

**PROJECT INFORMATION DOCUMENT (PID)  
CONCEPT STAGE**

Report No.: 104245

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<b>Project Name</b>	MZ - FCPF REDD+ READINESS PREPARATION SUPPORT
<b>Region</b>	GENDR
<b>Country</b>	Republic of Mozambique
<b>Sector</b>	Forestry
<b>Lending Instrument</b>	Grant under the Forest Carbon Partnership Facility
<b>Project ID</b>	P129413
<i>{If Add. Fin.}</i> <b>Parent Project ID</b>	P129413
<b>Recipient(s)</b>	Republic of Mozambique
<b>Implementing Agency</b>	MITADER
<b>Environmental Screening Category</b>	<input type="checkbox"/> A <input checked="" type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> FI <input type="checkbox"/> TBD (to be determined)
<b>Date PID Prepared</b>	December 15, 2015
<b>Estimated Date of Appraisal Completion</b>	N/A
<b>Estimated Date of Board Approval</b>	N/A
<b>Concept Review Decision</b>	Dec 10, 2015

**I. Introduction and Context**

**A. INTRODUCTION**

1. This Project Paper seeks management approval to provide an Additional Funding (AF) Grant in an amount of US\$5 million from the Forest Carbon Partnership Facility (FCPF) to the Republic of Mozambique in support of its ongoing REDD+ Readiness Preparation process. This Additional Funding Grant complements the US\$3.6 million Second Grant Agreement (signed on July 15, 2013). Activities under the original Readiness Preparation Grant (original grant) were satisfactorily completed as of the Mid-Term Review on June 30, 2015. As of October 31, 2015, 81 percent of the original grant has been committed and 52 percent already disbursed. Mozambique's Request for Additional Funding in the amount of US\$5 million was approved at the 20<sup>th</sup> FCPF Participants' Committee meeting in November 6, 2015<sup>1</sup>.
  
2. This grant would allow the country to finalize the preparation of the R-Package<sup>2</sup>, specifically for the preparation of the national Reference Emissions Level (REL);

<sup>1</sup>

[https://www.forestcarbonpartnership.org/sites/fcp/files/2015/November/Resolution%20%20Mozambique%20mid%20term%20and%20additional%20funding\\_FINAL1.pdf](https://www.forestcarbonpartnership.org/sites/fcp/files/2015/November/Resolution%20%20Mozambique%20mid%20term%20and%20additional%20funding_FINAL1.pdf)

<sup>2</sup> The Readiness package (or R-Package) is produced by countries at the end of the first phase, and is a collection of documents required by the World Bank's Forest Carbon Partnership Facility (FCPF) at the end of the readiness

Measurement, Reporting and Verification (MRV) system; strengthening the REDD+ Strategy through information from landscape Programs that are being designed; maintenance of the Technical Unit of REDD+ (UT-REDD+); promotion of communication activities; and public consultations. The proposed additional activities seek to complete the ongoing REDD+ Readiness process. The grant would have a Closing Date of December 31, 2018.

3. Drawing on the mid-term evaluation of the REDD+ process conducted in June 2015 by an independent consultant hired by the GoM, Mozambique self-assessed its REDD+ Readiness as **satisfactory**, and identified the remaining technical gaps and associated financial needs towards the preparation of a R-Package. Detailed information on progress achieved under the original grant and the rationale for additional funds are contained in Mozambique's Mid Term Progress Report (MTR) and Request for Additional Funding, available at the FCPF website<sup>3</sup>.
4. The proposed FCPF AF Grant has the same Project Development Objective (PDO) as the original Readiness Preparation Grant: "to contribute to the adoption of national REDD+ strategy and of the national legal and institutional framework for REDD+". The activities will fall under three components: (i) Readiness organization and consultation; (ii) Reference emissions level/reference levels; (iii) Monitoring Systems for Forests, and Safeguards.
5. In the beginning of 2015, the government of Mozambique created a new Ministry of Land, Environment and Rural Development (MITADER) which brought together the previous Ministry of Coordination of Environmental Affairs (MICOA) and part of the previous Ministry of Agriculture (MINAG). The main mandate of this new ministry is to lead, plan, coordinate, monitor and ensure the implementation of policies related to the management and administration of lands, forests and wildlife, the environment, conservation area and rural development, including REDD+. The UT-REDD+, which was coordinated by both a director of the previous MICOA and a director of the previous MINAG is now under this new ministry, and is directly attached to the Unit that manages international funds, which in turn is linked directly to the Minister. This proposed Additional Funding Grant would be implemented by this unit. There are no new safeguards policies triggered and the Environmental Assessment (EA) Category remains B (partial assessment).

## B. BACKGROUND AND RATIONALE FOR ADDITIONAL FUNDING

6. **Relationship to Systematic Country Diagnostic.** The activities planned under the additional funding for implementation of R-PP in Mozambique fit with the "Systematic Country Diagnostic"<sup>4</sup> (2015) of the World Bank. The SCD identified 3 priorities thematic areas: a) Growth; b) Inclusive Growth; and c) Sustainability. Related to Growth, this

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phase. It consists of 5 core elements: 1) a REDD strategy; 2) an Implementation framework; 3) a Monitoring Reporting and Verification (MRV) system; 4) a Reference Level scenario (REL); and 5) safeguards.

<sup>3</sup> [https://www.forestcarbonpartnership.org/sites/fcp/files/2015/September/Mozambique%20MTR%20Final\\_Sept4.pdf](https://www.forestcarbonpartnership.org/sites/fcp/files/2015/September/Mozambique%20MTR%20Final_Sept4.pdf)

<sup>4</sup> The new Country Partnership Framework for 2016 to 2021 is currently under preparation.

additional funding would contribute to: i) Strengthen land tenure security to address low productivity by operationalizing regulations for the transfer of rural land user rights, strengthening the land cadaster, and undertaking a forestry inventory and strengthening forest information system; and ii) Promote the participation of local communities in the management of natural resource. On the thematic area Sustainability, this project would contribute to i) Address issues of environmental sustainability that compromise livelihoods to mitigate the effects of climate-related changes and unsustainable practices on agricultural productivity, and institutionalize policies to manage forests and avoid accelerated deforestation. The activities to be developed under this additional funding grant are also aligned with The World Bank Group's Twin Goals, namely the fight against extreme poverty by reducing the number of people living on less than US\$ 1.25 day to less than 3% until 2030, and boosting shared prosperity, as they aim to promote benefits from natural resources management to rural population.

7. **The activities planned under this additional funding are linked to strategic national development programs.** The Plano Quinquenal is the Government of Mozambique's Five-Year Plan (2015-2019) for economic and social development. The Plan's 5th strategic pillar is focused on transparent and sustainable management of natural resources and the environment, one objective of which is to ensure green growth in national development priorities, and the conservation of ecosystems, biodiversity and sustainable use of resources. Programa Estrela, guided by the priorities of the Plano Quinquenal, is MITADER's flagship program for sustainable rural development. It has the principal objectives of developing infrastructure and revitalizing rural production, with the following strategic pillars: capacity development and technology transfer; infrastructure for market access; improved access to energy and water; and improved access to financial services. It is closely aligned with the Government's Rural Development Strategy (2007-2025). Projecto Floresta em Pé is MITADER's flagship project for forests and is part of the reform in the forest sector to confront critical challenges around illegal logging and weak governance. It aims to promote sustainable rural development and stimulate the forest sector by reinforcing good forest management practices and supporting incentives and sustainable alternatives in forest management.
8. **Mozambique's REDD+ Process.** The REDD+ Readiness process in Mozambique began with the creation of the REDD + Working Group in 2009, after the approval of R-PIN submitted by the Government of Mozambique to the FCPF in March of that year. The main result of the REDD + Working Group was the preparation of the R-PP, which was approved by the FCPF Participants Committee in March 2012. The Bank started supporting Mozambique's REDD+ program in 2012 through a three phase process: (1) readiness preparation being implemented through the FCPF Readiness Fund (providing financing for the Formulation and Preparation stages – which this additional funding is part of); (2) investment – being prepared through the Forest Investment Program (FIP)<sup>5</sup>, the related Dedicated Grant Mechanism for Local Communities (DGM), the ongoing

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<sup>5</sup> FIP – Mozambique was selected into the FIP in May 2015, and is currently finalizing its Investment Plan. FIP funds are expected to fund national-level forest governance reforms and the implementation two landscape-level REDD+ programs (Cabo Delgado and Zambezia). The FIP will be implemented by the REDD+ Technical Unit.

IDA/GEF MozBio<sup>6</sup> project; and the IDA Agriculture and Natural Resources Landscape Management project (under preparation); and (3) a performance-based payment through the FCPF Carbon Fund, which has recently provisionally accepted the Zambezia Integrated Landscape Program into its pipeline. These phases integrally reinforce each other: national policies and strategies developed with FCPF readiness support and investments under FIP can help to lay the groundwork for later emissions reductions and ultimately facilitate performance based natural resource finance for Mozambique. Mozambique's REDD+ Readiness program is a key feature of the Government's response to climate change and the promotion of sustainable rural development and contributes to its efforts to access and apply global climate finance to development challenges (with support of the Bank and other partners).

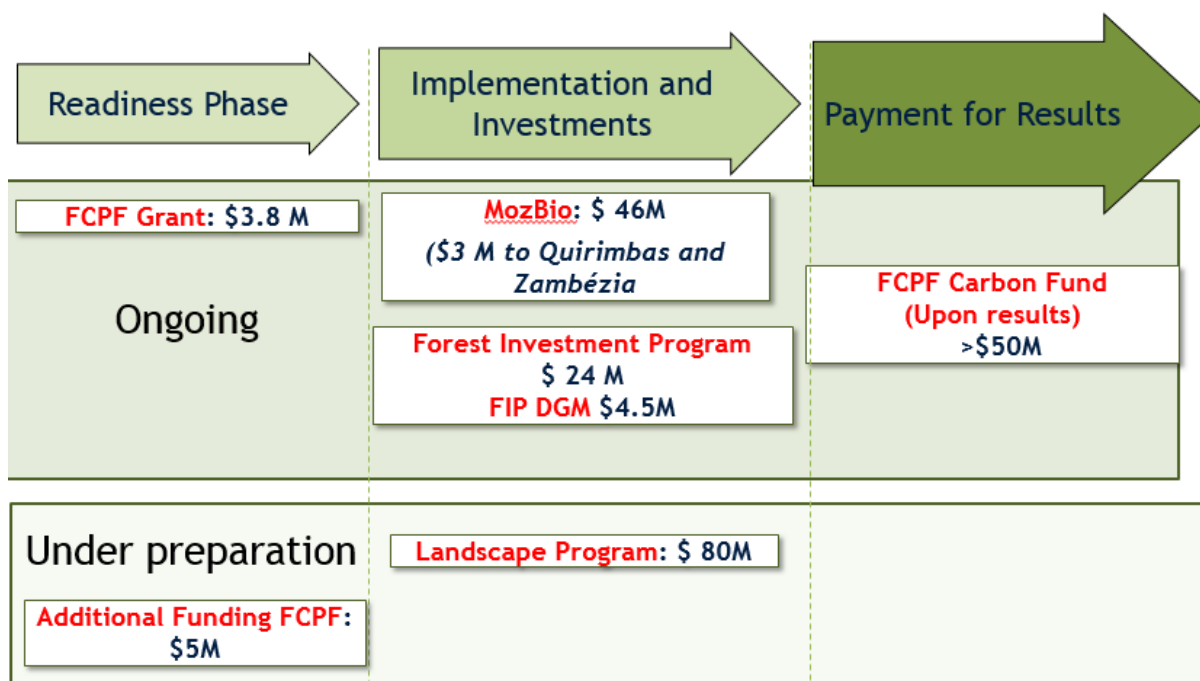
9. **Linkages with other WB operations – the Forest Investment Program and MozBio.** The REDD+ Readiness process in Mozambique is building strong coordination mechanisms in Mozambique. The Forest Investment Program, for instance, is currently being designed by the UT-REDD+, and will finance the two pilot programs selected during the REDD+ Readiness process. The Mozbio project, even though implemented by the National Protected Areas Agency, is being implemented in close coordination with the UT-REDD+. As a concrete example, the service provider which will implement MozBio-funded REDD+ activities on the ground was selected in consultation with the UT-REDD+. The provincial REDD+ Coordinators in both Cabo Delgado and Zambezia are also in charge of supervising MozBio-funded activities. Hence, the REDD+ agenda is also contributing to further integration and coordination across different departments within MITADER
  
10. **Activities and policies by other Ministries related to REDD+.** Beyond MITADER, other key ministries are also related on REDD+ activities. The Ministry of Agriculture and Food Security (MASA) has adopted a National Action Plan on Conservation Agriculture in 2014, and REDD+ would promote its implementation. The Ministry of Mineral Resources and Energy, through their renewable energy directorate, has been promoting new biomass energy sources which could reduce pressure on forests. And the Ministry of Civil Work, attempts to mainstream the concept of 'green infrastructures', whereby the impact on forest cover of infrastructure development is duly considered and mitigated. All these Ministries are represented in the national Technical Review Committee (TRC)

Figure1: Ongoing and under preparation operations in support of REDD+ in Mozambique

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<sup>6</sup> MozBio (US\$46 million IDA and GEF, 2015-2018) – Through GEF funds (US\$3 million), the project will fund activities to reduce deforestation around two protected areas currently under a lot of pressure: the Gile Reserve in Zambezia, and the Quirimbas National Park in Cabo Delgado. MozBio is implemented by the National Protected Areas Agency, under ANAC

## Agricultural and Natural Resource Landscape Management Projects



11. **Key Achievements under the Original Grant.** The National REDD+ Readiness Process goal is to contribute to the adoption of national REDD+ Strategy and of the national legal and institutional framework for REDD+. The activities under the original financing are moving steadily towards achieving their objectives. Overall progress is Satisfactory.
12. **National REDD+ Management Arrangements,** In August 2013, the Technical Unit for REDD+ (UT-REDD+) was created, and officially established by the National Decree 70/2013 ("Regulation on Procedures for Approval of Emission Reduction Projects of Deforestation and Forest Degradation - REDD+"), approved by the Presidential Cabinet in December 2013. In 2015, the UT-REDD+ has been strengthened with 9 full-time dedicated employees: i) a senior technical assistant; ii) a pilot project coordinator; iii) a coordinator for the Zambézia Program; iv) a coordinator for the Cabo Delgado program; v) a financial specialist; vi) a procurement specialist; vii) a communication specialist; viii) a safeguards specialist; and a ix) REDD+ Strategy technical assistance.
13. The National Steering Committee or **Technical Revision Committee (CTR) for REDD+** is in place and having regular meetings. It has the goal of promoting inter-institutional coordination among sectors and stakeholders, and is composed by representatives from the Ministry of Culture and Tourism, Ministry of Gender, Ministry of Education, Child and Social Action, Ministry of Industry and Commerce, Ministry of Economy and Finance, Ministry of State Administration and Public Function, Ministry of

Justice, Constitutional and Religious Affairs, Ministry of Mineral Resources and Energy, as well as by representatives from the private sector, NGOs and research institutions. **Decentralization of the REDD+** is also taking place, as local coordinators were hired to oversee and coordinate the ER Programs in Zambezia and Cabo Delgado provinces, and province-level multi-stakeholder committees were created in the two provinces.

14. In regards to the promotion of **multi-stakeholder consultations**, the government has conducted around 30 public consultations related to the preparation of the National REDD+ Strategy at both national, province and district levels, with more than 2000 people consulted since the grant agreement was signed until Oct, 2015. Several **communication materials** were produced and disseminated, including a website, Facebook page and publications. In 2014, the UT-REDD+ established a dialogue platform with civil society, private sector and NGOs in order to carry out communication and outreach programs. The platform has shown to be an effective instrument to help disseminate, discuss the Decree 70/2013 and other REDD+ related issues.
15. **A first draft of the National REDD+ Strategy is already prepared and is currently being revised for the presentation at the COP 21 in Paris.** This Strategy is being prepared based on ongoing analytical studies: Analysis of drivers of deforestation, forest degradation and strategic option to address those drivers; Legal and institutional frameworks for REDD+; the Strategic Environmental and Social Assessment (SESA) for REDD+; Studies and workshops to settle the definition of forest in Mozambique; and broad support to enhance communication, consultation and outreach to several stakeholders.
16. **Institutional framework for REDD+.** Mozambique adopted the Decree 70/2013 in December 2013 and was one of the few countries worldwide to establish rules and procedures to guide investments in REDD+ as well as define the legal treatment of REDD+ demonstration projects.
17. **Safeguards Management.** The Strategic Environmental and Social Assessment (SESA) and the in-depth analysis of the Legal Framework for REDD+, currently being undertaken by UT-REDD+, provide an excellent opportunity to evaluate how REDD+ is currently functioning from an institutional perspective. By identifying issues that currently constrain a streamlined implementation of REDD+, UT-REDD+ would have the opportunity to establish an improved and more concrete structures within MITADER, with defined roles and responsibilities for internal technical officers that will be in charge to implement REDD + activities.
18. One highlight of 2015 is the preparation of two landscape pilot projects: The Zambezia Integrated Landscape Management Program and the Cabo Delgado/ Quirimbas Landscape Program. The ER-PIN for the Zambezia program was presented at the **FCPF Carbon Fund meeting in October 2015 and was accepted provisionally into the Carbon Fund pipeline**<sup>7</sup>.

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<sup>7</sup> <https://www.forestcarbonpartnership.org/CF13>

19. **The proposed activities under AF.** The additional funding aims to support the preparation of the Mozambique R-Package, as well as the government ambitious reform at the forest sector and forest governance changes. As described in section III, activities will focus on supporting the National REDD+ Readiness management arrangements; preparation of a Reference Emissions Level; operationalization of the MRV system; as well as the preparation of ERs programs.
20. **The government of Mozambique requests:** the government presented a request for additional funding before the FCPF Participants Committee (PC) at its 20th meeting held in November, 2015 in San Jose, Costa Rica. At this meeting, the PC adopted resolution PC/20/2015/2 and allocated funding to Mozambique up to an additional US\$5 million to continue with its preparation for Readiness. .

## **II. Proposed Development Objective(s)**

### **A. Proposed PDO**

21. The Project Development Objective remains unchanged from the original grant. It is to contribute to the adoption of national REDD+ strategy and of the national legal and institutional framework for REDD+.

### **B. Key Results**

22. In addition to the three results indicators identified for the original US\$3.8 million grant, it is proposed that 3 new results indicators are added. The additional results indicators reflect aspects of the National REDD+ Readiness Process that were not fully addressed in the US\$3.8 million grant but that would be addressed under Additional Funding.
23. The achievement of the original PDO are being measured through the following results indicators:
  - I. A national strategy to reduce emissions from deforestation and forest degradation (REDD+) is prepared and validated by national stakeholders;
  - II. The legal and institutional framework for the implementation of the strategy is prepared and validated by national stakeholders; and
  - III. A Strategic Environmental and Social Assessment (SESA) including an Environmental and Social Management Framework (ESMF) are prepared and validated through participatory stakeholders' consultation.
24. The achievement of Additional Funding objectives would be measured through the following additional results indicators:
  - I. The R-Package is prepared and validated by national stakeholders;
  - II. Two landscape programs would be designed;
  - III. The national Reference Emissions Level is submitted to the UNFCCC

### III. Preliminary Description

#### D. Additional Funding Activities

1. The additional funds would support the National REDD+ Readiness process activities in three R-PP components, namely:
  - i. Readiness organization and consultation
  - ii. Reference emissions level/reference levels
  - iii. Monitoring systems for forests and Safeguards

25. The requested amount and its components are summarized in the table below.

Table 1. FCPF Additional Funding components/activities and budget

<b>Components/activities supported with FCPF additional funds</b>	<b>Amount (USD)</b>
<b>1. REDD+ Readiness Management Arrangement, Legal Framework and Preparation of Pilot Projects</b>	<b>2,500,000</b>
1.1. Support to REDD+ Readiness Management Arrangements, communication and consultation activities	900,000
1.2. Strengthening Mozambique's Forest Governance	400,000
1.3. Preparation of Emissions Reductions Landscape Programs (studies, safeguard instruments, consultations, communication, coordination of activities, and team hiring, etc.)	1,200,000
<b>2. Reference Emissions Level/Reference Levels</b>	<b>1,700,000</b>
2.1. Development of an updated national lu/lc base map	200,000
2.2. Development of historic land covers change maps	150,000
2.3. Design and implementation of the national forest inventory	960,000
2.4 Improved tools and methodologies for estimating carbon pools	250,000
2.5 Development of FREL/FRL	140,000
<b>3. Monitoring Systems for Forests</b>	<b>800,000</b>
3.1. Preparation of MRV	500,000
3.2. Purchase of equipment	300,000
<b>TOTAL</b>	<b>5,000,000</b>

#### Description of Additional Funding Components

##### Component 1. Strengthen the REDD+ Readiness Management Arrangement, the National Legal Framework and Pilot Landscapes Programs (US\$2.5 million)

2. Under the original grant, the Government of Mozambique made significant progress on developing a national REDD+ Coordination Unit (UT-REDD+) composed by 9 technical experts, and establishing a multi-stakeholder national steering committee for the REDD+ Readiness Process (Comite Técnico de Revisao - CTR), all created and governed by a



national Decree. Progress has also been made in conducting multi-stakeholder consultations and communication activities.

3. The Additional Financing would support i) the REDD+ Readiness Management Arrangements, communication and consultation activities; ii) the Strengthening Mozambique's Forest Governance; and iii) the Preparation of Emissions Reductions Landscape Pilot Programs.
4. The outputs related to this components are: 9 technical staff hired at the National Level UT-REDD+<sup>8</sup>; 9 technical staff hired at the Zambézia Province and 9 technical staff hired at the Cabo Delgado Province<sup>9</sup>. At least 3 meeting per year with the CTR; consultations with local communities on the REDD+ Strategy and the design of the Landscape REDD+ Programs; communication activities at both national and local level; and studies to support the forest sector reform and the design of the landscape programs. An Emissions Reductions Program Document (ER-PD) will also be prepared, and submitted for FCPF approval.

### **1.1. Support to the REDD+ Readiness Management Arrangements, communication and consultation activities (US\$0.9 million)**

5. The AF grant would cover the consultat fees and operational costs of the National UT-REDD+; and the technical meetings of the National Steering Committee (Comité Técnico de Revisão). Communication activities that could be supported by this additional funding are the maintenance of the REDD+ website and blog; media campaigns; radio and TV spots; and publications. Consultations activities are planned to be undertaken during the whole period covered by the grant, involving key stakeholders at the national, province and local levels.

### **1.2. Strengthening Mozambique's Forest Governance: Update legal framework related to deforestation and forest degradation (US\$0.4 million)**

6. As part of the reform in the forest sector to confront the challenges of forest exploitation and poor governance, the Government of Mozambique is developing a Forest Policy and Strategy (2016-2026). This Policy will focus exclusively on forest resources, separate from the previous Forest and Wildlife Development Policy and Strategy. The new Policy will promote the protection and use of forest resources in a sustainable, responsible and transparent manner, and will address national capacity building, transparency and accountability, and climate change resilience. A new Forest Law will also be established, and will re-evaluate current models of forest exploration, and strengthen the systems of law enforcement and control, amongst others.
7. The Additional Funding would be used to support the revision of the Forest Policy and Strategy and Forest Law, such as through analytical studies and assessments of the conditions for implementation. AF would also support the enabling conditions for their

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<sup>8</sup> At the national level: General Technical Assistance; REDD+ Strategy Coordinator; Pilot Project Coordinator; Financial Assistant; Procurement Assistant; Communication officer; Safeguard Specialist; 2 MRV specialists.

<sup>9</sup> At each program in the Province level: Provincial Coordinator; MRV expert; and focal points for each of the 7 districts of the program.

effective implementation, which could include dialogues with stakeholders in the forest sector, components of Projecto Floresta Em Pé, and others as they arise.

8. The GoM has also proposed revisions to the National REDD+ Decree, in order to improve the environment for REDD+ project development and to define the sharing of benefits from revenues. AF could support analytical work that would contribute to the revision process.

### **1.3. Preparation of Emissions Reductions Landscape Pilot Programs (US\$1.2 million)**

9. The Government of Mozambique, through the UT-REDD+, is preparing integrated landscape management programs as a way to reduce deforestation while promoting rural development. Currently, two initiatives are being developed: the Cabo Delgado Integrated Landscape Management Program, and the Zambezia Integrated Landscape Management Program. The latter has been provisionally approved into the FCPF Carbon Fund pipeline at the FCPF Carbon Fund meeting in October 2015<sup>10</sup>. These programmes would allow REDD+ to be implemented at the provincial level, bring several stakeholders together around a common vision for the management of the landscape, and strengthen cross-sectoral coordination. These programs would also generate lessons for the implementation of the national strategy of REDD+.
10. The AF would cover consultant fees and operational costs of the provincial UT-REDD+ in Zambézia and Cabo Delgado provinces; the establishment of district-level landscape units; operational costs of multi-stakeholder forums that have been established in both Provinces; the preparation of the Zambezia ER-PD and other relevant studies for both Zambezia and Cabo Delgado programs; public consultations in the areas of projects; communication activities in the local level; meetings; and seminars.

### **Component 2. Reference Emissions Level/Reference Levels (REL/RL) (US\$1.7 million)**

11. The establishment of REL/RL basically comprises two areas of activity: the activity data analysis (area of forest cover changes; deforestation, forest degradation, for the selected reference period) and the determination of emission factors (carbon stocks changes resulting from forest cover changes). For the emission factors estimation a National Forest Inventory is being prepared (tier 3, carbon stocks inventory).
12. The Additional Funding would finance the following activities: i) Development of an updated national LU/LC base map; ii) Development of historic land cover change maps; iii) Design and implementation of the national forest inventory; iv) Improved tools and methodologies for estimating carbon pools; v) Development of FREL/FRL.
13. The output of this component is forestry inventory completed in selected provinces; and the REL is submitted to the UNFCCC.

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<https://www.forestcarbonpartnership.org/sites/fcp/files/2015/October/Final%20Resolution%206%20Mozambique%20ER-PIN.pdf>

## **2.1. Development of an updated national lu/lc base map (US\$0.20 million)**

14. This activity aims to develop an updated and recent land cover map to assess the extent of forest cover prior to initiating REDD+. It will be conducted by a new MRV Unit, under the UT-REDD+, as a 'learning-by doing' activity, whereby national experts will be trained and supervised by the MRV specialist. To start the work, the best corrected/ortho-rectified Landsat 8 mosaic for 2013/2015 will be produced by the South African National Space Agency (SANSA) at Hartebeesthoek (formerly CSIR-Satellite Applications Center) through CENACARTA. An automated classification will be undertaken using the ground truth surveys from a current JICA project (completing this dataset if needed). The classification results will then be refined, validated (CENACARTA), and compared with other available datasets (e.g. the recent LULC maps from the national agro-ecological assessment project the recent forest cover maps of Cabo Delgado and Gaza by JICA). This map will be used as a benchmark for FREL/FRL establishment and designing national forest inventory (in 8 provinces) and completion of the required information for development of REL/RL.
15. This additional funding will be used to pay ground data collection, consultant fees, per diem, training, validation (desk and field checking) and workshops. The preparation of the national mosaic of Landsat 8 images (2013-2015) shall be engaged as a service through CENACARTA to the South African National Space Agency (SANSA) at Hartebeesthoek (formerly CSIR-Satellite Applications Center).

## **2.2. Development of historic land covers change maps (US\$0.15 million)**

16. A statistical approach and a supervised classification on a multi-temporal Landsat mosaic are proposed. This activity would be implemented by the new MRV Unit under UT REDD+. A supervised change detection using stable and change training points will be preferred (semi-automatic change detection). The use of continuous time series (evolution of one index over several dates to identify unusual behaviors) compared to discrete time periods (compare the beginning and end dates) also will enable to detect reliable change. This approach would be run and tested to establish a good "Forest/ Non Forest Change Mask", according to a current national Forest Mask (it could be used the result of the previous activity, the national base map, Gaza and Cabo Delgado forest cover maps, currently almost available, or the upcoming GFC 2010, or GlobeLand30-2010, currently available).
17. For this purpose a grid of sampling points will be allocated over potential change areas using Hansen data (Deforestation/Forest Gain GFC:2000-2014) and other relevant sources of information (e.g. drivers of deforestation/forest degradation analysis conducted by Universidade Eduardo Mondlane, Palsar FNF coverage changes 2007/2010, etc.). These points will be interpreted using Collect Earth tool (free available in the web) and all the High/Medium Resolution Imagery free available in the web (Google Earth -Digital Globe and SPOT-, Bing and Here maps), to visually assess if they correspond to forest change (Deforestation/Forest Gain). These training data will be plugged into a supervised classification routine to perform forest/non - forest change detection within the Google Earth Engine API.

18. This supervised change detection needs input from expert national knowledge. Therefore a 15 years reference period (2000 to 2015) should be used for activity data assessment for deforestation and forest gain by forest type. It is expected that with this approach development of activity data at national level will be concluded in less than a year (end 2016). The same kind of exercise, using Collect Earth and visual interpretation, could be run to detect forest degradation (visual interpretation of pre-identified hotspots of degradation: Historical Landsat NDVI analysis). This approach should be completed with other methods (PALSAR/LIDAR) including a Participatory MRV (PMRV) for assessing experimentally forest degradation by forest type.
19. The funds will be used to finance on the ground data collection, consultant fees, per diem, training, and validation workshops.

### **2.3. Design and implementation of the national forest inventory (US\$0.96 million)**

20. The inventory will be designed and implemented in eight provinces following the same methodology that in Gaza and Cabo Delgado but under a national design approach and adding extra variables/parameters as those related to other relevant carbon pools and safeguards information. A forest cover map (updated LU/LC map 2013/2015) would be used to design and allocate the samples. This activity will cover the entire ground data collection activity. It will allow the Forest Inventory Unit to carry out a NFI that meets REDD+ requirements and collect information on four pools: above ground, litter, deadwood and soil carbon pools. The below-ground carbon pool will be estimated using root-to-shoot ratio. This activity will also address how to gather additional parameters related with environmental and social issues belonging to the safeguards information system, in close collaboration with the safeguards specialist from UT-REDD+. Additionally, this amount is foreseen to also cover a Quality Assurance/Quality Control (QA/QC) team which will visit 10 percent of the field sites to ensure data quality.
21. The additional funding will be used to pay consultant fees, training, equipment, vehicles renting, fuel, camping gear, and consulting services (database analysis and reporting), daily subsistence allowances (DSAs). Also, some funds would be used to purchase missing field equipment and to purchase replacements, as needed.

### **2.4. Improved tools and methodologies for estimating carbon pools (US\$0.25 million)**

22. This sub-component will support new research activities and collaborations to improve biomass estimates and identify potential technologies to detect forest degradation. It is expected to prepare and launch a national call for research proposals on selected topics after an analysis of gaps in available tools and methodologies. This call for research proposals will target national research and academic institutions, in potential partnerships with national or international companies and institutions.

#### *Data collection and analysis for measurement of carbon stock*

23. Collection and analysis of other data such as the development of Carbon Conversion, Expansion Factors, Wood Density and Root/Shoot Ratio are also key for estimating

emission factors. The activities should include: (i) generation of national factors through a process of destructive sampling; (ii) implementation of targeted sampling and surveys to establish national factors; and (iii) development of factors for carbon conversion, expansion factors, wood density for key species, root/shoot ratio based through destructive sampling program. A database and an analysis on tools needed to measure carbon stocks (allometric equations, biomass models, expansion factors, wood densities, root/shoot ratios, soil carbon models) will be done.

*Identify potential technologies to detect forest degradation*

24. At the moment it is unclear if forest degradation is significant (preliminary analysis shows it might not be). The additional FCPF fund will be used to cover gaps in this component, namely:

- Acquire relevant data from national data sources and local studies on the use of patterns of fuel wood, charcoal and timber to test different proxy data for forest degradation processes;
- Include an assessment of monitoring forest degradation using Landsat-type data or for selected areas with higher-resolution data (study of feasibility to see whether areas affected can be detected accurately); and
- Assess and integrate satellite-derived fire and burnt area data records.

25. This additional funding would support consultancy services on improved tools and methodologies for estimating carbon pools.

**2.5. Development of FREL/FRL (US\$0.14 million)**

26. This activity would support an analysis of historical forest emission trends. Different scenarios will be constructed (historical averages, linear projections and modelling) and an analysis of required time points and time periods will be undertaken. Also, national circumstances will be assessed, looking at other countries' experience. This work will build on a historical land cover change assessment (AD) and emission factor analysis (based on a secondary information analysis, tier 2, and finally on National Forest Inventory information, tier 3). It will be developed a stratified (by vegetation types) step-wise approach regarding pools, activities and accuracy.

27. The additional funding grant would be used to pay consultant fees, per diem, training, and validation workshops.

**Component 3. Monitoring Systems for Forests (US\$0.8 million)**

28. The additional funding grant would finance the: Preparation of MRV and Acquisition of Equipment and others.

29. The output related to the component is the national MRV system operational, producing annual forest cover change maps according to internationally-recognized methodology.

### **3.1. Preparation of the national Monitoring Reporting and Verification system (US\$0.5 million)**

#### *Operationalization of the monitoring system*

30. The main objective of this activity is to design a complete MRV system for the country; considering four levels of implementation: (i) National Level with an operational remote-sensing/GIS forest/land-use monitoring unit (MRV Unit under UT-REDD+ to be integrated in the near future in FIU), (ii) Provincial Level (iii) District Level and (iv) Community Level, with small forest (agroforest) information units. JICA is currently designing jointly with the FIU the heart of this system: the Forest Resource Information Platform. But it is also needed and urgent to design the access systems to the platform, editing and consultation permits, apps and data entry forms, communications system and operation of base and intermediate units for information and validation processes.
31. For this purpose it is necessary to develop the following sub-activities: (i) Needs assessment for training and capacity building, (ii) Assess existing data storage and management systems relevant for MRV and design and implement management solutions for key elements of the MRV system, (iii) Develop a data sharing policy for internal and external usage, (iv) Technical Staff Recruitment for the MRV Unit under UT-REDD, (v) Procurement of IT expertise to provide system management and IT support throughout project. There are also other MRV sub-activities to be funded and implemented under this item. To check the viability of this system it is necessary to design, implement and test on a pilot basis a Participatory MRV system. For this purpose and in close collaboration with the UT-REDD safeguards specialist, the MRV Specialist will develop the following activities: Review of International/National MRV Practices, Design the community based MRV system, Develop an operational manual for MRV tasks, Conduct training of trainers on the developed MRV system and Support testing of the applicability of the local MRV system on field level in selected communities of 15 districts of Zambezia and Cabo Delgado (ERs Programmes). These activities will be developed in close collaboration with the Natural Resources Management Committees, Associations, Individual producers and Community Entrepreneurs. Finally it is considered necessary to create a technical group of stakeholders, MRV Task Force, consisting of representatives of institutions and associations related to MRV at the local, provincial and national level, to accompany the process of creating the system. This advisory body will meet quarterly.
32. Additional funding will be used to pay consultant fees, per diems, trainings, meetings, vehicles, fuel, equipment and consumables.

#### *Information System for Multiple Benefits, Other Impacts, Governance, and Safeguards*

33. Mozambique has started to develop a safeguards instruments, and plan to develop a safeguards information system and the monitoring of non-carbon benefits resulting from the implementation of REDD+. The AF will support the operationalization of an information system for safeguards.

### 3.2. Acquisition of equipment and others (USD0.3 million)

34. This activity would support the purchase of all furniture, material and equipment necessary to prepare the REL and the MRV system. Basically: 5 workstations and 1 GIS Server, GIS and RS software for these 6 computers, 1 printer, 1 plotter, wireless net, desks, and chairs.

### E. Implementation arrangements

35. The Additional Funding would be implemented for three years by existing implementation structures. The UT-REDD+, which formally established through a National Decree, under the Ministry of Land, Environment and Rural Development would have technical responsibility for managing the project. FUNAB, an independent Fund under the leadership of MITADER will serve as the fiduciary agency, and as such, will conduct all procurement and financial management functions for this grant. This is the same arrangement as the one in place for the current grant. Annex 1 provides an organizational chart of the institutional arrangements for the National REDD+ Readiness Process in Mozambique.

### IV. Safeguard Policies that might apply

Safeguard Policies Triggered	Yes	No	TBD
<b>Environmental Assessment (OP/BP 4.01)</b>	<b>X</b>		
In line with the nature of the REDD+ Readiness preparation activities, the Government of Mozambique will use a Strategic Environmental and Social Assessment (SESA) as the applicable safeguards approach. The strength of the SESA for REDD+ is that it will combine analytical work and participatory consultations to inform the preparation of the REDD+ strategy. The SESA will help ensure compliance with the Bank's safeguard policies by integrating key environmental and social considerations relevant to REDD+ including all those covered by the safeguard policies. The SESA will help the Government of Mozambique to formulate their REDD+ strategy in a way that reflects inputs from key stakeholder groups and addresses the main environmental and social issues identified. The SESA includes an Environmental and Social Management Framework (ESMF) as a distinct output, which provides a framework for managing and mitigating the environmental and social risks related to investments and carbon finance transactions in the context of the future implementation of REDD+. The future investments and carbon finance transactions will still require specific environmental and social assessments, but these will benefit from the strategic context created by the SESA and ESMF. The ESMF will include stand methods and procedures, along with appropriate institutional arrangements for screening, reviewing, implementing and monitoring specific ESMPs to prevent adverse impacts as well as cumulative impacts.			
<b>Natural Habitats (OP/BP 4.04)</b>	<b>X</b>		
The application of this policy seeks to ensure that all options proposed in the National REDD+ Strategy take into account the conservation of biodiversity, as well as the numerous environmental services and products that natural habitats provide to human society. Overall, REDD+ activities are expected to have significant positive impacts on natural habitats, as the country puts in place an effective strategy to reduce loss of natural forests. The SESA will address issues related to natural habitats and potential impacts of the National REDD+ Strategy, which will later be included in the ESMF.			
<b>Forests (OP/BP 4.36)</b>	<b>X</b>		
Overall, REDD+ activities are expected to have significant positive impacts on forests in the country, in that the main goal of the program is to reduce deforestation and forest degradation, while contributing to the well-being of forest-dependent communities. Potential impact of the National REDD+ Strategy on natural forests will be assessed through the SESA and included in the ESMF. The			

<b>Safeguard Policies Triggered</b>	<b>Yes</b>	<b>No</b>	<b>TBD</b>
SESA and associated ESMF will reflect the requirements of the Bank's Operational Policy regarding forest management, in particular as these relate to the establishment of plantations.			
<b>Pest Management (OP 4.09)</b>			<b>X</b>
This policy could be triggered depending on the final scope of the National REDD+ Strategy. Agricultural intensification and reforestation activities, for instance, could trigger this policy, depending on the methods employed by concrete activities on the ground to manage pests. The SESA will address critical issues related to pest management, as necessary, and these will also be included in the key elements for the ESMF.			
<b>Physical Cultural Resources (OP/BP 4.11)</b>			<b>X</b>
This policy could be triggered if REDD+ activities promote actions in areas containing sites deemed physical cultural resources by communities living there (e.g. holy sites such as sacred groves, sacred forests, etc.). Though it is not anticipated that the grant will have negative impacts on any such sites, the existence of any such sites and the corresponding need to trigger this policy will be determined once the National REDD+ Strategy is completed.			
<b>Indigenous Peoples (OP/BP 4.10)</b>		<b>X</b>	
<b>Involuntary Resettlement (OP/BP 4.12)</b>			<b>X</b>
REDD+ activities will trigger Involuntary Resettlement in situations involving land acquisition and/or involuntary restrictions of access to legally designated parks, land acquisition, protected areas, or forest management / reforestation areas. The policy aims to avoid involuntary resettlement to the extent feasible, or to minimize and mitigate its adverse social and economic impacts in cases where resettlement or other involuntary restrictions cannot be avoided. Through the SESA process, any issues related to land acquisition or involuntary resettlement will be identified, and a Resettlement Policy Framework and/or Process Framework will be prepared. To help identify and mitigate restriction of access to natural resources in protected areas, a Process Framework will be prepared.			
<b>Safety of Dams (OP/BP 4.37)</b>		<b>X</b>	
<b>Projects on International Waterways (OP/BP 7.50)</b>		<b>X</b>	
<b>Projects in Disputed Areas (OP/BP 7.60)</b>		<b>X</b>	

## V. Tentative financing

	(\$m.)
Source:	
Borrower/Recipient	
Others (FCPF)	5
Total	5

## VI. Contact point

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