would seem that there is a need to facilitate a community of practice to foster the aims of the project, but this is not mentioned.

There are high risks involved in product development, and a five-year time frame for achieving this is exceedingly optimistic especially in complex circumstances that combine product development with community involvement and landscape sustainability. These risks/assumptions need to be considered much more fully at PPG level and incorporated into project design; if the risks are as low as indicated, why have value chains not already been developed? Key risks/assumptions that need to be incorporated include:

1. Who will lead and champion this process of value chain development? This is a killer assumption, because in the absence of leadership, such a challenging project is a non-starter. As written, The PIF does not identify a credible operational champion for this project, without which it is unlikely to succeed.
2. That value chains are feasible and not imaginary.

â€f

The primary benefit to the global environment is the improved management of biodiverse landscapes (30,000 km²) through sustainable use of resources, which will presumably lead to greater protection of biodiversity in selected areas. At a general level, the project components do support the project objective.

Component 1 seeks to strengthen value chains in indigenous local communities (ILCs) resulting in the sustainable use of medicinal plant species.

Component 2 aims to accelerate bioprospecting and innovation through increased public and private R&D and investment into products.

Component 3 seeks to mainstream ABS compliant frameworks into the national health system whereby the use of phytotherapeutic products are more widespread in Brazil.

While each of these components is important, the uncertainty, complexity and long gap between identification of a medicinal plant and the time it takes to go to market (it takes an average of 10 years for a drug to reach the market in the US with an estimated average cost of \$1.3 billion) it seems unlikely that financial benefits in the form of royalties for ILCs will be achieved in the short-term. However, if benefits arising from capacity building, technology transfer and financial support for research are achieved, it is possible that the project will still be effective in its conservation goals (Kursar, 2011).

As currently envisaged, STAP is not confident that the outputs are sufficiently operational to result in the desired outcomes. There is a surprising lack of scientific analysis of the potential of Brazilian medicinal plant

species incorporated into this PIF. (A short search of the literature, for instance, revealed books such as Smith et al. (2007) Amazon River Fruits: Flavors for Conservation which states "The western Amazon may well be the single richest edible fruit region in the world, and most of this flavorful biodiversity is found in wetlands. Some of wetland fruits are already being harvested on a large scale and they are important to local economies, while others are being experimented with for commercial production.")

The scientific literature should have been better assessed at concept stage given how critical this assumption is to the success of the project, and at the very least needs to be conducted early in the PPG to determine if the project is indeed feasible.

Similarly, previous experience in developing these value chains is not incorporated into the PIF.

Output 1.2 is operationally unconvincing, and its claim towards a great sustainability "leap" is aspirational with no convincing factual base. As noted, this output could be much stronger if stated with the positive intention of developing three to four pilot sites and value chains and could then be combined with output 1.3. However, it is highly unlikely that the need for output 1.3 will arise within the project time frame if the state of value chain development is really as low as suggested in the PIF. Furthermore, there is simply no basis for linking the current level of outputs to the target of sustaining 3 million hectares of habitat.

Outputs 2.1 and 2.2 while logical at a very generic level, lack the specificity to convince STAP that the project will or can be operationalized. How, for instance, and ABS community-science-industry partnerships going to be negotiated, and who has the experience and drive to do this?

Likewise Outputs 3.1 and 3.2 talk generally about ABS policy, especially in the health sector, without much specificity or recognition that a five year project is an awfully short time when it comes to policy frameworks and mainstreaming. Again, operational clarity and mechanisms are not clear. In particular, this and the other outputs might be well served by developing a community-of-practice and champions to drive the process, but the presence of this is unconvincing.

Another output that seems to be missing (perhaps also to be covered during PPG phase) is the spatial analysis needed to determine the optimal locations for project sites. Paragraph 10 discusses the importance of focusing efforts near areas of deforestation by looking at drivers such as plot size, plot access to roads, population density, etc. as well as other factors such as credit and land security. Given the large area and the need to focus on areas with high potential for success, it is important that this initial step be done as accurately as possible. There are many GIS-based methods for multi-criteria suitability analysis that can be used as guides. Will the project have access to data and experts necessary for this analysis?

In terms of socio-economic issues, the project discusses the problems facing the ILCs and the fact that they live in poverty, in isolated areas, with limited economic opportunities and insecure land tenure and a recognition that contextual specifics pertaining to each community interaction with their ecosystem is key (page 7). Presumably this analysis will be included under Component 1 as part of the value chain mapping, though not explicitly listed as an output.

The knowledge management section of the project states that "all data products will be made public in user-friendly forms?" It does not mention stakeholder platforms, communities of practice, how communities will work with universities, and the practicalities of such interactions.

Finally, there is no mention previous experience using this type of value chain model in Brazil or other countries, not have lessons from anywhere else been incorporated into the PIF. It is almost essential that the PIF/PPG review similar processes elsewhere, their lessons and outcomes to incorporate important lessons that could be applied to Brazil to maximize chance of success.

Atanasov, A.G., B. Waltenberger, E. Pferschy-Wenzig, T. Linder, C. Wawrosch, P. Uhrin, V. Temml, L. Wang, S. Schwaiger, E. H. Heiss, J. M. Rollinger, D. Schuster, J. M. Breuss, V. Bochkov, M. Mihovilovic, B. Kopp, R. Bauer, V. M. Dirsc, and H. Stuppner (2015). Discover and resupply of pharmacologically active plant-derived natural products: A review. *Biotechnology Advances* 33: 1582 – 1614.

Kursar, T.A. What are the Implications of the Nagoya Protocol for Research on Biodiversity? *BioScience* 61(4): 256 – 257.

Skiryicz, A., S. Kierszniowska, M. Meret, L. Willmitzer, and G. Tzotzos (2016). Medicinal bioprospecting of the Amazon Rainforest: A Modern Eldorado? *Trends in Biotechnology* 34(10): 781 – 790.

<i>STAP advisory response</i>	<i>Brief explanation of advisory response and action proposed</i>
1. Concur	In cases where STAP is satisfied with the scientific and technical quality of the proposal, a simple “Concur” response will be provided; the STAP may flag specific issues that should be pursued rigorously as the proposal is developed into a full project document. At any time during the development of the project, the proponent is invited to approach STAP to consult on the design prior to submission for CEO endorsement.
2. Minor issues to be considered during project design	<p>STAP has identified specific scientific /technical suggestions or opportunities that should be discussed with the project proponent as early as possible during development of the project brief. The proponent may wish to:</p> <p>(i) Open a dialogue with STAP regarding the technical and/or scientific issues raised. (ii) Set a review point at an early stage during project development, and possibly agreeing to terms of reference for an independent expert to be appointed to conduct this review.</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>
3. Major issues to be considered during project design	<p>STAP proposes significant improvements or has concerns on the grounds of specified major scientific/technical methodological issues, barriers, or omissions in the project concept. If STAP provides this advisory response, a full explanation would also be provided. The proponent is strongly encouraged to:</p> <p>(i) Open a dialogue with STAP regarding the technical and/or scientific issues raised; (ii) Set a review point at an early stage during project development including an independent expert as required.</p> <p>The GEF Secretariat may, based on this screening outcome, delay the proposal and refer the proposal back to the proponents with STAP’s concerns.</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>