PROJECT INFORMATION DOCUMENT (PID)
APPRAISAL STAGE

Report No.: PIDA34768

Project Name	MG-Electricity Sec Operations & Governance Improvement Project(ESOGIP) (P151785)
Region	AFRICA
Country	Madagascar
Sector(s)	General energy sector (100%)
Theme(s)	Infrastructure services for private sector development (40%), State-owned enterprise restructuring and privatization (40%), Debt man agement and fiscal sustainability (20%)
Lending Instrument	Investment Project Financing
Project ID	P151785
Borrower(s)	Ministry of Budget and Finance
Implementing Agency	JIRAMA, Ministry of Energy
Environmental Category	B-Partial Assessment
Date PID Prepared/Updated	20-Jan-2016
Date PID Approved/Disclosed	20-Jan-2016
Estimated Date of Appraisal Completion	18-Jan-2016
Estimated Date of Board Approval	22-Mar-2016
Appraisal Review Decision (from Decision Note)	Once the safeguard studies have been approved by RSA and disclosed, and the team has settled on the set of legal covenants to be included, the team may go ahead and upgrade the recently conducted pre-appraisal mission to an appraisal mission, and move forward to appraisal completion and negotiations.

I. Project Context

Country Context

1. Madagascar is a low-income country with a population of about 23.57 million and a GDP of US$10.59 billion in 2014. Madagascar ranked 155 out of 187 countries in the United Nations 2014 Human Development Report. A vast majority of the Malagasy is extremely poor. Extreme poverty (per capita consumption under US$1.9 purchasing power parity – PPP – 2011 per day) has hovered around four fifths of the population between 2001 and 2012 (the latest data available). Over the same timeframe, absolute poverty (US$3.1 PPP per capita per day) rose from an estimated 84.1 percent in 2001 to 89.9 percent of the population in 2005, then continued to rise reaching 93 percent in 2012. Madagascar is also highly vulnerable to natural disasters, including cyclones, droughts, and flooding. It is estimated that one quarter of the population, or approximately five million people, currently live in zones at high risk of natural disasters.

2. Madagascar is emerging from several years of political and economic turbulence, following a political crisis that started in 2009 and the government suffers from a paucity of public resources. Madagascar returned to constitutional order when a duly-elected government took office in 2014, after a five-year political crisis. The crisis had devastating effects on the economy, poverty, and social outcomes. The return to constitutionality was an event welcomed by all, but it is only a first step in putting the country on track in terms of sustainable development. Given the low level of public resources, few reforms requiring large, new expenditures are feasible in the near future. The fiscal authorities have little space to conduct countercyclical policies to stimulate growth, and monetary policies are not potent as the signaling role of interest rates has been eroded since the financial market is not playing an effective intermediation role. The government still allocates a large share of the discretionary spending to unaffordable and poorly-targeted fuel subsidies and transfers to finance the losses of the two troubled state-owned companies: JIRAMA, the public water and electricity utility, and Air Madagascar. The limited fiscal space and legacy distortions from the transition period are limiting the administration's margin of maneuver.

3. Social and economic development is constrained by the lack of electricity. At the household level, inadequate electricity access constrains the delivery of basic social services and is a factor of inequality and exclusion within the society. Unreliable current power supply also makes it difficult to do business in Madagascar. Insufficient and unreliable electricity is clearly one of the most severe constraints in Madagascar's investment climate. In Doing Business 2015 Madagascar is ranked 189 out of 189 countries in regard to the difficulty, delay, and cost of getting electricity. The private sector has cited unreliability of electricity supply as one of the most important factors affecting competitiveness, having indicated a willingness to pay more if the reliability and quality of the electricity service was improved. Further expansion of mining, agriculture, and manufacturing, with the corresponding gains in terms of employment creation, will indeed require an increased, reliable supply of electricity. Access to electricity by the general population stood at about 14 percent in 2010, lower than many comparable countries. It is estimated to have fallen to around 12-13 percent currently given population growth since 2010. New connections are increasing at a rate of approximately one percentage point annually partly because of JIRAMA’s inability to invest. Increasing access to electricity, particularly in suburban and rural areas, would result in the improvement in the living conditions of the populations served and provide a stronger foundation for the development of income generating activities.

Sectoral and institutional Context

4. Access to electricity services is low countrywide, and even more so in rural areas. The estimated current electricity access rate countrywide is around 12-13 percent, with an estimated 39 percent of the population in urban and peri-urban areas having access and an estimated five percent of the population in rural areas having access. This is mainly due to the country's poverty level and low population density, particularly in rural areas where over 67 percent of the population lives. The comparison with other African countries in similar conditions shows that Madagascar performs quite poorly on several dimensions, for example in regard to the level of total losses (i.e., technical and non-technical), the number of customers per employee, and consumption per capita figures. For instance, regarding electricity consumption per capita, Madagascar had the lowest consumption at 46kWh per capita versus 52kWh per capita in Ethiopia, 92kWh per capita in Tanzania, and 105kWh per capita in the Democratic Republic of Congo. In addition, due to the adverse effects of the political crises of 2002 and 2009, and the continuing deterioration of JIRAMA’s financial

situation, the country achieved very little progress in electrification between 2003 and 2013.

5. The current power supply is inadequate to meet demand during peak hours, and the transmission and distribution networks are overloaded. As a consequence of the progressive deterioration of JIRAMA's operational and financial performance, over the past five years its customers have suffered periodic load shedding. The frequency of power supply interruptions has significantly increased in recent years in the capital city Antananarivo, which accounts about 60 percent of the total demand in the country. The transmission and distribution networks are overloaded due to long-term, insufficient investment in expansion and rehabilitation of the existing infrastructure. Most of the distribution assets are reaching the end of their economic life, as the underground cables, overhead lines, and switchgears in the established residential and commercial areas of the major towns in Madagascar were installed in the early 1980s. More than 80 percent of the distribution transformers are overloaded. Failures in critical network assets are frequent. There has been a clear deterioration in the quality and reliability of electricity supply in the country, which is jeopardizing the development of new economic activities. Immediate action is needed to halt further deterioration.

6. The electricity sector suffers from poor reliability and high losses and JIRAMA is poorly equipped with tools to manage the sector. Power outages in isolated centers is frequent, with an average of two to three hours in duration per day. Moreover, in 2014 the interconnected network of Antananarivo experienced poor quality of services characterized by high frequency and duration of interruptions, particularly during peak hour. The level of system losses (both technical and non-technical losses) is estimated at 35 percent in 2014 (versus 27 percent in 2012), of which the non-technical loss is estimated at 20 percent. The average bill collection rate fell to about 60 percent in 2014.

7. JIRAMA's financial position has deteriorated significantly in recent years, and the company is a heavy fiscal burden for the government. The financial position of JIRAMA deteriorated between 2010 and 2013 due to declining operational efficiency, inability to collect revenues sufficient to cover costs, and the rising price of inputs, primarily imported fuel. To address the electricity supply gap, the government and JIRAMA have entered into several ad-hoc, expensive, quasi-IPP/leasing contracts, awarded in general on a noncompetitive basis, to install thermal power plants running on diesel. This approach resulted in a large increase in the country's cost of electricity production. The government subsidy to JIRAMA imposed a heavy cost on the Malagasy treasury, and diverted resources from more productive expenditures with direct impacts on the poor The amount of government subsidies to JIRAMA for the years 2012 and 2013 are respectively about US$67.7 million and US$73.2 million, which corresponds to approximately seven percent of annual government revenues. A reduction in unaffordable and poorly targeted subsidies is one of the focus areas of the International Monetary Fund (IMF) staff monitored program in Madagascar.

8. Weak planning and poor choices regarding generation options for the country have exacerbated the poor financial situation of the sector. Weak sector planning over recent years and lack of governance in the development of generation options for the country has translated into high costs for JIRAMA and the sector as a whole. Today the country relies primarily on expensive imported thermal fuel based generation. However, Madagascar possesses enormous potential in renewable energy resources, particularly hydro. Hydropower potential has been estimated at 8.4 GW although the economically exploitable potential has not been established. The number of

untapped hydro sites has been reported as more than 800, ranging from a 10 kW (or less) to 600 MW located throughout the country. The government must carry out systematic pl anning to identify and implement generation projects that represent the least cost options for the country, making it possible to move gradually away from imported, fuel-based generation.

9. Private sector participation in the electricity sector requires a healthier utility. Additional private sector investment is needed to implement the least cost options and increase generation capacity. However, the private sector currently faces difficulties given JIRAMA's inability to pay for supply contracts. There are also reports of underperformance of existing IPPs, who are failing to supply contracted power. Several IPPs have recently presented proposals for development of certain sites. However, despite the urgent need for additional sources of generation, the government lacks clear criteria, rules, and procedures for determining which, if any, of these unsolicited proposals should be pursued. Government needs to put in place the governance framework to guarantee that once the least cost options have been identified, decisions regarding investments on additional generation capacity will be made on the basis of this plan, and selection of private partners done on the basis of competitive procedures.

10. The Government has requested World Bank support to redress the sector situation. The objective is to establish a sound foundation for the development of the sector going forward, by improving the governance and operational performance of JIRAMA in the first instance. The authorities have identified, together with the Bank, a set of high priority activities that could be carried out in the short- to medium-term to achieve significant improvements in sector performance and governance. Ultimately, the actions identified aim to create the building blocks to attract sound private sector investment in generation as well as additional funding from development partners to support increased electricity access. To reduce fiscal costs, the government's program focuses on efficiency improvements, and lowering the cost of supply in the medium term. Given its dilapidated state, the government is also keen to address urgent investments in the network.

11. While sector needs are immense, the proposed Electricity Sector Operations and Governance Improvement Project (ESOGIP) focuses on critical actions to improve JIRAMA's performance and re-establish a sound basis for the sector to develop. The project comprises a set of priority actions to improve the current situation in three key, inter-related areas: (i) electricity sector planning and sector financial sustainability; (ii) governance of JIRAMA; and (iii) reliability of electricity service. Actions in the areas of planning and financial sustainability include specific studies focused on least cost options for power development, to guide future investments by the private sector and development partners in generation, transmission, and access; a review of the tariff system and complementary safety nets; and a targeted program to improve revenue collection. Improvement of JIRAMA's governance will be addressed through the preparation and implementation of a Management Improvement Plan (MIP). The MIP will focus on the optimization of the company's organizational structure, transparent appointment of top managers, incorporation of information systems to enable efficient, transparent, and accountable execution of operations in all business areas, and the implementation of a revenue protection program (RPP). Priority network investments will be supported to halt the further degradation of network assets and service reliability. Implementation of the identified priority actions will strengthen the physical and institutional infrastructure, improve the operational and financial performance of JIRAMA, and pave the way to accelerate the electrification of the country (both expanding the grid and implementing off-grid solutions) and enable more private sector investments in generation to lower the cost of supply.

12. The project also contributes to poverty reduction and shared prosperity. Reliable and expanded electricity supply is a key determinant of productivity and competitiveness and is critical to enable economies to attract investments, expand and diversify production, and ultimately create jobs. Insufficient and unreliable electricity is clearly one of the most severe constraints in Madagascar's investment climate. Power shortages mean big losses in terms of foregone production to Malagasy firms. At the household level, inadequate electricity access constrains the delivery of the basic social services, and electricity access is a factor of inequality, leading to the exclusion of poorer people. It would be ineffective and unsustainable to focus on access improvements in this project: efforts to increase electricity generation capacity will not translate into better access without first addressing transmission and distribution capacity bottlenecks due to the poor state of the grid. Investments under the project will target rehabilitation and upgrade of the national distribution system to alleviate distribution capacity constraints, reduce losses, and ultimately support the expansion of electricity supply and access, in line with the goals of reducing poverty and promoting shared prosperity. This project would set the basis for future projects focusing on access. A parallel program of support, under the Scaling Up Renewable Energy in Low Income Countries Program (SREP), is also currently being discussed to support Madagascar in developing off-grid access. Moreover, a Sustainable Energy For All (SE4All) initiative for Madagascar is being implemented by the European Union (EU); under this initiative an investment prospectus will be prepared to help accelerate implementation of the access agenda.

II. Proposed Development Objectives

The Project Development Objective is to improve the operational performance of the national electricity utility (JIRAMA) and improve the reliability of electricity supply in the project area and, in the event of an eligible crisis or emergency, to provide immediate and effective response to said eligible crisis or emergency.

III. Project Description

Component Name

Component 1. Improving electricity sector planning and financial sustainability

Comments (optional)

This component will finance a combination of capacity building, action plans, roadmaps, and studies that will: (i) ensure planning of the optimum investments needed to develop the power sector in Madagascar, from electricity generation to the effective connectionof end users, together with a "glide path" for recovering costs; (ii) define mechanisms for effective implementation of the outcomes of the planning process; and (iii) strengthen in a sustainable manner the capacity of the government agencies responsible for planning the power sector and implementation of the outcomes of the planning process.

Component Name

Component 2. Strengthening operational performance and governance of JIRAMA

Comments (optional)

This component will comprise the preparation and effective implementation of a Management Improvement Plan (MIP) for JIRAMA for a three-year period, focused on improving efficiency, transparency, and accountability of JIRAMA's performance in the key operations areas of electricity supply, commercial functions, and management of corporate resources in a sustainable manner, with specific emphasis on better service quality and non-technical loss reduction.

Component Name

Component 3. Investing in enhanced reliability of electricity

Comments (optional)

This component will finance priority investments regarding the reinforcement of an existing 138/63kV substation, the construction of new 63kV transmission line for the looping of the network, the rehabilitation and/or reinforcement of distribution networks in Antananarivo, and the upgrading of existing distribution systems in selected districts of the country in order to increase the reliability of the networks. This component will also provide financing for the rehabilitation of auxiliaries of generation plants, and for the design and supervision of works.

Component Name

Component 4. Project Management

Comments (optional)

This component will support project management. It will finance the recruitment of social and environmental safeguards experts to provide support to JIRAMA as necessary to prepare and monitor the project safeguards studies as well as the recruitment of a financial management specialist and a procurement specialist. In addition, this component will include the financing of the project audits, purchasing of office selected equipment, and financing of incremental operating costs. Moreover, this component will provide financing for capacity building through training focused on MEH and JIRAMA staff.

Component Name

Component 5. Contingent Emergency Response

Comments (optional)

This component will provide immediate response in the event of an eligible crisis or emergency. By including a "zero-dollar" Contingency Emergency Response Component (CERC) the project can finance emergency works in case of a disaster event.

IV. Financing *(in USD Million)*

Total Project Cost:	65.00	Total Bank Financing:	65.00
Financing Gap:	0.00		

For Loans/Credits/Others	**Amount**
BORROWER/RECIPIENT	0.00
International Development Association (IDA)	65.00
Total	65.00

V. Implementation

The project will be implemented under the overall responsibility of the Ministry of Energy and Hydrocarbons (MEH). As the institution with the overall policy oversight for the sector, MEH will have the ultimate responsibility for coordination and implementation of the project. Since the project touches on planning, operations, and regulation and not simply investments in JIRAMA the Ministry is the natural leader for the project. Implementing reforms at JIRAMA will also require explicit and strong ownership and direction from government as the company’s owner. In addition to assuming overall responsibility for the project, MEH will be the implementing agency for component 1, while JIRAMA will be the implementing agency for components 2 and 3.

A Coordination Committee, chaired by MEH with members from relevant institutions (JIRAMA, the energy sector regulator, the rural electrification agency, the Ministry of Finance and Budget, etc.) will provide overall guidance and advice on alignment with sector policy and ensure overall governance and fiduciary oversight of the project. The Coordinating Committee will meet at least once per year to approve the annual project budget and work plan, and more often as necessary.

VI. Safeguard Policies (including public consultation)

Safeguard Policies Triggered by the Project	Yes	No
Environmental Assessment OP/BP 4.01	×	
Natural Habitats OP/BP 4.04		×
Forests OP/BP 4.36		×
Pest Management OP 4.09		×
Physical Cultural Resources OP/BP 4.11	×	
Indigenous Peoples OP/BP 4.10		×
Involuntary Resettlement OP/BP 4.12	×	
Safety of Dams OP/BP 4.37		×
Projects on International Waterways OP/BP 7.50		×
Projects in Disputed Areas OP/BP 7.60		×

Comments (optional)

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