



**GREEN  
CLIMATE  
FUND**

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# Consideration of funding proposals – Addendum XV

## Independent Technical Advisory Panel's assessment

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### **Summary**

This addendum contains the independent Technical Advisory Panel's assessments of funding proposals (FP018-FP027) submitted for the Board's consideration at its fourteenth meeting.

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## Independent Technical Advisory Panel's assessment of FP 018

Proposal Name:	Scaling-up of glacial lake outburst flood risk reduction in northern Pakistan
Accredited Entity:	United Nations Development Program (UNDP)
Project/Programme Size	Small

### I. Assessment of performance against investment criteria

#### 1.1 Impact potential

*Scale: N/A*

1. Pakistan is ranked third in the 2014 Global Climate Risk Index, with over USD 2.4 billion (purchasing power parity) in losses in the period 1993–2012 due to climate change, with the majority of losses due to flooding.
2. Increased glacial lake outburst flood (GLOF) risks associated with glacier melting are a consequence of climate change in the Himalayas, putting communities at risk. In the last 10 years, GLOF events have caused the loss of 23 lives, as well as severe damage to houses (over 850), roads, bridges, agricultural land (57,000 ha) and livestock. Recovering from GLOF is costly, as shown by the event in Chitral in 2015, with an estimated rehabilitation cost of USD 100 million.
3. The proposal aims at reducing the vulnerability of close to 700,000 people, which is the total population living in the districts affected by GLOF risks. According to calculations in the feasibility study by the United Nations Development Programme (UNDP), assuming 50 per cent efficacy of the early warning systems and flood protection works close to 100 lives are expected to be saved in 25 years, and over USD 1 million of damage to housing assets are expected to be avoided yearly. The expansion of improved flood warning systems and the introduction of infrastructure improvements clearly provide climate change adaptation and risk mitigation benefits.
4. Disaster risk management revolving funds, supported through component 2.3, will support disaster risk reduction from GLOF events through preparedness activities; however, these revolving funds will also be employed for disaster response purposes, in which case, they might not contribute to climate adaptive capacity or reduce the underlying GLOF risks.
5. The project plans to build on or coordinate with other projects, such as the Water and Sanitation Extension Programme (WASEP), a five-year project with USD 10 million funding from KfW. This KfW project was meant to have closed in December 2015. Since the mechanisms through which the UNDP GLOF project would build on or coordinate with WASEP are not clearly stated in the proposal, the independent Technical Advisory Panel (iTAP) questioned the project proponent on the subject, to which the proponent responded that “WASEP has been a flagship programme for providing water and sanitation facilities in Northern Areas of Pakistan where GLOF-II project is proposed to be implemented. Although GLOF-II project is not directly related to the activities and interventions of the WASEP programme but the installations and water purification systems established by WASEP programme has the possibility of being affected by GLOF events. The protective construction work carried out the GLOF – II project will indirectly support the filtration plants installed by WASEP and the pipeline system which carries water to the doorstep of the community members. Therefore, these two interventions have close synergies with each other. Availability of potable water is significantly important for high mountain communities because it is not available readily and it is susceptible to the catastrophe

caused by GLOF events. Therefore, wherever possible, project will build synergies with the WASEP programme not only in order to improve resilience but also to provide safe drinking water to the communities.” This response is satisfactory to iTAP.

6. This project is based on lessons learned from a similar project run as a pilot in two districts (the present project will extend it to 12 districts). The pilot project went through an independent evaluation upon its conclusion. The results of that evaluation indicated that the pilot project met its objectives (although it has not been subject so far to a GLOF event) and recommended further actions, which have been included in the present proposal. Therefore, it is expected that if the implementation takes place as proposed, the impact potential of the project will be high.

7. iTAP asked the project proponents why hydropower was not included as part of this climate change project. The response from the proponents was that “hydropower is one of the key components of water projects in high mountain regions but it was not included in the current project design because firstly, the main focus of the project was on addressing GLOF risks. Secondly, it was not a part of the previous pilot phase of the GLOF – II project. UNDP is also working on initiating a large size renewable energy project with a countrywide approach. The micro-hydro component of that project in the high mountain areas has the potential to synergize with the GLOF-II project that will be formally discussed the inception of the GLOF-II project.” The response was satisfactory to iTAP members.

## 1.2 Paradigm shift potential

*Scale: N/A*

8. In the past, organizations in Pakistan (government, private sector, charities and international donors) investing in disaster management have mainly invested in disaster recovery, rather than preparedness. This GLOF project, by enhancing the adaptation of these vulnerable populations, represents a transformational approach. Devoting resources to address GLOF risks promoting sustainable development for communities in rural areas sends a strong signal that integrating adaptation into planning tools and structures is paramount to avoid loss of human life and livelihood assets.

9. The intervention covers the whole of Pakistan’s glacier lake areas, but can be replicated in similar areas of the Himalayas, Hindu-Kush, Karakoram and Tien Shan, which contain large populations at risk. Although global estimates are not available, separate studies have identified over 4.7 million people moderately at risk from three lakes in Nepal. Risks along the Andes in South America are somewhat different. Yet some of the lessons learned and the technology approaches used in this GLOF project may be applicable in South America as well. When implemented in poor areas, replication is likely to be reliant on additional grant-based financing from climate finance institutions (as it is in the present GLOF project).

### 1.2.1 Innovation

10. In terms of financial strategy, the project does not present a high degree of innovation. Yet the combination of top-down regulatory support with bottom-up community risk reduction and preparedness into a project at scale, combined with technologies drawn from lessons learned in a recent pilot project on adaptation to GLOF (GLOF I), which went through an independent evaluation in 2015, and best practices identified in a 2014 analysis of GLOF risk management strategies in the wider region, represent a considerable degree of innovation.

### 1.2.2 Sustainability, creation of enabling environment and regulatory framework

11. Component 1 addresses effective risk planning, capacity-building of the subnational institutions and coordination with the national level frameworks to develop and implement local adaptation plans. The combination of top-down planning and on-the-ground interventions

is designed with a view to sustaining results – for example, natural resource management plans reinforce the reforestation of slopes by regulating deforestation pressures.

12. Based on experiences drawn from the pilot project recently completed in two neighbouring districts, provisions have been incorporated into the present project to ensure continued functionality of the early warning systems (EWS) and effectiveness of the flood protection works. Operations and maintenance (O&M) of the EWS infrastructure will be the responsibility of the Pakistan Meteorological Department, which will incorporate all EWS-related costs (maintenance of EWS, as well as gathering, analysis and dissemination of information) in its general operation budget. When iTAP asked about the issue of long-term operation and management sustainability, the project proponents indicated that “Pakistan Meteorological Department (PMD) has provided a letter of support”, confirming their role in the “maintenance of early warning system equipment installed... In addition to that Government of Gilgit-Baltistan has also provided a letter of support pledging for maintenance. At the same time, the project teams will work with the government institutions during the project period and sensitize them for incorporating sustainability cost in their Annual Development Plans.” This approach is satisfactory to iTAP.

13. As for the small-scale infrastructures under output 2.3, maintenance costs will be included as part of the federally administered territory of GB and KP programming budgets. During the lifetime of the project, provision for advocacy along with systematic monitoring and evaluation will be put in place to build capacities of government counterparts and incorporate the O&M costs into the regular budgets of the provincial governments and relevant departments. O&M tasks will be delegated to local support organizations (LSOs), which in Pakistan manage community funds that are used for the maintenance of communal services. This will enable O&M activities to be carried out in locations that are remote or difficult to access. Agreements will be signed with each local entity defining their responsibilities on operations and maintenance.

### 1.2.3 Knowledge and learning

14. Knowledge at the community level is a key factor in the effectiveness of the response to a GLOF event. The project will provide training workshops for watch groups at the valley level to ensure that EWS procedures are internalized and communities react appropriately to GLOF alerts.

15. The proposal includes measures to disseminate lessons learned locally, through booklets, leaflets and videos (subcomponent 1.2) and identifies several channels for the dissemination of results and identification of lessons learned. Dissemination will take place both within and outside GB and KP through a number of existing information-sharing networks and forums, including the Ministry of Climate Change web page, benefiting technical officers in relevant ministries. LSOs and other community platforms will play a key role in the identification and dissemination of lessons learned and capturing and sharing this knowledge among stakeholders (community-based organizations, non-governmental organizations (NGOs), community members and leaders, and civil authorities).

## 1.3 Sustainable development potential

*Scale: N/A*

16. The project is expected to provide environmental benefits as a result of the ecosystem-based interventions in slopes and flood plains, which will restore the natural biodiversity of the region. The project aims to reinforce these benefits by coordinating with other initiatives (e.g. the Mountains and Markets project) focusing on alternative livelihoods and sustainable harvest of non-timber forest products (e.g. medicinal plants) to tie ecosystem conservation to income generation.

17. The project has relevant economic benefits in terms of avoided damage to infrastructure and increased incomes. The project is envisaged to generate substantial local demand for labour (and close to 4,000 short-term jobs) for the civil works, equipment installation, surveyors, etc. It is also expected to create almost 400 long-term jobs, including for meteorologists, hydrologists, flood and river management specialists, and climate and disaster risk reduction planning specialists and practitioners. Indirectly, the project can create jobs by stimulating the growth of microcredit lenders and insurance companies, which will benefit from capacity-building and new opportunities resulting from the project (e.g. index-based insurance payouts based on discharge or rainfall).

#### 1.4 Needs of the recipient

*Scale: N/A*

18. Pakistan is seriously threatened by melting glaciers (which support 90 per cent of Pakistan's agriculture sector and almost 30 per cent of its power sector). Based on a National Economic, Environment and Development Study of the United Nations Framework Convention on Climate Change, the total costs of adaptation in Pakistan are currently estimated at around USD 6.5 billion per year (2015) but expected to increase to USD 26.4 billion by 2050 under a 'business as usual' scenario.

19. The beneficiary regions contain 99 per cent of the glacier area in Pakistan and are particularly vulnerable to GLOF. The target population has considerable economic and financial needs. Livelihoods are predominantly dependent on agriculture, with average annual household incomes in the communities being estimated at USD 1,126 per year, roughly 30 per cent of the national average. Poverty rates are estimated at 38.8 per cent, compared with 27.8 per cent in the country as a whole. According to UNDP, the provincial governments have a very limited resource base and are largely dependent on federal and external financing to implement their considerable mandate on climate change.

#### 1.5 Country ownership

*Scale: N/A*

20. The national designated authority has been actively involved in the design phase, facilitating the consultation process, as well as communicating with the accredited entity and the Green Climate Fund throughout the proposal review process.

21. However, the lack of co-financing from the Government of Pakistan does not seem to demonstrate a strong level of interest and ownership of the project and the results.

##### 1.5.1 Alignment with country strategies

22. The project is aligned with Pakistan's National Climate Change Policy, the objectives of which are to "ensure that climate change is mainstreamed in the economically and socially vulnerable sectors of the economy" and to "steer Pakistan towards climate resilient development". The project directly responds to one of the policy's recommendations, setting up appropriate mechanisms to monitor the development of glacial lakes and develop evacuation strategies in the case of GLOF events. The project also contributes to the goals set by the Sendai Framework for Disaster Risk Reduction 2015–2030.

23. The feasibility report (pp. 44–45) indicates that, "since the agriculture sector is heavily dependent on the water sector, a number of adaptation measures have been identified in the National Climate Change Policy of Pakistan: 1. Improve and promote water storage capacity...; 2. Ensure water conservation...; 3. Integrated water management...; 4. Ensure water recycling...; ... 10. Promote integrated watershed management...". With respect to these aspects of the National Climate Change Policy of Pakistan, iTAP asked project proponents to indicate how these adaptation measures were included in the proposed project. The response indicated that "The

project proposal refers to water storage indirectly in terms of ponds and small scale water storage facilities along with other protection structure like gabion walls etc. ... Given the scale and magnitude of the problem of water storage (across the whole of Pakistan), it requires large-scale financial resources for construction of major water storage facilities (dams, etc.) to effectively deal with the problem. .... Water tanks will be constructed at various levels and the water will be used at lower elevation through gravity flow through the pipes... In addition to increasing the water efficiency in the area the rehabilitated irrigation systems will reduce GLOF risks by releasing the water pressure on the glacier lake banks. GCF resources will be used to strengthen the capabilities of local level institutions (Disaster Risk Management, Agriculture, Livestock and Water sector in the Departments of GB and KP and federal level institutions (Ministry of Kashmir Affairs, Ministry of Environment and National Disaster Management Authority) to incorporate climate change adaptation considerations into development plans in GB and KP...". The members of iTAP were satisfied by the answer.

### 1.5.2 Participatory process

24. The participatory process has involved consultations with government ministries and departments, NGOs, civil society, private sector and development partners. All stakeholders were consulted individually and collectively, and provided inputs on the needs and ideas on how the needs could be addressed. The proposal also benefits from the inputs of stakeholders that participated in the pilot phase, whose feedback was captured in its mid-term review.

### 1.5.3 Capacity of executing entity to deliver

25. The Ministry of Climate Change appears to have sufficient capacity to execute projects of this scope and scale, having worked in multiple projects in coordination with United Nations agencies and different sectoral departments. UNDP has worked with the Ministry of Climate Change in multiple successful interventions covering similar activities to those proposed in the project, including the pilot phase financed by the Adaptation Fund.

## 1.6 Efficiency and effectiveness

*Scale: N/A*

### 1.6.1 Cost effectiveness

26. The project aims to reduce damage to assets by less than the cost of the project (in present value terms, roughly one third to two thirds of the project cost in 25 years, assuming 50 per cent and 100 per cent effectiveness of the flood protection infrastructure, respectively) but is also expected to save close to 100 lives. Component costs are calculated based on the costs of the UNDP pilot project.

27. Project management costs are high, totalling USD 5.1 million, of which USD 4.1 million covers the salaries of roughly 60 staff in the Project Management Unit. The high number of staff is due to the structure at the district level, which includes a Field Manager, Financial and Administrative Assistant, Office Assistant and Driver in each of the 12 districts. While the remoteness and ruggedness of the terrain seem to justify the need for this district-level structure, in the opinion of the iTAP some optimization of resources would be possible.

### 1.6.2 Financial viability and sustainability

28. The project has a positive economic net present value, with an estimated economic internal rate of return of 15 per cent<sup>1</sup> but project activities do not create any source of revenue. Sustainability of the project's outcomes will largely rely on financing from the local government channelled through LSOs..
29. O&M costs are quite high (totalling close to USD 0.5 million a year). The proposal includes a plan to cover the costs in each category through budgets of the respective responsible departments. EWS costs would be integrated into the Pakistan Meteorological Department's budget, and all other O&M costs would be integrated into the provincial governments' budgets.
30. In respond to iTAP questions on leverage finance, the project proponents responded that "UNDP will be contributing to the project firstly in the form of technical assistance and secondly parallel co-financing through other on-going initiatives. As mentioned earlier, a large Renewable Energy programme will be implemented with the help of bilateral funding covering parts of GB and KPK. The activities of this project will be complementing the GLOF-II activities. UNDP will also be working on improving the management of Karakoram National Park with the aim of establishing a model management system for the ecosystem of Northern Pakistan. The activities of this project will also synergize with that of GLOF – II. UNDP will provide parallel co-financing of about USD 4 million through its on-going/upcoming programmes."
31. The commitment from the provincial governments is at this point only informal, which constitutes a risk. However, UNDP will provide advocacy and systematic monitoring to ensure that the costs are included in the budgets. It is recommended that the obtention of commitment letters from the relevant government agencies be included in the conditions for disbursement at the appropriate stage of the project.

## II. Overall remarks

32. Based on the findings from this assessment, iTAP recommends that the Board approve this project, conditional on the project proponents:
- (a) Arranging insurance of the equipment so that maintenance costs beyond the project lifetime could be arranged, making EWS sustainable.
  - (b) Developing a clearer implementation plan for drinking water provision immediately after GLOF events. <sup>2</sup>
  - (c) Maintaining and (if necessary) expanding the Project Management Unit team from the first pilot, so as to take advantage of their knowledge and speed up the initial stages of implementation.
  - (d) Ensuring constant contact with community-based GLOF risk management projects by deploying experienced site managers and support staff on the ground for long periods of time.

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<sup>1</sup> Based on a statistical value of lives of USD 753,880. This is derived from the United States Environmental Protection Agency, adjusted by the gross domestic product ratio between the United States and Pakistan. However, this value appears to be too high.

<sup>2</sup> This may not be considered an adaptation measure. Yet experience shows that in the aftermath of this type of natural disaster, lack of potable water may cause more damage to the livelihood of the population than the event itself. Therefore, preparing alternative drinking water solutions in the case of a GLOF enhances the sustainability of the project by protecting the health and well-being of the population that operates and maintains the system (and that the project aims at protecting).

- (e) Producing periodical documentation on lessons learned on multiple aspects of the implementation (social, environmental, technical, science, etc.), so that programme replication is carried out adequately.
33. ITAP recommends that project implementers take advantage of project-developed organizations on the site to expand to other activities in the near future, for example, water and sanitation, health education, community-based first aid, etc.

## Independent Technical Advisory Panel's assessment of FP 019

Proposal Name:	Priming financial and land use planning instruments to reduce emissions from deforestation – Ecuador
Accredited Entity:	United Nations Development Programme (UNDP)
Project/Programme Size	Medium

### I. Assessment of performance against investment criteria

#### 1.1 Impact potential

*Scale: medium*

1. Ecuador, one of the most biodiverse countries in the world, is suffering from elevated rates of deforestation. The country has committed to achieve zero net deforestation by 2020. To achieve this goal, Ecuador is finalizing its reduced emissions from deforestation and forest degradation (REDD+) readiness process, including an action plan that was submitted to the United Nations Framework Convention on Climate Change in 2015. Ecuador's REDD+ action plan presents policies and measures prioritized to address the drivers of deforestation, including five REDD+ activities.

2. In this context, the objective of the United Nations Development Programme/Green Climate Fund (GCF) proposed project is to address barriers in order to unlock finance for forest and land-use mitigation, contributing to the implementation of the Ecuadorian REDD+ programme action plan. The project involves 38 cantons in 7 provinces, covering 20 per cent of the total areas prioritized in the action plan, and 12.1 percent of the total financing needs to implement the action plan.

3. It aims to reduce 3 million tonnes of carbon dioxide equivalent (Mt CO<sub>2</sub> eq) annually, and 15 Mt CO<sub>2</sub> eq throughout the project lifetime. The expected emission reduction accounts for around 7 per cent of Ecuador's forest reference emission level (FREL) (43 Mt CO<sub>2</sub> eq per year). However, these estimates are associated with the REDD+ programme, in a basic proportional equation based on the FREL, and not necessarily with the proposed GCF project.

4. The project needs further analysis on the concrete mitigation and adaptation impacts of the project interventions as it is very difficult to assess the potential impacts of the many diverse activities involved in the programme, without having baseline information and projections in the short, medium and long term.

5. The project estimates 60,000 direct beneficiaries across 300,000 hectares (ha) of grasslands. Again, this is a very rough estimate, as the project has insufficient information on baseline indicators of the different components.

#### 1.2 Paradigm shift potential

*Scale: medium*

6. The project is structured in four components: (a) investment in enabling policies to reduce the drivers of deforestation and its associated emissions; (b) financial and economic incentives for the transition to sustainable production systems in non-forest areas; (c) financial and non-financial mechanisms for restoration, conservation and connectivity; and (d) implementation of REDD+ systems.

7. The first component involves revising the land-use plans of 38 cantons, including climate change dimensions, as well as revising life plans of indigenous territories. This

intervention involves inter-institutional coordination and developing a forest traceability process.

8. The second component, on economic and financial incentives, involves investment grants to support the transition to more sustainable agroforestry and silvopastoral systems. The proposal involves the provision of resources to examine tax incentives, credit lines and guarantee funds. It also involves promoting certified deforestation-free products in all public procurement processes.

9. The third component involves expanding the Socio Bosque Programme, which provides financial incentives to individual and community landowners who voluntarily commit to conserve native forests for a 20-year period. It will also support three water funds and their payment for a water services scheme.

10. The fourth component will support the operationalization of the information system and the financial architecture of the REDD+ action plan.

11. The UNDP/GCF proposal project builds on existing projects, including the Socio Bosque Programme, the water funds, the ATPA (Agenda for Productive Transformation of the Amazon Region) project of the Ministry of Agriculture, the United Nations Programme on Reducing Emissions from Deforestation and Forest Degradation Programme, the Global Environment Facility Amazonia and the REM (REDD Early Movers) project. The innovation relies on combining several mechanisms to avoid deforestation. However, most of the activities, aside from devoting resources to subsidy payments, are related to studies that will eventually lead to concrete financeable programmes that in the end will need more resources.

12. There are some elements of innovation, for example in promoting certified deforestation-free products, but only if they end up in a concrete private and public procurement policy.

13. The scalability of the proposal is difficult to assess, as the GCF resources will be used to scale up other existing projects such as the Socio Bosque Programme. The proposal tackles too many different activities that will not necessarily lead to processes that can be scaled up.

14. In terms of knowledge and learning, the project lacks a real coordination scheme and an integral approach to learning and sharing knowledge. The project will solve communication aspects with an online platform, but real knowledge-sharing activities are poorly defined.

15. The most difficult aspect of this proposal is the lack of a real sustainability scheme. Long-term arrangements to continue with the activities after project completion are lacking. Moreover, the proposal has too many interventions that are not necessarily related. There is a need to further elaborate on the short-, medium- and long-term interventions, aggregating indicators and outcomes to more visible expected impacts.

### 1.3 Sustainable development potential

*Scale: medium*

16. The project will have positive impacts on the environment, mostly by supporting the conservation efforts to save forests and biodiversity. It will also support the management of three water basins.

17. In terms of social co-benefits, the project will support existing small farmers in changing their practices to more sustainable and economically viable models, contributing to poverty reduction. It will also support the cantons in revising the land-use plans and will revise six indigenous life plans, contributing to the adaptation pathways of the communities involved.

18. In terms of economic co-benefits, the project will support studies to improve market options, including promoting “environmental” certifications that will eventually improve the generation of income from agricultural and sustainable forest practices.

19. In terms of gender, the project assumes that Ecuador has a favourable regulatory framework for the inclusion and equal participation of men and women, and therefore the project will comply with existing national and international guidelines for gender inclusion. However, the project does not present a real gender strategy.

#### 1.4 Needs of the recipient

*Scale: high*

20. Ecuador is a middle-income country that relies heavily on the petroleum industry. The current fiscal situation has suffered as a result of the fall in oil prices, the earthquake in April 2016 and the volcano eruptions, constraining domestic budgets.

21. The project targets the Amazonian communities, which are considered among the poorest in the country.

22. The proposal is not explicit in terms of the country's vulnerability. However, Ecuador is on the Equator and is very vulnerable to the impacts of climate change, especially in the Amazonian regions where water balance and the rise in temperature could affect farming options.

23. The proposal is presented as a "pot" of international cooperation, with several ongoing cooperation projects. However, the proposal does not have a financial or economically viable model, and relies on international cooperation rather than on mobilizing domestic resources.

24. The proposal is not convincing in terms of supporting a real REDD+ scheme with concrete financial long-term models. Moreover, the proposal presents a series of barriers in each of the project components but does not present innovative alternatives to overcome them.

25. The project involves several governmental institutions and projects and proposes to use GCF resources to support existing processes. However, it seems that the interventions are isolated, and there is little coordination among all the different institutions. The project therefore will need a great deal of institutional strengthening, mainly in terms of coordinating actions to make integral outcomes more relevant.

#### 1.5 Country ownership

*Scale: high*

26. The proposed project is aligned with the country's nationally determined contribution commitment and the REDD+ action plan programme. The different interventions of the project seek to contribute to the country's target of zero deforestation by 2020.

27. The agency executing the project is the Ministry of the Environment, which will directly create a coordinating unit to manage the project. The ministry has managed projects involving sums similar to that being requested from the GCF and has demonstrated the capacity to manage international resources. The proposal also involves the Ministry of Agriculture and relies on existing programmes such as the ATPA project and the Socio Bosque Programme, which have been managed by the government.

28. Stakeholder consultation was not carried out directly to prepare the GCF project. However, several consultations have been carried out since 2012 to develop the national REDD+ action plan programme. There is little evidence of new consultations with target beneficiaries of the project, and especially with indigenous communities. Other relevant actors include small farmers willing to be part of the ATPA project or new possible participants in the Socio Bosque Programme. Therefore, further consultations are recommended.

## 1.6 Efficiency and effectiveness

*Scale: low*

29. The USD 41 million grant proposal presented to the GCF uses the resources in different ways, one of which would be through financing feasibility studies, revision of land-use plans and indigenous life plans and information and financial platforms. Resources used in this way would end up in plans and strategies that would need to be implemented with additional resources.

30. Another modality is through direct subsidies or grants to small farmers in their transition to more sustainable production options. The project gives estimates of USD 450 (cost of each kit)/ha/year for three years for agroforestry systems and USD 344 (cost of each kit)/ha/year for three years for silvopastoral systems, with the expectation of benefiting 1,500 smallholder families. However, the proposal is not clear on the management of these grants, the strategy to select families and the monitoring system to assure that they will add to a REDD scheme.

31. The project should explore options to shift from grants to credit lines or revolving funds, especially when the farms evolve to be more profitable.

32. The project will also provide more resources to the Socio Bosque Programme, which provides USD 25–35/ha/year to each of the benefiting families willing to be part of the programme. It will also support the existing water funds, providing USD 280,000 per fund per year.

33. The effectiveness of providing resources in different modalities to a range of existing projects is not clear, particularly because the project lacks an integral sustainability strategy to support all the different interventions after the project's completion.

34. There is a market analysis of coffee, palm oil and livestock production to justify demands for these activities. However, there is no integral analysis on the effectiveness of the grants in assuring that the activities will be carried out in a more sustainable manner and that by doing so they will be more competitive.

35. Regarding the cost-effectiveness of the project, the estimated cost to the GCF per t CO<sub>2</sub> is USD 2.81, and the overall cost per t CO<sub>2</sub> is USD 9.26, which seems low compared with international standards. These estimates were done without real baseline studies, and were just extrapolated national estimates of the REDD+ programme. The project needs to develop real baseline scenarios to be able to project CO<sub>2</sub> emissions in a more accurate manner.

36. The GCF funding will leverage USD 42.83 of co-financing, corresponding to a 1:1 ratio. The proposal also presents an Excel file with financial and economic evaluations, but it falls short of analyzing their assumptions and results. In general, the project needs to develop a much more convincing REDD payment scheme, including more innovative options than just fixed grants per family.

## II. Overall remarks

37. ITAP considers that the proposal involves too many activities without really ensuring that those measures add to a concrete REDD+ scheme that is sustainable.

38. ITAP will recommend that this project be approved subject to fulfilling the following conditions before the signature of the project:

- (a) A revision of CO<sub>2</sub> emission reduction estimates, and a baseline information system to support monitoring arrangements of the REDD+ scheme.
- (b) The development of a comprehensive sustainability strategy for all the components of the project with special emphasis on component 2, including alternative financial options to just giving grants.

- (c) A grant operational manual with a detailed explanation of the farm (family) selection process for the ATPA project, selection criteria, terms and conditions of the grants, approval process and role of the Ministry of the Environment, the Ministry of Agriculture, the ATPA project and the acting unit of the GCF proposed project.
  - (d) Proof of further consultations with indigenous and peasant communities to agree on the proposed interventions and their willingness to participate in the project.
  - (e) A more comprehensive knowledge-sharing strategy, with special emphasis on institutional coordination.
39. Six months from the beginning of the project, develop a complete revision of the project investments after undertaking an impact assessment of the results of the ATPA, the Socio Bosque Programme and the three water funds, in terms of achieving the REDD-plus targets. Further investments will be considered by the GCF only for the best alternatives to reduce deforestation.

## Independent Technical Advisory Panel's assessment of FP 020

Proposal Name:	Sustainable Energy Facility (SEF) for the East Caribbean
Accredited Entity:	Inter-American Development Bank (IDB)
Project/Programme Size	Medium

### I. Assessment of performance against investment criteria

#### 1.1 Impact potential *Scale: high*

1. The Sustainable Energy Facility for the five East Caribbean countries (SEF-5ECC) focuses on the development of geothermal energy (GE) resources in small island developing States (SIDS) located in the East Caribbean countries. These countries have small and localized energy markets that are at present highly dependent on fossil fuels. The development of a baseload geothermal capacity would substitute fossil fuels and enable a paradigm shift towards a renewables-based energy mix. The proposal, from the Inter-American Development Bank (IDB), requests funding from the GCF in order to address the barriers to GE development in five East Caribbean countries: Dominica, Grenada, Saint Kitts and Nevis, Saint Lucia, and Saint Vincent and Grenadines. Financing from the GCF would be used to address key barriers that have made it impossible over the years to develop the GE resources in these countries.

2. The SEF-5ECC programme is expected to lead to the following impacts:

- (a) The establishment of an installed capacity totalling 60 MW of geothermal power generation facilities in the five East Caribbean countries, which will constitute about 20 per cent of installed capacity and 36 per cent of peak demand in those five countries;
- (b) The implementation and operation of the GE facilities will displace pre-project oil-fired power plants, which will run as baseload power generation plants and thus lead to an annual greenhouse gas (GHG) emission reduction of 313,421 tonnes of carbon dioxide eq (t CO<sub>2</sub> eq), aggregating to 9,402,621 t CO<sub>2</sub> eq during the lifetime of the SEF-5ECC programme;
- (c) The substitution of the pre-project oil-generated electricity with baseload geothermal electricity will displace about 722 thousand barrels of imported oil per year. This will result in an estimated USD 50 million annual reduction in imports of oil (at USD 70/barrel), which represents 10 per cent of the gross domestic product of the five countries; and
- (d) This displacement of a portion of crude oil imports will increase the resilience of the five beneficiary countries, by liberating key economic resources in order to allow them to be more prepared to respond to extreme climatic events.

3. Key risks to achieving these impacts that the independent Technical Advisory Panel (TAP) has classified as high include the following:

- (a) The ex-ante GHG emission reduction estimate of the programme quoted above is based on the assumption of a diesel baseline emission factor. The estimate may not be conservative if the electricity in the countries is from a grid that has some other non-oil generating facilities in a micro-grid or mini-grid configuration, which is merit-order dispatched; and

- (b) If the programme fails, due to the lack of proper implementation, then the benefits of the energy substitution process will not be achieved and the high impact assumptions will not materialize.
4. Achievement of the high scale of the impact potential discussed above, when this programme is approved by the GCF, will require the inclusion of actions to mitigate these risks as part of the approved process to implement the programme.

## 1.2 Paradigm shift potential

*Scale: high*

5. Key paradigm shift potentials of the SEF-5ECC programme can be summarized as follows:
- (a) A first and key paradigm shift is the substitution of electricity generation, which in the pre-project is by a diesel-fired power plant, to the renewable electricity generation by geothermal energy. It is a significant paradigm shift given its clean energy generation and its oil imports savings;
  - (b) The successful implementation of this project will signal the end of being unable to tap into the domestic geothermal resources that has been the order of the energy sector of those countries for years. The paradigm shift will come from the fact that the clean resources will now be available for utilization in the region;
  - (c) The success of the SEF-5ECC project will boost the confidence of planners in that region, who have not hitherto been able to overcome the barriers that have plagued the successful deployment of GE resources in the region for some time. Overcoming these barriers through the successful implementation of this programme will catalyse GE development in the region, leading to the potential to scale up GE potentials in the area, especially in Saint Kitts and Nevis, with the confidence to implement the second phase with an additional capacity of about 25 MW in that country. This will further expand the shift from diesel-fired power generation to renewable power generation from GE;
  - (d) Lessons learned from and the confidence built from this successful project can be used in replicating similar success in the Pacific SIDS (e.g. Vanuatu) where GE potential is about 4,000 times that of the five East Caribbean countries;
  - (e) Finance innovation built into the project implementation process through the introduction of reimbursable grants in order to address the risks of the exploration phase may well become the way to resolve the project barrier associated with uncertainties in the development drilling stage of the GE development, which had hitherto constrained the success of such projects;
  - (f) Other transformational development that will attend the success of the programme will result from the knowledge and learning that will be enhanced via the programme's capacity-building component that will be provided by the Caribbean Development Bank (CDB). This will include knowledge-sharing between projects in target countries – a paradigm shift as this has not been enhanced in previous country non-coordinated programmes as the level of readiness of the GE project varies between the five countries. The implication of this is that the knowledge base and lessons learned from the project components already achieved in, for example, the Dominica Republic will enhance the quality and speed of upstream project work in projects in other countries;
  - (g) Knowledge and learning will also be enhanced according to the project plan to encourage knowledge dissemination at regional donor coordination meetings and regional energy events (e.g. the Caribbean Renewable Energy Forum) as platforms to share lessons learned; and

- (h) The introduction of a contingent loan as a part of the design of the funding can also be considered as a paradigm shift. More often than not, it is not the situation in funding origination that grants and loans are interconvertible. This financial instrument allows the risks associated with the early streams of developing a GE to be absorbed without financially constraining the programme.

### 1.3 Sustainable development potential

*Scale: high*

6. A successful SEF-5ECC programme is expected to contribute to sustainable development in the following ways:

#### 1.3.1 Economic co-benefits

- (a) The SEF-5ECC programme will finance renewable energy investment (GE) in the five East Caribbean countries, which will reduce reliance on imported fuels in developing countries, and sustainable economic development in the region;
- (b) The SEF-5ECC programme will contribute towards the creation of local jobs during the construction period as well as the operations of the power plants, which will have better availability compared to the diesel plants in a baseload situation. Some of these new jobs will include those trained through the capacity-building component of the programme;
- (c) The shift to renewable GE technology will also have impacts on the balance of payments situations in the five countries as the export of oil will be substantially reduced;
- (d) Reduction in the average electricity generation cost as a result of the project if passed to consumers will enhance disposable income and strengthen the economy in the country;
- (e) It has also been estimated that the SEF-5ECC programme will create 120 construction and 51 operation and maintenance jobs;
- (f) Air quality will be improved as power generation will be shifted away from using liquid fuels; and
- (g) The programme will benefit the tourism sector, which is the main economic sector for the five countries, not only by making it more competitive in terms of costs through the reduction of the electricity tariff but also by greening the sector and making it more environmentally friendly and hence sustainable.

#### 1.3.2 Environment and social co-benefits

- (a) Shift away from fossil fuel energy systems that will be engendered by the SEF-5ECC programme will gradually, in the medium term, result in a reduction in the release of noxious gases and particulates, which are known to have negative health impacts;
- (b) The SEF-5ECC programme should minimize adverse impacts on human health, the environment, workers and affected communities since CDB will be supported by IDB Performance standards on environmental and social sustainability. Access to modern and clean energy will also help to reduce indoor pollution and health hazards caused by diesel generation and kerosene burning, with women being the major beneficiary.

### 1.4 Needs of the recipient

*Scale: medium*

- (a) The five ECC countries targeted in this funding proposal are SID nations which are very vulnerable to climate change. Therefore, since the project will contribute to the global reduction of the risks of sea level rise, it should be a welcome development to them; and

- (b) The populations of these nations are vulnerable to high electricity tariffs as the baseline supply before this project is met by oil-fired generation assets. Substituting this with renewable GE will reduce the very high electricity tariff and improve the disposable income of people in the region.

## 1.5 Country ownership *Scale: high*

7. Country ownership for a successful SEF-5ECC programme is adjudged to be high since the GE facilities will be built in the countries and the electricity will be utilized in-region. High country ownership is expected to be achieved since these will be regional facilities. The programme aims to ensure country ownership throughout its operations. Through its regional/field office presence, IDB has been engaging with national counterpart agencies in each of the target countries and with the participation of relevant local institutions.

## 1.6 Efficiency and effectiveness *Scale: high*

8. The TAP has rated the efficiency and effectiveness of the SEF-5ECC programme as high due to the following characteristics of the programme:
- (a) IDB as the accredited entity for this programme will bring to bear its success in funding climate projects on this programme; and
  - (b) The IDB track record in supporting climate finance strategies will also enhance the success and effectiveness of the SEF-5ECC programme.

## II. Overall remarks

9. The TAP therefore recommends that the Board should approve the SEF-5ECC programme for funding by the GCF, as requested by IDB, subject to the following conditions:
- (a) IDB should submit a document to the GCF providing a comprehensive evaluation of the mitigation benefits of this project. The document will establish a transparent framework for GHG emission reductions of the project and a monitoring protocol that will be utilized in the periodic review of emission reduction performance of the project during the lifetime of the programme;
  - (b) Prior to financial closure, IDB should present to the GCF, a comprehensive plan on the flow of the other sources of the fund (including the flow from IDB, CDB and other fund sources) with a contingent plan on what happens to the GCF if any of the fund sources do not flow at the quantum rate expected in the programme design;
  - (c) Prior to financial closure or first disbursement, IDB should submit to the GCF, a comprehensive programme monitoring plan that should cover all the component activities of the SEF-5ECC programme, which includes all technical details and lessons learned in each country; and
  - (d) Risk-hedging tools must be agreed on (between the GCF and IDB) and put in place prior to financial closure so as to cover key risks areas identified for the successful implementation of the project.

## Independent Technical Advisory Panel's assessment of FP 021

Proposal Name:	Senegal integrated urban flood management project
Accredited Entity:	Agence Française de Développement (AFD)
Project/Programme Size	Medium

### I. Assessment of performance against investment criteria

#### 1.1 Impact potential *Scale: low to medium*

1. The project proposal gives a total estimate of direct beneficiaries of 2.22 million people at the national level, 700,000 of which live in Greater Dakar. These represent 16 per cent of the country's population and 37 per cent of the Dakar Region's population. These estimations represent direct beneficiaries of the flood risk management policy for a rain event with a return period of 100 years, yet the proposal also indicates that "there is no evaluation of the potential impact of extreme events, like 100-years return period rains".<sup>3</sup>
2. The methodology used for these estimations is not clearly described in the funding proposal. Furthermore, an estimation of beneficiaries based on a rain event with a return period of 100 years is deemed exaggerated. For example, drainage infrastructure for Pikine Irrégulier Sud is designed for a 10-year return period.<sup>4</sup> Likewise, it is difficult to quantitatively assess how an improvement on flood risk management would benefit a population under a 100-year rain event.
3. Regarding infrastructure works at Pikine Irrégulier Sud, the proposal estimates that 300,000 people will benefit from them, while the feasibility study refers to a population of around 220,000.<sup>5</sup>
4. The proposal's environmental and social impact assessment (ESIA),<sup>6</sup> evaluates the impacts of the urban restructuring of Pikine Irrégulier Sud, which is a support measure for the construction of the Dakar–Diamniadio highway. However, the ESIA does not assess the impacts of the implementation of the national-scale integrated policy for flood risk management, for which the project proponent is requesting GCF funding, and does not analyse the impact of drains and sewers to be installed in Pikine Irrégulier Sud in depth (subcomponent 2.3, to be funded by Agence Française de Développement (AFD), yet an integral part of this project).
5. Increasing flood risks and associated damages caused by an intensification of heavy rainfall events due to climate change combined with rapid and disorganized land occupation (specially of lowland areas), and subsequent increase in soil impermeability justify an intervention in this area.
6. Therefore, the following project outputs, inter alia, would enhance climate resilience and strengthen the adaptive capacity to climate risks for any given future scenario regarding changes in climate patterns: monitoring equipment and software, forecasting models, training programmes, geographic information system (GIS) on flood risk, communication programmes,

<sup>3</sup> Funding proposal, pp.s 8 and 23.

<sup>4</sup> Funding proposal, p. 15.

<sup>5</sup> Feasibility study, section 1.3, p. 20.

<sup>6</sup> Annex 5 to the funding proposal.

awareness campaigns, infrastructure design criteria, institutional strengthening and capacity-building.

7. The project, if adequately implemented and sufficiently funded in the long-term operational period is likely to make a contribution across many areas of the GCF performance measurement frameworks.

8. The wastewater treatment plant (WWTP) that will receive and treat the flows collected by the new sewers will be operational in 2018. The first phase of this plant consists of preliminary and primary treatment with a 3 km long emissary. The sludge generated will be treated at the WWTP with anaerobic digestion. The biogas generated in the digesters will be used to co-generate energy, thereby reducing methane emissions at source and displacing external energy sources with higher carbon footprints.

## 1.2 Paradigm shift potential

*Scale: low to medium*

### 1.2.1 Potential for scaling up and replication

9. A digital terrain model and the associated GIS on flood risk will be developed at a national scale. The National program for development and restructuring of flood zones identified 25 flood prone localities. Knowledge generated by the GIS will be used to select 6 of the 25 localities, for which a more detailed mapping will be developed. After project completion, this detailed mapping could be developed for the rest of the pre-identified localities.

10. If financial resources became available, non-structural project activities could be easily replicable on neighbouring countries with similar climate change related issues. However, it should be noted that the project proposal does not describe a theory of change for replication.

### 1.2.2 Potential for knowledge and learning

11. The inclusion of non-structural measures to enhance climate risk management constitutes a paradigm shift in the region. Lessons learned during its implementation have the potential to be replicated across national territory.

12. Project activities include continuous monitoring by project management assistance by establishing and maintaining a project performance management framework. Executing entities will periodically report baseline and progress data to project management assistance which will in turn report the outcome to AFD on a quarterly basis.<sup>7</sup>

13. Even though the project proposal states that “an impact evaluation of the project after its completion would certainly be instrumental in diffusing lesson-learnt [sic] from the implementation of an integrated flood management policy in West Africa”,<sup>8</sup> the document does not describe nor include such an evaluation as part of the proposal.

14. Subcomponent 2.3, which takes most of the funding for this project, does not represent any paradigm shift potential, since it constitutes regular drainage and sewer infrastructure.

### 1.2.3 Contribution to the creation of an enabling environment

15. As project activities comprise non-commercial public services that, in addition, will be provided to a very low-income population, there is no possibility of financial return and repayment of this investment by users. Maintenance and operation of drainage and sewage

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<sup>7</sup> Funding proposal, p. 47.

<sup>8</sup> Funding proposal, section E.2.2., p. 27.

infrastructure and hydro-meteorological services seems to depend mostly on government subsidies.

16. Although regarding the “exit strategy”, the project proposal states that “the first disbursement of the AFD loan will be conditioned to the signing of a performance contract between the Republic of Senegal and ONAS allowing adequate financial resource for maintenance of drainage infrastructure on the 2015-2018-period”,<sup>9</sup> it does not mention sewers, nor does it include a similar contract pertaining to a period beyond the completion of project interventions.

17. On the other hand, technical sustainability of project outcomes is ensured by capacity-building actions included under project activities.<sup>10</sup>

#### 1.2.4 Contribution to the regulatory framework and policies

18. Project subcomponent 4.1 aims to support the Ministère du Renouveau urbain, de l'Habitat et du Cadre de vie (MRUHCV)<sup>11</sup> as the lead institution in flood management policy-making and to encourage dialogue and coordination between institutions involved in the project implementation.

19. The project proposal includes, under subcomponent 4.2, a diagnostic of the Senegalese institutional framework for integrated urban flood management, which will help to set responsibilities and enhance coordination between executing institutions, and design and implement a specific capacity-building programme.

20. The use of the GIS for flood risk will improve the capability of the Senegalese Government to facilitate climate-resilient development.

### 1.3 Sustainable development potential

*Scale: low to medium*

21. As indicated above, the project, if adequately implemented and sufficiently funded, in the long-term operational period is likely to make a contribution across many areas of the GCF performance measurement frameworks.

22. The first disbursement of the AFD loan will be conditional on the signing of a performance contract between the Government of Senegal and L'Office National de l'Assainissement du Sénégal (ONAS)<sup>12</sup> allowing adequate financial resources for the maintenance of drainage infrastructure in the 2015–2018 period. Both financial agreements for the AFD loan and GCF grant will include a commitment by the Government of Senegal to allocate sufficient funds annually in the State budget in order to provide for the needs of (i) the maintenance of drainage infrastructure, and (ii) the integrated flood management system.

23. Wastewater collection by new sewers (aimed at avoiding contamination of the area of intervention) may not have the desired effect since intra-domiciliary connections are not provided by the project. Since this is a low-income area, households may not connect to the new sewers, leaving current wastewater disposal sites as they are today, thereby lowering the impact of this intervention. After consultation with the project proponent, the independent Technical Advisory Panel (iTAP) found out that these sewers will not provide 100 per cent coverage of the target area. They are intended to prevent wastewater from flowing into the drainage system.

<sup>9</sup> Funding proposal, p. 23.

<sup>10</sup> Funding proposal, pp. 23 and 24.

<sup>11</sup> Senegal's Ministry of Urban Renewal, Habitat and Living Conditions

<sup>12</sup> Senegal's National Sanitation Office

24. The annual cost of the operation and maintenance (O&M) of the sewers is unknown, since there is no preliminary design available. So it is uncertain whether the water utility (ONAS) will be able to cover this cost. Even more so when, according to the project proponents, ONAS financial equilibrium is in doubt. Thereby, the sustainability of this part of the system is uncertain.

25. The reason why these O&M costs are unknown is that the project is not developed (apparently, not even at a basic design level).

#### 1.3.1 Environmental co-benefits

26. The funding proposal does not identify environmental co-benefits. However, from what has been mentioned ad-supra, the benefits from an adaptation standpoint become obvious.

#### 1.3.2 Social co-benefits

27. By reducing flood risks, project activities will help to reduce flood-related casualties and the impact of waterborne diseases (improved health). Educational infrastructure will also benefit from the reduction of potential damages. The safety and living conditions of the inhabitants of settlements affected by flooding will be considerably improved. Drainage and wastewater facilities (the latter not clearly described in the proposal documents) should generate health co-benefits in Pikine Irrégulier Sud, provided that most potential beneficiaries connect to the sewers (which may not happen if not financed by the project).

#### 1.3.3 Economic co-benefits

28. Infrastructural measures along with risk-mapping and the associated use for urban planning will generate economic co-benefits which will include reduced damages to households, industrial assets and public infrastructure. Moreover, the implementation of several project components will create jobs for locals.

29. Interruption of economic activity due to flood events would also be reduced.

30. Moreover, land value is expected to increase in areas with improved flood resilience.

31. Potential economic co-benefits derived from project implementation are difficult to assess quantitatively.

#### 1.3.4 Gender-sensitive development impact

32. A gender-sensitive approach is considered under the following project subcomponents:<sup>13</sup>

- (a) Subcomponent 1.2: awareness campaigns will be designed taking into account the specific risks to women and children;
- (b) Subcomponent 2.3: the Information, education and communication (IEC) services included under this subcomponent (which aim to guarantee acceptance and proper usage of the drainage and wastewater infrastructure by the population and to adapt retention ponds, considering the population necessities, and to enhance their integration in the urban structure) will have special focus on women.

## 1.4 Needs of the recipient

*Scale: high*

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<sup>13</sup> Funding proposal, p. 37.

#### 1.4.1 **Vulnerability of the country**

33. Urban and suburban areas in Senegal are highly vulnerable to climate risks in general (due to, inter alia, poor drainage infrastructure, disorganized urbanization in flood-prone areas and a lack of proper climate information). Rapid and disorganized land occupation (especially of lowland areas during the 70's-90's dry period) and the subsequent increase in soil impermeability (land sealing) in urban and suburban areas only serves to exacerbate the impact of climate change.<sup>14</sup> Neither the funding proposal, nor the feasibility study, describes flood risks in rural areas. Both documents focus on urban and suburban areas. The feasibility study was actually undertaken focusing on the construction of the Dakar–Diamniadio highway and the urban restructuring of Pikine Irrégulier Sud as a support measure. The latter includes flood resilience enhancement through the implementation of a storm-water drainage infrastructure throughout the entire Pikine Irrégulier Sud area.

34. Taking into consideration that Senegal is among the least developed countries, and that in 2011, 46.7 per cent of the population was still under the poverty line, it can be affirmed that Senegal urban centres and especially the Dakar Region are highly vulnerable to climate risks and especially to flooding events, and will significantly benefit from the proposed project activities.

#### 1.4.2 **Vulnerable groups and gender aspects**

35. Infrastructure investments in Pikine Irrégulier Sud will benefit one of the most vulnerable population groups in the country.<sup>15</sup>

36. Gender aspects are described in section 3 of the funding proposal.

#### 1.4.3 **Economic and social development level of the country and the affected population**

37. The need for investment related to climate change adaptation regarding flood risks was estimated by the Senegalese Government in its intended nationally determined contributions (INDCs) for the period 2016-2035 to be of USD 2.136 billion. Due to lack of national financial resources, 92 per cent of this investment is being sought from external financing.

38. As has been mentioned above, Senegal is among the least developed countries and, in 2011, 46.7 per cent of its population was living under the poverty line and 34 per cent was living on less than USD 1.25 per day.

#### 1.4.4 **Absence of alternative sources of financing**

39. The funding proposal does not describe the existing barriers that generate the absence of alternative sources of financing, nor how this issue will be addressed.

#### 1.4.5 **Need for strengthening institutions and implementation capacity**

40. Given the increasing flood risks in urban areas and the lack of institutional expertise regarding integrated flood risk management, the need to strengthen Senegal institutional capacity, including interinstitutional coordination, is deemed very important. The funding proposal addresses these issues.

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<sup>14</sup> Funding proposal, p. 57.

<sup>15</sup> GCF financial support will not be used for this subcomponent (2.3), but only all other subcomponents (soft actions that support a shift in policy-making and crisis management regarding floods at the national level). Nevertheless, the TAP assessment covers the whole project proposal.

## 1.5 Country ownership

*Scale: medium*

### 1.5.1 Existence of a national climate strategy and coherence with existing policies

41. Senegal developed the following documents regarding climate change policies:

- (a) A national adaptation programme of action, in 2006, which describes national climate change adaptation measures. Briefly described in the funding proposal, the national adaptation programme of action focuses on restoring ecosystems and soil fertility, the biological stabilization of sand dunes, physical protection against beach erosion and saline intrusion, irrigation projects, water conservation methods, use of alternative crops, and improved education on adaptation. Of these elements, the present funding proposal only focuses on improved education on adaptation, specifically concerning flood risks;
- (b) Second communication to the United Nations Framework Convention on Climate Change secretariat, in 2010, which focuses, inter alia, on the development of knowledge on climate change potential impacts and strengthening prevention and the fight against shocks. This last component explicitly recommends investment to improve living conditions in flood-prone areas. Both climate knowledge development and recommended investments are tackled by project activities; and
- (c) INDC, in 2015, which considers investment to reduce vulnerability to floods to be a crucial element of adaptation measures. As mentioned above, these investments are taken into account under subcomponent 2.3.

### 1.5.2 Capacity of accredited entities or executing entities to deliver

- (d) The accredited entity is the Agence Française de Développement. As clearly described in the funding proposal,<sup>16</sup> AFD has more than sufficient expertise to effectively fulfill its role.
- (e) On the other hand, the five executing agencies are Senegalese and, as stated in the funding proposal under the description of Risk Factor 1: “...most of the project is based on institutions that have been newly appointed as the lead in their field: MRUHCV for integrated flood management policy and ONAS for infrastructure construction and maintenance”.<sup>17</sup>
- (f) In order to mitigate the risk of incapability to efficiently implement project measures, subcomponent 4.3 will provide expert support and training programmes.

### 1.5.3 Engagement with civil society organizations and other relevant stakeholders

42. The ESIA and the resettlement action plan included consultations with affected populations.

43. Furthermore, subcomponent 2.3 includes IEC services aimed at Pikine Irrégulier Sud populations, including municipalities and civil society. IEC services have two main objectives: (i) to ensure acceptance and proper usage of drainage and wastewater infrastructure; and (ii), to define the development of the surroundings of these basins (parks, sport facilities) taking into account the opinions of nearby residents.

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<sup>16</sup> Funding proposal, p. 31.

<sup>17</sup> Funding proposal, p. 39.

## 1.6 Efficiency and effectiveness

*Scale: low to medium*

### 1.6.1 Cost-effectiveness and efficiency regarding financial and non-financial aspects

44. Neither the confirmation letter nor the term sheet present an actual breakdown of costs/budget by nature of expenses (e.g. project staff and consultants, travel, goods, works, services, etc.), but only by subcomponent.<sup>18</sup> However, after a request from the TAP, a cost breakdown was provided for GCF tasks on a confidential basis. While the costs are not benchmarked against similar projects, the costs of the project were estimated by a third-party consultant through detailed studies.

45. The funding proposal does not explain how or if GCF support will avoid crowding out private or other public investment. Nevertheless, as project activities are not designed to generate profit, there is no potential for private investment. Senegal possesses very limited financial resources in general, thus, it is improbable that GCF financial support would crowd out other public investment.

46. The proposal comprises a mix of GCF grants and AFD loans to achieve project outcomes and outputs. The AE contends that “Investments linked to climate change adaptation is [sic] evaluated in Senegal’s INDC at 14.558 billion USD, which includes 12.725 billion USD from external indebtedness” and that “the concessionality of GCF funding, in the form of a grant, will permit better efficiency of future investment in flood risk mitigation”. The proposed financing structure appears appropriate.

47. The economic internal rate of return was estimated by the AE to be 28 per cent. No financial analysis was provided as a result of the non-commercial nature of the proposed intervention. This may be subject to some uncertainties given the challenges to estimate economic benefits for many of the GCF-financed components. In order to ensure long-term sustainability, both financial agreements for AFD loan and GCF grant would include a commitment by the Government of Senegal to allocate sufficient funds in the State budget annually so as to provide for the needs of (i) maintenance of the drainage infrastructure, and (ii) the integrated flood management system. This would be complemented by capacity-building activities. Co-financing by AFD and the Government of Senegal amounts to EUR 56 million, with a co-financing ratio of 3.7.

### 1.6.2 Project financial viability and other financial indicators

48. Considering only the non-structural measures (the part of the project financed by the GCF), the project should become cost-efficient after nine years.<sup>19</sup>

49. The internal economic profitability rate was estimated to reach 28 per cent.<sup>20</sup>

50. The project includes the development of a GIS for the entire national territory and in a more detail fashion for 6 of the 25 flood-prone cities pre-identified by the Senegalese Government in the framework of the National programme for the development and restructuring of flood zones (Programme National d’Aménagement et de Restructuration des Zones Inondables). Only six (yet to be selected) cities will be directly affected by the present proposal. The rest would only benefit from the potential of scale-up of the project in the future. In contrast, economic analysis was done considering the 25 pre-identified cities.

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<sup>18</sup> Notice that the funding proposal document contains a table describing the financial elements of the project (B.1), which is followed by a table that is supposed to have “a budget breakdown by expenditure type for sub-components financed by GCF”, yet no breakdown is provided and both tables are identical.

<sup>19</sup> See the economic model conclusions in annex 7 to the funding proposal.

<sup>20</sup> Funding proposal, p. 34.

51. Also, the analysis considers that flood event, which occurred in 2009, has a return period of one and a half years. Events of similar intensity occurred in 2005 and 2012. It is not clear the reason why a one and a half year recurrence period is assumed for the 2009 flood events. The period analysed is too short to consider if events that occurred in 2005, 2009 and 2012 constitute a trend.

### 1.6.3 Application of best practices

52. The proponents indicate that the project follows the recommendations of the Sendai Framework for Action, and the World Bank “Guide to integrated urban flood risk management for the 21st century”.

53. Furthermore, the project will use the best available GIS software and appropriate and up-to-date technologies for hydrological and meteorological data production, processing and transmission.

## II. Overall remarks

54. The underlying projects that are part of this proposal are not yet developed at a conceptual design level. Therefore, there is uncertainty on the costs involved in operating and maintaining the proposed systems and the sources of funding to cover those costs. This uncertainty prevents the adequate analysis of the sustainability of the project.

55. Based on the findings of this assessment, the TAP recommends that the Board approves this project, conditional on the project proponents doing the following:

- (a) Developing all project components, particularly subcomponent 2.3 (sewer and drainage infrastructure for Dakar’s Pikine Irrégulier Sud), at a conceptual level so as to be able to estimate the annual O&M expenditures;
- (b) Demonstrating funding sources will be available to cover those O&M expenditures in the long term;
- (c) Justifying why certain households in the area of intervention in Dakar’s Pikine Irrégulier Sud (subcomponent 2.3) will not have sewers and indicating why this approach will not continue to contaminate the area that is meant to be protected by the project;
- (d) Securing funding for intradomiciliary connections in those areas where sewers will be built;
- (e) Providing estimated annual costs of operation and maintenance of the WWTP, providing an indication of sustainable financial resources to cover these operational expenditures. Also, indicating the proposed treatment of biogas (containing methane) at this utility;<sup>21</sup>

56. The TAP also supports the following conditions made by the Secretariat:

- (a) Provide evidence to the GCF confirming the budget allocation by the Government of Senegal of a minimum of EUR 6 million for the compensation of the persons affected under subcomponent 2.3 of the project;
- (b) Provide a procurement plan related to the GCF proceeds in a form and substance satisfactory to the GCF; and

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<sup>21</sup> The TAP understands that, despite not being a component of this proposal, the future wastewater treatment plant will provide treatment to the sewage collected in the implementation zone of subcomponent 2.3.



- (c) Sign the subsidiary agreement (grant agreement) between AFD and the Government of Senegal, and the implementation agreement between the Government of Senegal and the executing entities.

## Independent Technical Advisory Panel's assessment of FP 022

Proposal Name:	Development of organiculture orchards in degraded environment - DARED
Accredited Entity:	Agency for Agricultural Development of Morocco (ADA Morocco)
Project/Programme Size	Small

### I. Assessment of performance against investment criteria

#### 1.1 Impact potential *Scale: N/A*

1. The argan tree is endemic to Morocco. The United Nations Educational, Scientific and Cultural Organization – UNESCO, labelled the tree's geographic range in that country as the Argan Biosphere Reserve<sup>22</sup> in 1998. This biosphere reserve covers an area of approximately 2.5 million hectares where the argan tree covers an area of 829,087 ha, or 60 per cent of the total forest area. The argan tree provides food, shelter and protection from desertification. Moreover, the tree's deep roots help to prevent desert encroachment.
2. The project seeks to plant 10,000 ha of argan trees, adding to the implementation of the first phase of Morocco's nationally appropriate mitigation actions (NAMAs) organiculture programme over a six-year period. The project is structured in three components: (a) the cultivation of the argan tree in an area of 10,000 ha with intercropping of medicinal and aromatic plants in an area of 2,000 ha; (b) the structuring (upstream and downstream) of the argan value chain; and (c) capacity-building, knowledge co-management and dissemination of good practices.
3. The project will allow carbon sequestration of 2,091,201 tonnes of carbon dioxide equivalent (t CO<sub>2</sub> eq) by 2030, as compared to a 'without project' scenario of 345,009 t CO<sub>2</sub> eq. In the lifetime of the project, the proposal estimates emission reductions of 604,223,30 t CO<sub>2</sub> eq. However, these estimates are based on basic methodologies, which need to be further assessed with a more robust methodology for this type of forest.

#### 1.2 Paradigm shift potential *Scale: N/A*

4. The paradigm shift of this project relies on the fact that few projects presented so far to the GCF have opted for reforestation as a valid alternative to sequestering emissions and at the same time have provided a valid economic alternative to local communities. The project is the first step towards developing a NAMA on organiculture.
5. The project will also reduce the pressure on the Argan Biosphere Reserve and contribute to a more sustainable development model for a more resilient environment.
6. The project could be scaled up only if there is a more robust public-private participation strategy with a complete market analysis. There is a need to involve other institutions, like the Ministry of Industry, Trade, Investment and Digital Economy, Invest in Morocco or alternative investors like impact funds willing to promote the argan industry as a successful export strategy for the country. At this stage, the proposal is presented without a real financial, economic and market orientation, and relies on international cooperation.

7. The project will involve local communities with existing cooperatives. However, there is a need to structure a sustainable financial strategy, including arrangements on the co-ownership of the trees and a market strategy.
8. The project expects to plant 10,000 ha of argan trees and 2,000 ha of medicinal plants. However, passing from the 600 hectares already developed in a pilot stage to 10,000 ha requires a more structured strategy.
9. The project is aligned with NAMA policies in Morocco as well as with the green growth strategy. However, more evidence is needed in relation to the industry and trade policies in order to assure public-private participation. The project needs to design a commercially viable export strategy that will benefit Moroccan communities ensuring fair trade.
10. In terms of knowledge-sharing, the project has a component to build local capacity and knowledge. However, the strategy needs further elaboration.

### 1.3 Sustainable development potential

*Scale: N/A*

11. The project has environmental co-benefits, including the conservation of the argan forest ecosystem and Argan Biosphere Reserve, reduction of soil erosion and biodiversity conservation.
12. However, as stated in the proposal, the argan natural forest faces major challenges because of its geographic location at the frontier of one of the hottest deserts in the world, and the predicted impacts of climate change in the area with a temperature increase of 0.6 °C to 1.1 °C, and a rainfall decrease between 10 per cent and 15 per cent by 2020.<sup>23</sup> Such trends threaten fruit production and the stability of vital ecosystem services provided by the natural forest.
13. The argan species is known to survive in extremely dry conditions and its water needs are significantly lower than any tree species in the targeted area.
14. However, because of the number of hectares involved in the project, there is a major concern about water availability. There are dry years that could affect the proposal. Therefore, there is a need to provide better information in terms of water balance and ensure that there is no need to use groundwater resources, especially when the agricultural end product (oil) will be exported. Thereby, it is important to avoid the possibility of a net export of water ('virtual water') out of a dry, semi-arid country like Morocco.
15. In terms of social co-benefits, the project reduces poverty and gives opportunities to Moroccan communities to achieve a level of income to sustain their lives.
16. Economically, it creates value chains, increases the productivity and therefore the possibility to negotiate better market opportunities for argan tree subproducts. A successful expansion of argan tree production will increase possible revenues for communities and for the country.
17. The proposal places a special emphasis on promoting women's cooperatives, empowering their role in managing businesses and increasing their level of income.

### 1.4 Needs of the recipient

*Scale: N/A*

18. Morocco is a lower middle-income country with an economy that depends on rain-fed agriculture. According to the World Bank, after a strong economic performance in 2015, the Moroccan economy is sharply decelerating in 2016; illustrating the typical production swing of an economy still dependent on rain-fed agriculture. Thanks to an exceptional 2014/2015

<sup>23</sup> [http://www.fao.org/nr/climpag/pub/FAO\\_WorldBank\\_Study\\_CC\\_Morocco\\_2008.pdf](http://www.fao.org/nr/climpag/pub/FAO_WorldBank_Study_CC_Morocco_2008.pdf)

agricultural season, economic growth rebounded to 4.4 per cent in 2015. However, with the current drought, the 2015/2016 cereal production will be much below average and will force total gross domestic product growth below 2 per cent in 2016. In this context, the country's economy is very vulnerable to climate conditions. Specifically, argan trees rely on water to grow in an effective way, and therefore assuring water balance is essential for this project in the light of increasing risks due to climate change.

19. The communities involved in the project have decent livelihoods and have been able to increase their income due to the argan-based economy. In general, the project should look at economic alternatives in order to assure sustainable production, with options other than grants. Efforts to attract impact investment and public-private alliances so as to encourage growth in the argan economy are needed.

## 1.5 Country ownership

*Scale: N/A*

20. The proposal demonstrates country ownership, but it relies on a few institutions only, such as the Agriculture Development Agency – ADA, and the National Agency for the Development of Oases and Argan Tree Zones (ANDZOA) as part of the Ministry of Agriculture and Fisheries. However, it lacks country ownership by significant institutions such as the Ministry of Industry, Trade, Investment and Digital Economy and also by the private sector's lack of willingness to participate in moving the argan economy forward.

21. The project is aligned with the Green Morocco plan and the NAMA arganiculture programme.

22. The role of the Agriculture Development Agency –ADA in the project is not evident. Furthermore, the project relies on the capacity of a young institution like ANDZOA (created only five years ago) to implement it.

23. The proposal does not include information on consultations with communities and other relevant stakeholders involved in the value chain.

## 1.6 Efficiency and effectiveness

*Scale: N/A*

24. The global argan oil market was 4,835.5 tonnes in 2014 and is expected to reach 19,622.5 tonnes by 2022, growing at a Compound Annual Growth Rate of 19.6 per cent from 2015 to 2022. Argan oil is mainly used for cosmetics, with France buying 78 per cent of the Moroccan production.

25. The plantation of argan trees on 10,000 ha is the first of its kind. The estimated cost of planting the trees is USD 2600 per hectare. The project is expected to generate an internal rate of return of 10.8 per cent over a 30-year project lifetime.

26. For this study, it is assumed that the average production of argan is 25 kg/tree starting in the fifth year of the project before reaching a rate of 40 kg/tree in full development (Cruising time). The efficiency of the investment depends on the number of producing trees that reach full development. That figure is uncertain due to the number of hectares (10,000), the capacity to plant all the expected trees in an effective manner, the rate of survival and, most of all, the availability of water.

27. In general, the economic analysis of the project is very weak. The project proposal is unclear on the modality to plant and maintain orchards. It states that companies will be hired to plant trees. That after two years, the interest groups will be trained to ensure the maintenance of the plantations, harvesting of the fruit and the addition of value to the product. These groups will ensure project sustainability after project completion and implementation.

28. However, this statement is the only rationale for assuring sustainability. The project needs to elaborate further analyses on the sustainability strategy and possible agreements with communities, and to assure concrete investments with co-operatives as well as possible private sector involvement.

29. Beneficiaries will also have to be responsible for managing water catchments that will be built by the Water Basin Agency of Morocco. However, it is important to understand how water investments will be transferred and managed by local communities in an effective manner, and who will be responsible for maintaining the facilities.

30. According to the project proposal, “the arganiculture sector in Morocco is a new agriculture sector and is not an attractive investment opportunity for banks because of its perceived high risk today. Due to this, private sector financing is not available”. ANDZOA remains the only entity responsible for promoting the sector of arganiculture in the area and is the sole financial contributor towards the implementation of this project.

31. However, the project could envisage strategies to attract and involve the private sector and to create financial option including, for example revolving funds that could assure more financial sustainability.

## II. Overall remarks

32. The independent Technical Advisory Panel understands that the proposal presents a real ecosystem restoration effort that will benefit Moroccan communities. However, the project lacks a proper sustainability strategy and is relying on one sole entity, ANDZOA, to manage the project. There is also a big concern in terms of water balance.

33. The independent Technical Advisory Panel recommends that this project is approved subject to fulfilling the following conditions, before signature of the project contract:

- (a) Present evidence of consultations with communities and co-operatives as well as contract agreements to manage the argan forest, the water catchments and the medicinal plant orchards, in the short, medium and long terms;
- (b) Present an implementation plan according to the real capacity to plant and maintain trees by the communities and cooperatives involved in the project. The plan should concur with the contract agreements established with the beneficiaries of the project. . The disbursement schedule will be subject to providing evidence on the progress of the establishment and success of the implementation stages
- (c) Provide a water balance report on the project, including hydrology, evapotranspiration and radiation studies. Ensure that groundwater will not be used, even in dry periods, so as to avoid exporting ‘virtual water’ outside this dry country to wetter countries (e.g. France);
- (d) Develop a complete economic, financial and market strategy that assures that the investment of the GCF will be sustainable after project completion. The market analyses will need to include argan subproducts and medicinal plants; and
- (e) Provide detailed mapping of the current and expected value chain arrangements with concrete initiatives in order to achieve effectiveness, equity and fair market arrangements.

## Independent Technical Advisory Panel's assessment of FP 023

Proposal name:	Climate resilient agriculture in three of the vulnerable extreme-northern crop-growing regions (CRAVE)
Accredited Entity:	Environmental Investment Fund of Namibia (EIF)
Project/Programme Size	Micro

### I. Assessment of performance against investment criteria

#### 1.1 Impact potential

*Scale: N/A*

1. The project, CRAVE, is from Namibia, a semi-arid African country highly susceptible to drought and occasional flash flood. Most of its small-scale farmers (SSFs) rely on pastoral animal husbandry and crop agriculture. They are particularly poor and vulnerable to climate variability and change, their investment in advanced crop production is inadequate which explains the scant level of mechanization. Crop agriculture has therefore remained a subsistence activity in Namibia. The CRAVE project is designed to be implemented in northern/north-eastern Namibia, involving the Kavango West, Kavango East and Zambezi Regions, which are among the poorest regions in Namibia.

2. Crop failure due to very high evapo-transpiration and drought is common, while top drying due to desiccation leads to soil erosion, further affecting crop production potential. Moreover, average crop yield is one of the lowest in southern Africa. Climate variability has already made crop failure a frequent feature of the targeted regions and climate change will make crop production a highly risky affair. Not only do physical and agronomic conditions need to be improved dramatically, the SSF approach to sustainability also needs to be enhanced through training and persuasion towards conservation agriculture. Moreover, SSFs need to be transformed into micro-agricultural entrepreneurs by linking them to greater market forces and their drought-related risks need to be addressed through the introduction of crop insurance (i.e., risk pooling). The CRAVE project appears to be a test case, with modest targets, to address the above.

3. CRAVE targets reducing vulnerability and building resilience to 3,000 SSFs, where about 5,000 hectares of cropland will be made resilient for improved crop productivity by means of better agronomic practices and conservation agriculture (CA). A multi-faceted design is provided, which aims at the following:

- (a) Reducing the effect of drought due to the adoption of irrigated agriculture and practising CA (addressing sensitivity to drought risks);
- (b) Increasing land productivity due to practising CA (enhancing environmental capital);
- (c) Ensuring higher levels of farm-based income due to increased productivity and greater market integration (building financial capital);
- (d) Enhancing the skills of SSFs by means of in-field training (building human capital to attain household food security);
- (e) 'Risk pooling' by the introduction and piloting of crop insurance in areas likely to be affected by climate-induced hazards (contributing to financial capital);
- (f) Increasing overall household food security (human as well as social capital); and

(g) Reducing risk by practising alternative farm-based cropping options (building social and financial capital).

4. The project has a budget of about USD 10.0 million, out of which USD 9.5 million is sought from the GCF as a grant. There is a modest co-financing of USD 0.5 million to be provided by the Ministry of Agriculture, Water and Forestry of Namibia (MAWF). The implementation timeline is set at five years.

5. The number of beneficiaries is not greatly significant, representing only 1 per cent of all poor SSFs in the target regions. From the design, it appears that not all SSFs will be exposed to all types of responses, which significantly reduces impact potential. However, the project might achieve a demonstrative effect. The process of project delivery might instill confidence within the key ministry, MAWF, so as to replicate similar ideas involving similar stakeholders.

6. Exposure to risks induced by climate (i.e., drought in semi-arid conditions) is expected to be reduced by the introduction of irrigation. As long as the total water withdrawal from the Zambezi and other rivers and also from the groundwater aquifers, is limited with a limited number of participating SSFs, the anticipated replication will be possible. However, it is self-limiting in view of any potential up-scaling of irrigation in the region, because of the dwindling nature of the resource bases (both surface flows and groundwater aquifers) in question. The delivery mechanism must keep monitoring net water abstraction and must consider precautionary measures against the excessive use of water beyond sustainable limits for both river water and ground water sources in the target areas

## 1.2 Paradigm shift potential

*Scale: N/A*

7. There is hardly any innovation in the overall approach of the project. The target deliveries are predominantly based on proven techniques and methods, tested elsewhere through various projects and should have been promoted with or without climate change. In the past, a few projects in the country have been doing the same as this project, with the exception of the introduction of crop insurance, which appears to be fairly new in Namibia.

8. One may argue that there exists some innovation potential in creating access to marketing channels by linking producing SSFs with established market mechanisms. The likelihood of the production system becoming a business model is present, however the potential is rather low due to low coverage (involving just 1 per cent of the poor SSFs in the target regions).

9. Other than irrigation (which has the strongest link with climate change adaptation), replication potential is significant. However, it would depend largely on how best MAWF along with the newly created Mashare Climate Resilient Agriculture Centre of Excellence (MCRACE) would engage with and continue to persuade and train farmers across the country.

10. There exists a theory of change, where the involvement of various agencies<sup>24</sup> is envisaged to inspire and enable SSFs to change their 'business as usual' practices in order to internalize a business model of crop agricultural practice. Since a number of things will be tried, it is perhaps premature to judge whether all the components will have equal potentials. As indicated above, irrigation expansion is self-limiting in semi-arid conditions, and is subject to the availability of water resources within sustainable limits for a fairly long time. The expansion of irrigated agriculture, therefore, cannot be envisaged on a larger scale. The insurance scheme has not been tried yet, and its introduction will perhaps remain questionable since the 'willingness to pay' and 'ability to pay' of SSFs have not been tested in real life. Real payouts and frequency of payouts must be weighed against SSFs' willingness and ability to pay an insurance

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<sup>24</sup> Such as MAWF, MCRACE, Agricultural Business Development, and the Agricultural Management Training Programme for Africa.

premium. Market distortion is not desirable, which might jeopardize the viability of insurance as a business product and the long-term sustainability of the risk-pooling effort. Without being fully aware of the situation, an appraisal of the replication potential of crop insurance cannot be performed. (This sub-component, therefore, may only be given a trial under this project.)

11. There is a theoretical high potential for the replication of other components, however, this will remain subject to institutional commitment and continued involvement. Additional costs will be involved in replication and continued service delivery. The Government of Namibia must commit itself to continue with MCRAACE and its activities, far beyond the project timeline. However, not earmarking a budget line for the fifth year of operation of the project raises immediate questions regarding the effectiveness of creating a paradigm shift in the long run.

12. CRAVE is designed as a training-heavy project. Therefore, it offers potential for learning and knowledge-sharing across regions, and even across countries within a region, which have semi-arid cropping conditions. The intended transformation of subsistent agriculture into a business model could offer excellent potential for others to learn from the project and replicate it. The project also aims to promote the implementation of policies. Moreover, the promotion of CA supplements the implementation of the national conservation strategy.

### 1.3 Sustainable development potential

*Scale: N/A*

13. The project aims to deliver aspects which resonate well with the United Nations Sustainable Development Goals (SDGs), contributing directly to SDG nos. 1 (No poverty), 2 (Zero hunger), 5 (Gender Equality) and 13 (Climate action) in particular and indirectly with SDG nos. 3 (Good health and well-being), 6 (Clean water and sanitation), 8 (Decent work and economic growth), 10 (Reduced inequalities), 15 (Life on Land) and 17 (Partnerships for the goals). Despite such a wide range of linkages with SDGs, the overall potential is still moderate due to modest targets involving 1 per cent of the poor SSFs in the three regions and only 5,000 hectares to be served directly. The project is based predominantly on previous projects, and yet it is largely dependent on the involvement of external consultants. The large fraction of the budget (about 16 per cent) which is earmarked for local consultants needs to be reorganized in order to create financial room for increasing the coverage of SSFs and the land area targeted.

14. There are a number of co-benefit potentials. By establishing solar-technology based irrigation systems, the project promises post-installation zero emission irrigation, which contributes to the reduction of greenhouse gases. Unfortunately, this reduction could not be estimated for keeping a record of co-benefit. Since solar technology involves photovoltaic (PV) batteries and these PV systems require frequent replacement (once in every two to three years), ideally, a project monitoring framework should have a mechanism (financial and institutional) so as to identify degraded PV functions and replace them in order to ensure uninterrupted energy supply for irrigation. Without such as uninterrupted supply, efficacy of irrigation would be severely affected and become unsustainable. Efforts must be made to retire exhausted PV systems through an environmentally safe mechanism.

15. As a co-benefit, soil quality – particularly that of degraded and underutilized lands - is likely to be improved by means of practising CA. Weeding without the application of chemical inputs does offer environmental co-benefits, while the application of organic manure and/or composts would contribute to the long-term sustainability of soils in a semi-arid environment.

16. There exist potential economic co-benefits, although the project proponent has not taken an initiative to quantify those. Household income may be boosted if the said 'business model' can be realized, simultaneously reducing the financial burden involved in the application of chemical fertilizers, pesticides/herbicides and also in the application of labour and equipment for tillage. Again, without quantification, the project proposal claims that employment opportunities will be increased, although it remains uncertain as to how crop-based alternative cropping options could contribute to increased employment opportunities.

17. The health and nutritional condition of members of the participating SSF households will be improved; this is likely to be achieved through enhanced food security. Increased income and improved health status will also contribute to reducing inequality – a pervasive problem faced by the poor in developing countries. The project promises to address such issues.

18. The project targets involving women as 50 per cent of all beneficiaries/participants, which offers excellent social co-benefit. It also helps to address intra-society gender inequalities and to provide children with better access to education. Questions, however, remain as to whether participating women, with limited exposure to modern technologies, would still be successfully operating PV-based solar irrigators, keeping in mind that the same training module is applicable to both men and women. The funding proposal has not indicated the existence of a gender-differentiated training needs assessment.

#### 1.4 Needs of the recipient

*Scale: N/A*

19. As indicated in the background to the project, Namibia is vulnerable to climate change induced hazards such as droughts, flash floods and soil erosion. The agriculture sector itself is vulnerable, while the target beneficiaries (i.e. SSFs) are among the most vulnerable people within Namibia. The three target regions also represent an overwhelming majority of poor SSFs. Therefore, their inclusion adequately justifies the high needs of the recipient.

20. In recent years, Namibia has been facing lasting droughts, which have been affecting producers' food security and also the national economy. The three regions have been net food importing regions, which places additional burden on foreign exchange to Namibia. In a bid to fight against food insecurity, Namibia has been spending about USD 40 million per annum to organize emergency responses and relief efforts. Reliance of SSFs has become extremely challenging for Namibia, as it mobilizes external resources towards financing resilience support. A timely effort through a project such as CRAVE could have saved significant funding, the latter could have been utilized for driving other development projects.

21. The primary project stakeholders have limited understanding and knowledge of how to fight the vagaries of nature, while awareness regarding climate change is also rather low. Sporadic pilot efforts in micro-locations could not dent overall vulnerability, which warrants an institutionally driven project to register major effective responses and to propagate the knowledge through the engagement of appropriate partners. The accredited entity (AE) has rightly chosen a set of institutions which can lead to promoting various elements such as solar-based irrigation, conservation agriculture, integration of agriculture and marketing, research and extension, seed production and dissemination, etc. It is expected that, by implementing such a micro-scale project, the participating institutions under the leadership of MAWF will gain confidence and propagate successful elements in other locations.

#### 1.5 Country ownership

*Scale: N/A*

22. The CRAVE project is country-driven and it has not been perceived and developed without the active participation of country-based actors, stakeholders and institutions. In the project design stage, adequate consultations have been organized and stakeholders' views have been considered with care. A collaborative institutional arrangement involving national agencies and institutions has been proposed, which testifies to greater inter-institutional cooperation in dealing with climate change. However, recognizing that the Government of Namibia spends about USD 40 million per annum to emergency responses and relief, and the leverage of having the presence of disaster risk reduction-related national authority being ignored in the formulation and functioning of the Project Management Unit, it is recommended that greater institutional arrangement be forged by inviting such a representative agency to engage with the Project Management Unit.

23. The project is in harmony with national policies and commitments. The basic concept has emanated from the National Policy on Climate Change, which also resonates with Namibia's Nationally Determined Contribution. The project will contribute to efforts of the national conservation strategy, the Namibia Comprehensive Conservation Agriculture Programme and the Namibia Green Scheme. The components of the project are in line with the Third National Communication of Namibia, submitted to the United Nations Framework Convention on Climate Change secretariat.

24. The proposed executing entity (EE) is MAWF, which has the mandate to promote climate-safe agriculture in the country. It has embarked similar projects in the past for support, utilizing micro-scale projects worth USD 4 million to USD 6 million. The executing entity has a track record of developing and delivering projects involving multi-lateral financing sources such as Deutsche Gesellschaft für Internationale Zusammenarbeit, the European Union and the Global Environment Facility.

25. The project has been designed in consultation with a variety of stakeholders, including civil society organizations, the private sector (promotion of crop insurance), and research and academic bodies. Overall country ownership is therefore high.

## 1.6 Efficiency and effectiveness

*Scale: N/A*

26. The project is worth USD 10.0 million, of which 95 per cent is sought from the GCF as grant. Given the high vulnerability of the country, its global position in Africa, and the acute vulnerability of the poor SSFs living in the target regions, other than the investment in crop insurance (worth US\$ 1.09 million), the rest of the proposed finance is adequately justified as grant. If the investment in crop insurance is earmarked for facilitating the policy regime for the sector and to create an example, that portion may also be considered for receiving GCF grant. From the proposed project, it is uncertain how the specific component will be elaborated and implemented.

27. Since the proposal states that "... the operational cost for the partners/agencies/ stakeholders are contained within the baseline investment cost [...] thus CRAVE will not cover for transaction costs or their operations but purely to collaborate and coordinate to ensure sustainability", on principle, the project deserves adequate consideration. However, one must notice a consultant-heavy budget allocation (taking up about 16 per cent of the budget), which somewhat weakens such a bold statement.

28. The overall financial aspects, as proposed, will be managed by a Project Implementation Unit under MAWF. Instead of relying too much on local consultants (as reflected in the budget), MAWF should deploy its human resources and learn from such experience, which will pay dividends in future project expansions.

29. The proposed MCRACE may have a lasting impact only if its human resources are duly internalized beyond the project period. The long-term sustainability of project outcomes depends on replicability, where MCRACE will play the most significant role. There should be firm commitment from the Government of Namibia and adequate budgetary allocation from internal sources in order to run the proposed body way beyond the project timeline. Otherwise, a pilot project involving only 1 per cent of the stakeholders will not be able to make much appreciable difference in such a risky landscape.

30. If such uncertainties are overlooked, analyses of the internal rate of return and net present value of the investment are found to be encouraging. The internal rates of return for the three target regions appear to be within a healthy range of 26 to 44 per cent, which signifies that GCF investment under the project can have significant positive value. Given that the country and its sector is a high priority one in GCF criteria, a people-centric micro-scale project with a potential economic value looks promising and worthwhile.

## II. Overall remarks

31. The independent Technical Advisory Panel (iTAP) supports the idea of extending resilience support to the drought-affected small-scale farming communities of Namibia and trying to transform the subsistence economy to embracing a business model of agricultural production, thereby attaining greater food and economic security. While the iTAP recommends the project to be approved, it also requests the Board to impose the following conditions on the AE:

- (a) Provide a letter of commitment to the GCF before financial closure, confirming that the proposed MCRACE will continue to function, with expanded coverage as envisaged, with no further external support beyond the project period;
- (b) Submit complete scientific analytical evidences (hydrogeology and hydrology studies) to the GCF before the mid-term review of the project, ensuring that both surface and groundwater utilization for irrigation will not lead to unsustainable use of water resources from either of the sources;
- (c) Supply a revision of the budget before the second disbursement, demonstrating the rationale of inputs to various budget heads and also exhibiting unit costs, ensuring allocation for the functioning of the proposed MCRACE throughout the project period (including the fifth year). The budgetary revision shall create financial rooms by decreasing dependence on external consultants, and moving towards increasing coverage of SSFs and land area targeted, especially for the coverage of irrigated agriculture, in line with the adaptation targets set in the proposal;
- (d) Confirm, by written expression, an increase in the number of field-trial sites from the three sites to involving all regions (three sites per region). Such revision will be made before financial closure; and
- (e) Provide for a revised logical framework to the satisfaction of the Secretariat before financial closure, illustrating all the activities under the various components and exhibiting all the indicators, taking into consideration the provisions created under condition #3 above.

32. In addition, the iTAP recommends the AE does the following:

- (a) Finalize the monitoring and evaluation framework taking into consideration the safe removal/retiring of exhausted solar PV systems and their timely replacement so that sustained irrigation is possible;
- (b) Develop a gender-differentiated training manual, based on local-level gender considerations and needs, for managing a solar-based irrigating system is developed and utilized; and
- (c) Invite a representative of the national authority in charge of delivering disaster risk reduction to the Project Management Unit, so that a greater inter-agency integration of project activities might be forged.

## Independent Technical Advisory Panel's assessment of FP 024

Proposal name:	Promoting resilient community based natural resource management livelihoods in Namibia
Accredited entity:	Environment Investment Fund of Namibia (EIF)
Project/programme size	Micro

### I. Assessment of performance against investment criteria

#### 1.1 Impact potential

*Scale: N/A*

1. The project entails the provision of enhanced direct access (EDA) to critically needed climate finance in order to promote adaptation options planned and executed at the community level through community based natural resource management (CBNRM) and community-based livelihood resilience activities. The objective of the project is to “empower rural communities of the Namibian CBNRM Network to respond to climate change (CC) in terms of awareness, adaptive capacity and low-carbon development”. The project, therefore, entails three fundamental blocks: awareness, adaptive capacity-building and mitigation. Under an EDA arrangement, endorsed by the Board through decision B.10/04, this is the first proposal. It met the requirements for compliance on governance as well as implementation arrangements in line with the terms of reference (TOR) set out for EDA arrangements.

2. Since the TOR under decision B.10/4 did not specifically supersede the investment criteria for assessing funding proposals, the present assessment of the proposal applies the same investment criteria, fully acknowledging its inadequacies in its application to EDA projects.

3. The project design focuses predominantly on delivering CBNRM by means of mobilizing EDA finance at the grass-roots level through community-based organizations (CBOs) and another component (1) that deals with the enhancement of local adaptive capacity through various capacity-building training. Such training sessions are directed at the local rural beneficiaries, CBOs involved and local institutions taking part in local governance. The EDA financing (as those in component 2) will be delivered on a competitive basis to the qualifying CBOs, applying GCF investment criteria in the EDA awarding process. Three different financing modalities (i.e. windows) have been proposed: (1) a fund to promote climate-resilient agriculture, (2) a fund for the installation of climate-proof infrastructure, and (3) a fund to restore ecosystem health by advancing CBNRM.

4. The EDA pilot project recognizes that, due to uncertainties in EDA design, it appears difficult to project the total number of direct and/or indirect beneficiaries. However, a rough estimate shows that a total of 15,500 people spread over a vast area including the Kunene region (north-western Namibia), Kavango East and Kavango West, the Zambezi and Otjozondjupa regions (north-eastern Namibia) will directly benefit, while a four-fold increase in the number of individuals in the same regions will indirectly benefit from the project. The third funding window mentioned above will create provisions for ecosystem enhancement in about 7.2 million hectares of forest land. Such activities will be directed to enhance four different biomes: (1) tree savannah, (2) shrub savannah, (3) Namibian desert, and (4) Nama Karoo. The project, however, does not provide convincing rationale for determining its direct and indirect beneficiaries, due to uncertainties regarding grant-awarding processes in the future.

5. The intended awareness-raising and training will empower the communities, which include those most vulnerable, including female-headed households as well as their CBOs. While the advance of the project's impact appears to be somewhat adequate, its extent could be marginal since the climate change responses are mostly designed to address the adaptation needs of an already vulnerable food production system (e.g. crop agriculture and pasture); the resultant increase in adaptive capacity has to be low due to the application of adaptive modalities in semi-arid regions undergoing climate change that are only marginally better than the originals.
6. However, as a pilot project, it is likely to offer opportunities for learning and improvement of knowledge. Despite this, the learning may not lead to any potential demonstrative effect for other CBOs to replicate, since any future extension/expansion/replication will be subject to continued support from external sources. Such statements limit the project's impact potential significantly..

## 1.2 Paradigm shift potential

*Scale: N/A*

7. The solutions suggested in the funding proposal and in the feasibility study report are not particularly innovative; rather they are based on micro-scale applicability. Agricultural adaptive capacity-building will still lead to crop production involving varieties that will continue to remain susceptible to drought in a semi-arid environment. Micro-scale infrastructure will aim to ameliorating adverse climate-induced impacts, bringing micro-scale benefits (also not quantified), while CBNRM techniques will be applied in order to sustain of ecosystem goods and services, including carbon sequestration. The prevailing paradigm will largely continue, perhaps being only slightly modulated by incorporating responses to climate change.
8. The only new dimension proposed is the involvement of community members in watching for and recording changes in climate systems and in subsequent biogeohydrological responses to such changes. This effort will help develop a local record of the cause-effect-response cycle, which will enrich local skills to deal with future climate change.
9. Where possible, low carbon technologies such as solar-powered irrigators will be used for building adaptive capacity. However, no effort to address long-term sustainability issues regarding solar photovoltaic systems/batteries is evident.
10. No specific theory of change is presented in the proposal, which is why the project extended its scope to embrace non-climatic aspects of empowerment such as the capacity-building of CBOs so as to improve governance practices.
11. A potential for learning exists in the project. Several rounds of training have been designed, involving CBO representatives and local people. However, such training will be conducted by external personnel/agencies, which might not leave a lasting learning impression on training recipients. No effort will be made to identify policy needs and/or to address policy gaps in relation to future service delivery.
12. The replication of good practices without further financial support has not been envisaged, which makes the project less attractive. Since poor farmers' subsistence production will be given importance, no effort will be made to integrate their production system with the market. Moreover, value chain integration could have been more beneficial to the participating communities.
13. As indicated above, opportunities for scaling up without having to commit continued financing do not exist. The absence of a theory of change around replication potential makes it difficult to envision how this project will leave a positive and essential lasting impression which would encourage adaptation.

### 1.3 Sustainable development potential

*Scale: N/A*

14. The project offers some indications that it could contribute to the sustainable development agenda for Namibia. Indeed, the project could directly serve three of the United Nations Sustainable Development Goals (SDGs): SDG 1 (no poverty), SDG 2 (zero hunger) and SDG 13 (climate action). However, because of uncertainties around the overall number of beneficiaries and the rather low estimated outcome of community-based grant activities, with limited scaling up possibilities, the overall contribution to major social and economic SDGs will be limited.

15. There are uncertainties regarding the effectiveness of CBNRM grant windows, with each grant application focuses on CBNRM in its own unique way, involving four different biomes. However, the funding proposal anticipates that CBNRM alone will provide improved forest management benefits in about 7.2 million hectares of land. Despite the fact that the funding proposal did not highlight carbon sequestration co-benefits, one may expect a net saving in the order of 35 tonnes of carbon dioxide per hectare (t CO<sub>2</sub> ha<sup>-1</sup>), thereby amassing a total of 252 Mt CO<sub>2</sub> projected to be saved *ex ante* from this project. However, it remains uncertain whether the *ex post* emission saving will be of the same order after the completion of the project.

16. In terms of sustainable development potential, the gender dimension deserves attention. The project's target is that 50 per cent of the beneficiaries will be women. The project expects that in the governance of CBOs, the participation of women will be ensured. Moreover, it should be noted that female-headed households will be given preferential treatment in the project's delivery.

17. The project is expected to create some jobs during its implementation phase, which adds modest social as well as economic co-benefits.

### 1.4 Needs of the recipient

*Scale: N/A*

18. Namibia is vulnerable to climate variability and will be one of the worst drought-affected countries in Africa due to climate change. In addition to drought, Namibia is affected by soil erosion and flooding, particularly in its northern and north-eastern regions. People have been struggling with persistent drought and climate change will exacerbate such hazards, leading to crop loss and food insecurity.

19. The majority of the population of Namibia constitutes rural poor smallholders, who are engaged in frequently failing subsistent crop agriculture and pastoral activities. A significant proportion of the rural poor consist of female-headed households. Tourism provides some income, subject to the well-being of forest resources and the biodiversity therein – which are being threatened by climate change. In order to safeguard forest degradation, the rural poor have accepted CBNRM as a practice, and they manage forest lands and/or conserve resources by organizing themselves under CBOs. Since this group of people does not have information or knowledge regarding climate variability and change, awareness-raising and capacity-building in terms of knowledge is required.

20. Namibia, with support from various development partners, has been investing in CBNRM since the early 1990s, which has helped forest conservation, counteracted forest fragmentation and restored ecosystem health, which has allowed for forest biodiversity to be sustained. This, in turn, positively contributed to tourism – a source of income for many poor households. However, Namibia's investment in rural infrastructure is rather poor. Much of this infrastructure, which offers adaptive capacity for those affected by climate change, cannot be refurbished and installed without external support such as GCF financing. Since the entire project is designed to support subsistent production systems and livelihoods of the rural poor, the entire GCF support is anticipated to be fully concessional. Since the CBNRM activities under

CBOs do not appear viable to attract financial institutional support, the GCF grant appears justified. However, in some cases (such as the training of CBOs to practice better governance) the full concessionality is not justified.

## 1.5 Country ownership

*Scale: N/A*

21. Namibia announced its National Policy on Climate Change in 2011, which has an accompanying strategy and action plan approved by its government. Namibia also put forward its intended nationally determined contribution, in support of the Paris Agreement. The country has been promoting conservation agriculture and CBNRM, as part of Agriculture, Forestry and Land Use priority actions, and its development policies are synergistic to programmes which are linked with the current proposal.

22. Namibia's institutional arrangements for advancing the climate change agenda are well-placed. While agricultural and pastoral activities are directed by the Ministry of Agriculture, Water and Forestry, its climate change agenda is directed by the Ministry of Environment and Tourism (MET). MET is responsible for steering the project, through a multi-agency set up towards ensuring better coordination. The National Designated Authority has officially endorsed the project. In addition, inter-agency consultation as well as public consultation took place. Moreover, it may be seen as a logical extension of CBNRM activities, to blend CBO activities with adaptation and low-carbon development, which indicates that the project elements will be approved by their primary constituencies.

23. Furthermore, the grant finance based sub-projects will be designed by CBOs, which will ensure further consultation and social integration, especially with the poor and women.

24. A strong governance structure and process has been designed for the project, which is fully in line with the EDA TOR.

25. The accredited entity (AE) has implemented CBNRM projects in the past with public and donor financing, and has an adequate track record for such projects. Moreover, some CBOs have implemented CBNRM activities, and therefore have significant field-level experience. Despite all this, it is anticipated that CBOs might not have the capacity to plan and execute grant finance based sub-projects, which enhances operational risks and makes the project less attractive.

26. In order to address the deficiencies of CBOs, the project has created room for providing active operational support to participating CBOs by a 'technically capable' set of eight non-governmental organizations and a university, subject to choice of respective CBOs. For this support, the respective CBOs (and therefore, the GCF) might have to charge a delivery fee as high as 25 per cent of total grant allocation, in addition to the usual project management fees of the AE.

## 1.6 Efficiency and effectiveness

*Scale: N/A*

27. As expected in an EDA project, the project is designed to offer grants to CBOs through a competitive process. The average grant amount per grant type has been adequate for the pilot case.

28. Project service delivery appears to be costly. From the grant amount that ensures the mobilization of funds to the most vulnerable populations of Namibia, as much as 25 per cent may go to grant sub-project facilitating partners – removing difficult to access resources from the most vulnerable. Such high transaction costs are undesirable, though it is argued that the high service delivery cost may be attributed to a low population density across the target areas.

29. Since the majority of the finance will go towards creating three funds and since project details cannot be anticipated at this stage, it appeared impossible to judge whether (1) the

overall project and (2) each of the funded sub-projects will be economically viable or not. The absence of such financial information on the project and sub-projects does not allow the assessment of whether the internal rate of return and economic rate of return (ERR) will be worth investment. In general, the proposal indicates that projects of this type do not greatly appeal to financial institutions and are generally dependent on grants from public sector authorities.

30. In the absence of such information, the effectiveness of past financing in similar projects may be examined. In CBNRM projects covering a period of 16 years in Namibia, the ERR was 14.91 per cent. Moreover, for CBNRM projects for individual conservancies, the ERR could range between 22 and 131 per cent. If forest-related gains through CBNRM are considered, which would include nearly 48 per cent of project resources, good financial returns despite considerable uncertainties would be anticipated. However, for the rest of the project, a similar examination cannot perhaps be undertaken.

31. The EDA project does not offer any co-financing, although some of the CBOs have been dealing with foreign-financed CBNRM projects over two decades. No attempt has been made to make grant windows more attractive to investors by placing conditions on deserving CBOs that they will have to commit a certain percentage of the sub-project finance as co-finance.

32. It is premature to comment on whether the project and its sub-projects being financed by three grants will apply best practices or not, since uncertainties remain regarding the grant proposals yet to come. Such uncertainties not only reflect inadequate inference regarding the effectiveness of the financing itself, they also do not advocate for the propagation of best practices against known climate-induced hazards.

33. EDA projects are supposed to be inherently different to other projects, offering sub-projects through grant finance. Details on the latter cannot perhaps be provided in a funding proposal. Therefore, the application of a usual assessment tool such as funding criteria appears inadequate in order to appraise an EDA project. This warrants an immediate decision by the Board in order for alternate funding criteria to be developed and endorsed prior to embarking on any new EDA project.

## II. Overall remarks

34. Clearly, the current funding criteria appear inadequate to assess EDA funding proposals. Since no alternative has been made available for assessment, the independent Technical Advisory Panel (iTAP) had no option but to use the available tool – the funding criteria. Moreover, major uncertainties regarding overall impacts, paradigm shift potential and particularly the effectiveness and efficiency of project financing exist, which could not have been avoided due to the enforced application of the only available analytical tool.

35. Based on the current assessment, the iTAP has no choice but to raise red flags regarding the overall effectiveness of such an inadequately designed EDA project, having a significant range of uncertainties, which might provide a bad example for future EDA arrangements under the GCF. However, the iTAP realizes that the project may be worth experimenting with, in order to learn from EDA processes. The iTAP therefore recommends the project for approval.

36. However, the Board should place the following conditions on the project proponents:

- (a) A clear effort should be made by the AE, prior to the second disbursement for the project, to clearly indicate the overall project targets regarding impacts on all three grant-based activities, segregated by type of adaptation and low-carbon development, including approximate carbon sequestration potential from CBNRM activities;
- (b) The budget should be revised prior to the signing of the contract, removing non-climate components such as the strengthening of CBO governance, and with the saved

allocation, the coverage of grants for drought reducing adaptive capacities could be strengthened and/or increased allocation could be made to incentivize innovative sub-components such as activity 2.1;

- (c) A clear written commitment should be provided to the GCF by the accredited entity MET, prior to the signing of the contract, to invest the 'environment levy' in order to sustain the functioning of project-related gains (particularly those related to component 2 activities and activity 2.1 of component 1), beyond the project period and to scale up the project ideas.
- (d) Prior to the signing of the contract, clear written assurance should be received from MET, to the satisfaction of the Secretariat, that the transaction cost for supporting activities under component-2 will be limited to a maximum of 15 per cent of the three grant facilities.

## Independent Technical Advisory Panel's assessment of FP 025

Proposal Name:	Sustainable Energy Financing Facilities
Accredited Entity:	European Bank for Reconstruction and Development (EBRD)
Project/Programme Size	Large

### I. Assessment of performance against investment criteria

#### 1.1 Impact potential *Scale: medium to high*

1. The proposal is for the GCF to provide a USD 420.5 million co-financing programme (USD 382.5 million non-grant and USD 38 million grant) in order to expand and scale up the sustainable energy financing facilities (SEFFs) being implemented by the accredited entity (AE). With the proposed GCF co-financing, the AE aims to establish a USD 1.5 billion fund pool in order to provide credit lines to partner financial institutions (PFIs) in developing countries across the Middle East and North Africa, Western and Central Asia, and Southern and Eastern Europe. The credit lines will be used to provide local businesses and households with financing for sustainable energy projects in three areas: energy efficiency, renewable energy and climate resilience (mainly through water-use efficiency). The AE assumes that it will develop 10 SEFFs (national and regional) to cover 13 countries in 3 regions during the life of the programme. The total fund of USD 1.5 billion has been allocated between the countries based on AE market analysis and projection. PFIs will be selected by the AE during implementation.

2. Impact potentials are estimated taking into account the existing projects of the AE and country/industry allocation of the programme fund. It is estimated that the facility, over a 15-year period will install a 309 MW low-emission generation capacity, save 3,533 GWh of energy via energy efficiency investments, and enhance the awareness of 53,000 people of climate change. In total, the programme will reduce emission by 29 million tonnes of carbon dioxide equivalent (Mt CO<sub>2</sub> eq) in 15 years.

3. The AE commissioned an external review of the methodology and accuracy of its SEFF CO<sub>2</sub> eq saving impact assessment. The review confirmed that assumptions and projections used by the AE are considered conservative estimates of the impact potential.

4. Impact potentials vary among countries and regions. The AE provided an impact potential for the programme based on countries/industries in annex 1 to the funding proposal. The Secretariat also scales the impact potential based on the countries in its assessment. The independent Technical Advisory Panel (TAP) rates the impact potentials of most of the countries as "Medium" or "High". Accordingly, the whole programme is rated "Medium/High".

#### 1.2 Paradigm shift potential *Scale: low to medium*

5. The proposal expects to scale up systematic financing of renewable energies, energy efficiency and climate resilience investments in 13 countries. Local financial institutions currently have a balance sheet limited in size and lack the capacity to analyze and assess climate projects. The proposal concludes that by providing a large source of liquidity for green projects as well as a technical assistance facility, the programme would contribute to creating self-sustaining markets in the targeted regions and help to finance the countries' intended nationally determined contribution targets.

6. Paradigm shift potential may vary depending on the countries involved. In general, the TAP shares the assessment in the proposal that a limited balance sheet size and lack of capacity of local financial institutions in analyzing and assessing climate change projects is one of the bottlenecks broadly observed. The proposed on-lending structure with local financial institutions is widely observed in climate change financing, however. Therefore, the proposed SEFF can be considered to be effective but not necessarily a unique or innovative approach to lead paradigm shift. The funding proposal illustrates an approach that the AE and SEFFs intend to generate a paradigm shift under the programme based on their experience. However, the illustration falls short in presenting detailed analysis and descriptions of bottlenecks and possible paradigm shift impacts.

7. The AE has been engaging in policy dialogue through a variety of channels with governments and the private sector. The AE will continue to enhance policy dialogue to promote a regulatory platform in order to support sustainable energy financing in the countries in question. The technical assistance (TA) facility will also be mobilized so as to enhance the capacity of end beneficiaries (i.e. business and industry). Accordingly, the proposed programme is demonstrational and has potential, although not yet clearly identified, to contribute to paradigm shift. Accordingly, the TAP concludes that the paradigm shift potential of the proposed co-financing programme is "Low/Medium".

### 1.3 Sustainable development potential

*Scale: medium to high*

8. The funding proposal states that the sustainable development potential of the SEFFs includes their support for the small- and medium-sized enterprise sector and hence private sector development in the programme countries. With the financial and technical support of the proposed facility, private sector banks and businesses are expected to develop their capacity to play a key role in mitigating impacts of climate change in the countries. The programme expects to create 11,500 jobs of which over 10 per cent is expected to be women, and benefit over 90,000 people.

9. The TAP endorses the facility's positive impact on private sector development. The financial sector and small- and medium-sized enterprise sector are both critical drivers for economic development and for the creation of employment. The contribution of the facility to women exists but seems to be moderate. The TAP views that the sustainable development impact of the whole programme is "Medium/High", in general. However that of each country may vary

### 1.4 Needs of the recipient

*Scale: high*

10. The proposal concludes that the regions covered by the programme are extremely energy-intensive, and that enhancing energy sustainability and energy efficiency is a critical agenda. According to the Secretariat assessment, 17 countries from Southern/Eastern Europe and Central/Western Asia represented only 0.5 per cent of global renewable energy financing activity in 2014. The Middle East/North Africa will also require a substantial amount of investment in the energy sector in the future.

11. The proposed programme is expected to contribute to developing the banking markets in order to promote energy efficiency and renewable projects in those regions. Accordingly, the TAP considers the needs of the recipient in those countries to be "High".

## 1.5 Country ownership

*Scale: medium*

12. The funding proposal claims that the facility is well-aligned with the national climate strategies and priorities of the pilot countries. The AE has been in contact with national designated authorities and has secured civil society organization/non-governmental organization engagement. Eight no-objection letters have been secured. The remaining no-objection letters will be received before the programme is implemented.

13. While an SEFF is, in principle, in alignment with the respective countries national climate strategies, the level of country ownership and commitment varies. Some countries (or regions) have developed a sector strategy/policy or legal/tax framework in order to advance the national strategies, which indicate a higher country ownership.

14. Nevertheless, the TAP presumes that most of the countries to be covered by the proposal could be rated as "Medium" against this country ownership criterion.

## 1.6 Efficiency and effectiveness

*Scale: high*

15. The proposal expects a co-financing ratio between private sector investment and the GCF to be 5:1 based on the experience of the AE with the Clean Technology Fund in TurSEFF. It is estimated that cost to the GCF per t CO<sub>2</sub> eq would be USD 11.6 if the programme fund is fully utilized.

16. The efficiency of the programme will be subject to successful on-lending of all of the SEFF funds to PFIs and borrowers. The TAP has little information to confirm that a co-financing ratio of 5:1 of TurSEFF can be achievable in the proposed large-scale programme that covers 3 regions and 13 countries. Nevertheless, the TAP is aware that a co-financing ratio of financial institution on-lending structure is generally high. In the proposed programme, the AE itself will arrange and mobilize around USD 1.1 billion. The GCF is able to take advantage of the wide range of networks of the AE with local financial institutions. Therefore, the facility can be rated as "High" given the high co-financing ratio together with the large co-financing amount, if it is appropriately implemented.

## II. Overall remarks

17. The TAP recommends that the Board approve the proposal as presented.

18. The proposed USD 420.5 million co-financing programme aims to support expansion and scaling up of the SEFFs being implemented by the AE in the regions specified in the funding proposal. The programme fund, to be managed by the AE, will be disbursed based on the proposed country allocation and only when national/regional SEFFs are established and subprojects are identified. It will remain uncertain if and when the fund is utilized until the end of the programme. However, the AE has been successfully implementing SEFFs in the countries and maintained a broad network among PFIs in the regions specified. Given the capacity of the AE and the availability of a TA fund to train and assist PFIs, the proposed programme can be implemented within a reasonable time frame. Nevertheless, since the proposed programme covers 13 countries in 3 different regions, the Secretariat is expected to work closely with the AE during implementation.

19. As an aside but in relation to the proposed programme, the Board may guide the Secretariat and the TAP as to if and how this type of a co-financing proposal can be evaluated and considered for GCF assistance in the future. A co-financing facility is likely to be efficient taking advantage of the experience and track record of the AE. It could achieve a large ratio of co-financing as well. However, such proposals are likely to cover a large number of countries or sectors. As a result, there is a risk that funding proposals and assessments could become less



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focused than a project proposal that covers one or only a few countries. Scaling a large number of diversified countries as a one group against the investment criteria is impractical and may also be viewed as misleading.

## Independent Technical Advisory Panel's assessment of FP 026

Proposal Name:	Sustainable landscapes in Eastern Madagascar
Accredited Entity:	Conservation International (CI) and the European Investment Bank (EIB)
Project/Programme Size	Medium

### I. Assessment of performance against investment criteria

#### 1.1 Impact potential *Scale: N/A*

1. The FP (funding proposal) consists of three main components dealing with Climate Change mitigation and adaptation:

- (a) The development of climate resilient/climate smart agriculture (component 1 (A7.0,A8.0) - adaptation);
- (b) The increase of renewable energy production (component 2 (M6.0) - mitigation); and
- (c) The increase of carbon stock through the reduction of forest degradation and support for sustainable forest management (component 3 (M9.0) – cross-cutting).

2. In addition, there is a component (A5.0) for the strengthening of institutional capacity, including capacity for the sustainable financing of future climate change mitigation and adaptation actions. Based on the title of the proposal (“Sustainable Landscapes in Eastern Madagascar”), all three components of the proposal should be conceptually linked and implemented in one area/in the same landscape, complementing each other. According to the FP and feasibility study (FS), two of these three activities are planned on the same landscapes: Ankeniheny-Zahamena Forest Corridor (CAZ) and Ambositra-Vondrozo Forest Corridor (COFAV) landscapes, and consequently the mutual impact of Malagasy rainforests (component 3) and local agricultural practice (component 1, slash and burn called *tavy*) is focused by the project. The feasibility study notes that “at this stage the exact renewable energy projects that will be funded are not finalized. However, feasibility studies will be developed for each of the potential investments prior to any decision being made”. In its response to a question from iTAP to clarify this issue, the accredited entity (AE) submitted a map of potential hydropower plants, including their capacities and locations. For some of them, projects have already been developed. In addition, the AE clarified that this renewable component will not necessarily be implemented on the targeted landscapes – CAZ and COFAV. Consequently, the impact, feasibility and sustainability of this component (2) could not be assessed at this stage of proposal development.

3. Apart from this, component 2 is fully in compliance with the country’s intended nationally determined contribution (INDC) priority in the energy sector which is the facilitation of access to energy by strengthening existing systems, and by promoting renewable and alternative energies (hydraulic and solar) from the current level of 35 per cent to 79 per cent. Another priority area in the energy sector (submitted in the INDC) is the dissemination of improved cookstoves (by 2030: 50 per cent of households adopting improved stoves), which might be relevant to this project but is not covered by the proposal.

4. Component 3 of the project is focused on increasing forest carbon through the sustainable management of forests. In particular, two additional protected areas, CAZ and COFAV, formally established in 2015, will be supported by the project. According to the

additional clarification provided by the AE, funding for ongoing activities ends in 2016 and the GCF allocation of funding will be used for the continuation with the REDD-plus process in these new protected areas. In cases where there's successful management of the mutual impacts of forest and agriculture as well as local community and sustainable management of protected territories, this component could be considered to be an activity which has a real impact on vulnerable communities, local biodiversity, the sustainable management of landscapes and the increase in carbon stock.

5. This component (3) is also fully in compliance with the country's INDC priorities in the land use, land-use change and forestry (LULUCF) sector. The country's INDC states that if nothing is done, Madagascar's total emissions will increase from 87 million tonnes of carbon dioxide equivalent (Mt CO<sub>2</sub> eq.) in 2000 to reach 214 Mt CO<sub>2</sub> eq. in 2030. Total absorptions will decrease from 290 Mt CO<sub>2</sub> eq in 2000 to 92 Mt CO<sub>2</sub> eq. in 2030, which will change the country's status as a carbon sink of 203 Mt CO<sub>2</sub> eq. in 2000 to an emitting source of 22 Mt CO<sub>2</sub> eq. in 2030.

6. Key measures prioritized by Madagascar for the LULUCF sector are: the promotion of REDD-plus and the large scale adoption of agroforestry.

7. In addition, if there is any type of climate change impact on the forest sector contributing to forest degradation as a natural disturbance (ND), it should also be considered by the project. The intensification of cyclones is considered as a major climate change related threat by Madagascar (as indicated in its INDC) which might have an impact on forest degradation. According to the proposal, the only cause of forest degradation is anthropogenic. In order to reduce the project implementation risks, this assessment should be integrated in the proposal.

8. The biggest share of financial allocation is to the first component of the project: a sustainable/climate-smart agriculture programme for smallholder farmers accompanied by an investment subcomponent. In order to assess the impact of this component a rigorous and in-depth climate change baseline study should be provided demonstrating the already revealed impact of climate change on the agriculture sector, food security and land degradation as well as potential future trends for this impact on the targeted locations. Climate change related events (droughts, intensity of precipitation and cyclones) and their impact trends should be detailed specifically rather than in general. Furthermore, the following specific areas of impact for each of these climate change events should be specified:

- (a) Did land degradation take place?
- (b) How, why and when did it start and how many hectares are already degraded?
- (c) What type of degradation is it, etc.?
- (d) Did per hectare productivity decrease?
- (e) How did harvest/product quality change?
- (f) How, why, etc., did the degradation of plants, etc., occur?

9. The whole proposal is too much focused on the socioeconomic, political and other problems causing land degradation and food deficit. This focus is important but without good climate change analysis gives the impression that climate change does not contribute to the problem and therefore the information is not provided.

10. All the above elements are very important for sustainable development planning and impact assessment but the GCF has its priority areas, and adaptation means that there are already some signs of the negative impact of climate change. Because of this gap, the impact of this component (1) cannot be assessed until the completed feasibility study on the climate change impact downscaled on the targeted territories and relevant measures planned to combat this impact are provided.

11. One of the key measures of sustainable agricultural practice considered by the project is to stop the current practice of *tavy* (slash and burn) which significantly contributes to forest degradation and deforestation. However, according to the FS “one recurring issue is that smallholders often revert back to traditional practices, with associated fall in yields, once the support of ‘projects’ ends”.<sup>25</sup> In its response to the question from the iTAP on how the long-term sustainability will be ensured in this case, the AE clarified that this reversion happens in the case of short-term projects (three to five years) and in this case, activities under way and planned for CAZ and COFAV are specifically designed to address the shortcomings of short-term projects. Further details on concrete measures are not provided in the response.

12. The results of intensive stakeholder consultations conducted by the country and AE show a lack of knowledge and information on the potential climate change impact on these particular landscapes; based on which measures should be planned, local farmers should be educated and the impact of this component could be assessed. This component could not be assessed based on the provided information.

13. The INDC of Madagascar provides a general picture of the climate change impacts on the agriculture sector in Madagascar, these are as follows:

- (a) The destruction of agricultural crops and fields due to heavy rains, floods and stormy winds;
- (b) Decreasing yields and soil fertility loss;
- (c) Water stress (irregular rainfall patterns, drought and deficit in some areas); and
- (d) 30 to 60 per cent of the population of Southern Madagascar suffers from food insecurity due to drought periods.

14. The following priority measures are planned by the country:

- (a) The large-scale dissemination of intensive/improved rice farming techniques (System of Rice Intensification (SRI));
- (b) The large-scale implementation of conservation agriculture and climate-smart agriculture; and
- (c) The dissemination of arboriculture (from 2018: 5,000 ha per year).

15. This component is also fully in compliance with the country’s INDC priorities in the agriculture sector. However, the impact of climate change on agriculture is described in general in the FP and is not downscaled for the particular landscapes targeted by the project.

16. In addition, the agriculture sector is also considered by the country for mitigation in its INDC with the aim of reducing 3 Mt CO<sub>2</sub> eq of emissions through ‘conservation agriculture’ and ‘rice culture’ which also might be considered by the project.

## 1.2 Paradigm shift potential

*Scale: medium*

17. The paradigm shift potential of this FP is quite low and mainly has a local context. Elements of the paradigm shift are presented in component 1 only – planned change from traditional non-sustainable, resource depleting, vulnerable to climate change agricultural practice (*tavy*) to climate resilient/climate-smart sustainable agricultural practice; simultaneously protecting adjacent community-managed forests. The replicability of the concept could be considered as a possible option but is similar to many other adaptation measures; these measures vary by climatic zone, land category and management tradition, and each measure should be adapted to the local situation.

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<sup>25</sup> Funding proposal, p. 42.

18. There is another element of paradigm shift in the financial scheme: drawing to the project USD 15 million (USD 10 million for equity and USD 5 million for smallholder farmers loans with the same 'juniority' terms as the GCF equity participation) mobilized through green bonds issued by the European Investment Bank (totalling EUR 300 million equivalent). However, the private sector funding coming from the portion of the foregone coupon is contingent upon the successful issuance of the USD 300 million bond by the European Investment Bank.

### 1.3 Sustainable development potential

*Scale: high*

19. The sustainable development potential of the project, if successfully implemented, is very high with all risks being reduced. Particular contributors to the sustainable development process are component 1 (sustainable agriculture) and component 3 (sustainable forest management). Sustainable interaction between these two components at the targeted landscape level with the continued participation of all planned stakeholders will contribute to sustainable development not only in these landscapes but in the whole country. The joint planning of these two sectors (agriculture and forestry) has high replicability potential at the national level.

20. Access to finance and to markets opened by the project for small farmers should be highlighted as priority goals in the sustainable development process.

### 1.4 Needs of the recipient

*Scale: high*

21. In 1991, Madagascar was classified by the United Nations as a least developed country in terms of its low gross national income, its weak human assets and its high degree of economic vulnerability.

22. The FP considers all socioeconomic, financial, institutional, health-related and other needs, including poverty, in detail.

23. However, for climate change vulnerability a more general picture is provided in the FP, which is not further refined at the landscape level targeted by the proposal. The country's INDC and other documents demonstrate the country's needs related to climate change vulnerability and adaptation. The LULUCF sector with forest degradation and deforestation is the highest priority for Madagascar, followed by land degradation (coastal zone erosion) and agriculture.

24. In the energy sector, the facilitation of access to energy, development of rural energy and increase in the share of renewable in the energy supply are the country's needs and priorities.

### 1.5 Country ownership

*Scale: high*

25. According to the documents referred to in the FP, Madagascar, a Party not included in Annex I to the United Nations Framework Convention on Climate Change (UNFCCC), is very active in climate change related activities. The principal document that should be considered within the context of this proposal is the country's INDC which nominates the following four sectors as priority areas under the Paris Agreement:

- (a) Energy (one of the measures: increase the share of renewable energy);
- (b) Agriculture (one of the measures: development of climate-smart agriculture pilot initiatives that are integrated models of resilient agriculture);
- (c) LULUCF (one of the measures: restoration of natural forest land and improved connectivity between habitats; promotion of REDD-plus); and

(d) Waste (not considered by the proposal).

26. The first three of these sectors are considered as three components of the FP which prove the country's ownership of the project along with the involvement of climate change related governmental structures in the implementation process.

27. Table 1 on page 41 of the FP provides a summary demonstrating how project outcomes are aligned with, and contribute to, key national policies and strategies.

## 1.6 Efficiency and effectiveness

*Scale: N/A*

28. By 2030, Madagascar aims to reduce its greenhouse gas (GHG) emissions by approximately 30 Mt CO<sub>2</sub> eq. (14 per cent of its national emissions), compared to the 'business as usual' scenario, with projections based on the GHG inventory from 2000 to 2010. This reduction is additive to the absorptions increase in the LULUCF sector, which is estimated to reach 61 Mt CO<sub>2</sub> eq. in 2030. The total increase in GHG absorption is expected to reach 32 per cent, compared to the 'business as usual' scenario. However, these objectives remain conditioned by financial support, which will be received from global partners (conditional contributions). Madagascar relies on support from the international community to reach this objective through the UNFCCC and other existing or future financial mechanisms. The estimated total costs of INDC implementation is USD 42 billion with USD 6 billion for mitigation and USD 28.7 billion for adaptation.

29. The project mitigation potential (10 Mt CO<sub>2</sub> eq taking into consideration that potential reduction will be achieved and verified by the accredited programme Verified Carbon Standard -VCS) from only one component (Forests) is quite impressive 11 per cent (10/(30+61)) of total committed reduction with 0.2 per cent (USD 70 million) of total INDC costs (USD 42 billion).

30. According to the FP, USD 0.5 million of GCF funding will be invested in a 1 MW installed capacity of renewable energy (component 2 – renewable energy, total USD 24 million and a 33 MW installed capacity), which is quite efficient for the hydropower plants planned by the project. However, the financial efficiency of this component could not be realistically assessed at this stage. From a carbon mitigation perspective, it is not realistic to make assessments until actual generation and consumption data are available along with the replaced baseline fuel consumption. In the response provided by the AE regarding the details of component 2, it was clarified that the real amount necessary for the installation of the 33 MW renewable is USD 50 million, which seems a little bit high (USD 1.5 million per MW) even taking into consideration the technical analysis needed. The conclusion is that the efficiency of this particular component varies from medium to high and for the GCF part of funding only it is rated as high.

31. The independent Technical Advisory Panel understands that the Secretariat has reviewed and been satisfied by the information provided by the AE on the market study, potential project pipeline, and capacity of the fund manager in relation to GCF investment in the proposed investment fund.

32. The project has 23 per cent co-financing of total costs against a 77 per cent from the GCF which also seems quite efficient. From this 77 per cent of the GCF share, a 27 per cent of total project costs and 35 per cent of the GCF share is a grant from the GCF for a five-year period which is USD 1.7 million annually and could be considered a quite efficient and effective scheme for implementation if the results promised by the project are achieved which could not be evidenced at this stage, when risks are very high due to the unsatisfactory FS.

33. The FP states that the "carbon value" (or the market value of avoided emissions credits) generated by the investment fund (expected to be at least 10 Mt CO<sub>2</sub> eq. of avoided emissions in the 10-year period) are the sole and only property of the GCF (i.e. other investors do not have a claim on either the carbon credits or their market value as part of the above-described waterfall

and profit-sharing mechanisms). This statement has value if the GCF already has a clear policy on carbon credits, while an international policy on countries commitments is not clear at this stage.

## II. Overall remarks

34. Based on the assessment provided above, the independent Technical Advisory Panel supports the approval of the project subject to the following conditions prior to financial closure:
- (a) Complete a climate change baseline impact study for the agriculture sector on targeted landscapes and provide planned measures for climate-smart agriculture based on this demonstrated impact;
  - (b) Provide detailed analysis of concrete measures preventing the “return back to traditional practice” and other measures ensuring the long-term sustainability of the results; and
  - (c) Provide forest management reference level/baseline information for these particular landscapes, including NDs. Also provide information on the potential impact of NDs on the forest sector contributing to forest degradation with the preliminary assessment of risks for project success.

## Independent Technical Advisory Panel's assessment of FP 027

Proposal Name:	Universal Green Energy Access Programme (UGEAP)
Accredited Entity:	Deutsche Bank AG
Project/Programme Size	Large

### I. Assessment of performance against investment criteria

#### 1.1 Impact potential

*Scale: high*

1. The Universal Green Energy Access Program (UGEAP) is a USD 300 million, one-of-a-kind, debt fund aiming to increase the amount of clean energy accessible to rural households, communities and small- and medium-sized enterprises in Benin, Kenya, Namibia, Nigeria and the United Republic of Tanzania. Furthermore, it aims to replace fossil fuel based energy production with renewable energy components. UGEAP may be expanded with an additional USD 200 million (phase 2) to cover additional countries in sub-Saharan Africa. UGEAP pursues investment in off-grid renewable energy supply to households (category I), mini-grid renewable energy supply (category II), and industrial renewable energy supply and selected on-grid installation (category III). UGEAP expects to conclude 50 investments with a total target volume of USD 500 million over a five-year investment period. Further investments are expected before the fund is matured 15 years after closing.
2. According to the assessment of the Secretariat, the proposal anticipates a total reduction in CO<sub>2</sub> of 50 Mt CO<sub>2</sub> eq in 15 years. It also projects the installation/ rehabilitation of low-emission power generators with a total capacity of 1,520 MW in the proposed term of 15 years. The number of households with access to low-emission energy is expected to increase by 461,400 as a result of this project. These impacts are calculated based on the methodologies presented in the proposal and the assumptions, including the allocation of UGEAP investments among different categories.
3. The impacts can be regarded “high” if UGEAP is successful in investing USD 2.1 billion, as set out in its base case.

#### 1.2 Paradigm shift potential

*Scale: medium*

4. The proposal identifies a lack of long-term debt financing for the renewable energy sector in the targeted countries as being one of the key bottlenecks in the project. Another key bottleneck is the lack of structure within which international investors are willing to invest. A debt fund specializing in developing countries is not widely observed because private sector investors perceive it as a high-risk and low-return proposition. UGEAP is proposed to address the two bottlenecks.
5. Currently, local FIs are not equipped with the technical expertise to examine renewable energy projects/programmes. They also view the sector to be high risk (and low return) in general. Therefore, local FIs have little interest in supporting the sector. UGEAP proposes to address the bottleneck by offering local FIs a direct loan, risk participation and/or a syndicated loan. The proposal anticipates that once the business case has been proven, UEGAP will be able to continue operating without a public sector risk-taker. Furthermore, it also anticipates that

local FIs would provide finance to renewable energy transactions without UEGAP support. The TAP agrees that UGEAP is innovative in its approach to connecting international investors with local FIs in order to develop the renewable energy sector in the targeted countries. The TAP also agrees that a debt fund to finance the renewable energy sector in sub-Saharan Africa is unique.

6. The TAP believes that the development of the knowledge and expertise of local FIs is key to the success of the proposed initiative and GCF involvement. Otherwise, the expected impacts of UGEAP will be undermined and unsustainable. The proposal indicates that the AE will provide knowledge support to local FIs. However, the proposal provides little detail on its strategy in this regard. Given the importance of developing the capacity of local FIs, the TAP is of the view that the absence of a strategy and detailed programme in this regard weakens its paradigm shift potential.

7. Overall, the TAP scales the proposal's paradigm shift potential as "medium".

### 1.3 Sustainable development potential

*Scale: high*

8. The programme supports the development of the banking sector, and of the private sector in general. According to the Secretariat's assessment, the proposed programme supports the creation of 15,000 jobs over 15 years. More than 460,000 households or groups of households and 900 small- and medium-sized businesses will have better access to low-emission power resources. In addition, 1,520 MW of low-emission power generation capacity will be installed. Improvement in health and education is also expected. The proposal possesses significant developmental potential for job creation, the development of women, and access to low-emission energy resources.

9. The TAP considers the sustainable development potential of the programme to be "high".

### 1.4 Needs of the recipient

*Scale: high*

10. The proposal aims to promote access to electricity for households and businesses that are not connected to the national grid, and are likely to remain so for the foreseeable future. It will further contribute to enhancing the stability of power supply to industry from renewable power sources.

11. Local FIs are also in need not only of long-term debt financing sources, but also of a transfer of knowledge and expertise on the subject in order to enable them to understand renewable energy transactions and finance renewable energy projects. UGEAP intends to offer local FIs both long-term debt financing and knowledge transfer by lending or taking over risks.

12. Accordingly, the TAP rates the programme as "high" with respect to needs of the recipient.

### 1.5 Country ownership

*Scale: medium*

13. The proposal confirmed that the targeted countries have identified power/energy development as one of the key pillars of economic development. According to the proposal, all countries have the promotion of renewable energy sources high on their political agenda. The TAP understands, however, that regulatory and financial support to enhance that political agenda remains under development. The proposal anticipates that UGEAP will share knowledge with national and local governments on solar solutions and on the role of the private sector in promoting the scaling up of renewable energy solutions as a basis for industrial and other economic development initiatives.

14. Accordingly, the TAP rates the proposal as “medium” against this criterion.

## 1.6 Efficiency and effectiveness

*Scale: high*

15. UGEAP is expected to mobilize private sector funding and channel it directly or through local FIs to the sector in the target region; this requires a substantial amount of funding in the long term. The proposed amount (USD 80 million) of GCF funding represents 26.6 per cent in phase 1. Accordingly, a leverage of 3.75 times is projected. Taking into account the fact that UGEAP is a ‘one-of-a-kind’ debt fund in the region, the TAP is of the view that the projected leverage ratio is sufficiently high.

16. Assuming that UGEAP is successful in mobilizing funding from public and private sector investors, the TAP rates the proposed programme as “high” against the efficiency and effectiveness criterion.

## II. Overall remarks

17. The UGEAP is ‘one-of-a-kind’ fund to provide long-term debt financing to local FIs to promote access to clean energy for rural households, communities and small- and medium-sized enterprises in Benin, Kenya, Namibia, Nigeria and the United Republic of Tanzania. Long-term debt finance is critically needed for business and industries, especially to promote access to clean energy in those countries.

18. A debt fund specializing in developing countries is not widely observed because private sector investors perceive it as a high-risk and low-return proposition. While the AE has extensive experience in raising capital from the market, it remains to be tested if UGEAP is able to secure funding from private sector investors as proposed. The direct experience and involvement of UGEAP in the local market is limited. It will remain unknown if and when the fund is utilized until partnered local FIs are selected and sub-projects are identified. Accordingly, the TAP views the proposal as a high-risk proposition. The Secretariat is expected to monitor and work closely with the AE and UGEAP during development and implementation.

19. Development of the capacity of local FIs is essential for the GCF to realize the targeted impacts and mitigate risks in the long term. The proposal is less comprehensive in presenting the strategy and programme in this regard. The TAP is also of the view that UGEAP needs to be instrumental in the process of governments integrating and embedding renewable energy solutions in their long-term national development policies and initiatives. It will help UGEAP to mitigate risks in relation to its investments and enhance impacts in the target region in the long term.

20. The TAP recommends that the Board consider the proposal with the following conditions:

- (a) The AE prepares, for review and endorsement by the Secretariat before the signing of financial agreements, a strategy and programme to develop the capacity of local FIs to evaluate, credit rate, structure and monitor renewable energy business and projects prior to the first GCF disbursement. The programme should take into account the availability of funding to address the need for continuous training and follow-ups during the term of UGEAP. The strategy and programme need to be reviewed and updated so as to help local FIs to effectively respond to developments in the sector and regions;
- (b) The AE also prepares, for review and endorsement by the Secretariat before the signing of financial agreements, the UGEAP plan to develop and supervise the capacity and implementation of local FIs to guide and monitor proactively their borrowers’ implementation of and compliance with GCF E&S requirements and international best

practices with respect to UGEAP intervention. The plan should include, among others, a scheme to properly control and monitor disposal of solar power equipment such as batteries. The implementation of the plan needs to be reported by the AE to the GCF annually for GCF review and guidance. The AE and UGEAP need to ensure sufficient funds to be allocated to ensure the sustainable implementation of the plan; and

- (c) Before the end of its second year of operation, UGEAP should prepare and implement, together with its partnered local FIs and corporations, a strategy and plan for disseminating knowledge and lessons learned to local and national governments in a periodic manner. UGEAP should include in its annual report to the GCF discussions and feedback received from governments in terms of regulatory developments in the sector and region as a result of the operation and contribution of UGEAP.
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