

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

Report No.: PIDC53263

<b>Project Name</b>	Madagascar Pilot Program for Climate Resilience Phase I
<b>Region</b>	AFRICA
<b>Country</b>	Madagascar
<b>Lending Instrument</b>	IPF
<b>Project ID</b>	P158816
<b>Borrower Name</b>	Republic of Madagascar (Ministry of Finance)
<b>Implementing Agency</b>	Cellule de Prevention et Gestion des Urgences
<b>Environment Category</b>	C - Not Required
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<b>Estimated Date of Approval</b>	30-Sep-2016
<b>Initiation Note Review Decision</b>	The review did authorize the preparation to continue

**I. Introduction and Context**

**Country Context**

A vast majority of the Malagasy is extremely poor. Extreme poverty (per capita consumption under US\$1.25 2005 Purchasing Power Parity (PPP) per day) hovered around four fifths of the population between 2001 and 2012. Over the same timeframe, absolute poverty (US\$2 PPP per capital per day) rose from an estimated 88.9 in 2001 to 92.7 percent of the population in 2005, then declined slightly, but stayed above 90 percent until 2012. Inequality in Madagascar is similar to that of other low-income countries. The Gini coefficient was 0.41 in 2012, similar to the low-income average at 0.40. Madagascar's inequality, however, is not due to a steep welfare increase at the top, but due to relatively higher inequality among the bottom 90 percent than in other poor countries - that is, different levels of deprivation.

The political context remains challenging, delaying urgently needed reforms. Madagascar returned to constitutional order when a duly-elected government took office in 2014, after a political crisis, which lasted five years and had devastating effects on the economy, poverty and social outcomes. It was an event welcomed by all, but only represented the first step towards putting the country back on track for sustainable development. A number of tangible progresses has been made since, including the elaboration of a new National Development Plan and its implementation strategy. The country has, however, encountered difficulties in moving ahead in unison to implement the new development strategy. The disappointing speed of the turnaround was perhaps to be expected, as the last crisis was particularly long and traumatic. Many of the urgent reforms that are pending relate to fiscal policies, on both the revenue and expenditure fronts, as a prerequisite for financing public investments and social spending necessary for fighting poverty and pursuing sustainable development.

**Sectoral and Institutional Context**

Sectoral Context: Madagascar is an island nation with unparalleled biodiversity and many natural assets. However, due to its location and topography, it is also one of the world's most vulnerable countries to climate change. The most likely risks include extreme weather events, such as cyclones, flooding, and drought. From 1990 to 2015, at least 65 major climate-related disasters were recorded in Madagascar, with more than 50 cyclones. In the same period, the average annual rainfall varied between 400 to 600mm in the South, while in the West, the Central and the North, regions experienced rainfall deficits.

The recurrence and intensity of those disasters have been fortified by climate change. In the "Global Climate Risk Index 2014", published by the NGO Germanwatch, Madagascar was listed amongst the 10 countries most affected by extreme weather events in 2012, while the "Climate Change and Environmental Risk Atlas 2011" by Maplecroft considered Madagascar as the third country most vulnerable to risks associated with climate change.

Predictions are indicating an increase in temperature of 0.5 to 3 degrees Celsius, reduced annual average rainfall (-5 percent until the end of the century) combined with an increase of 5-10 percent in precipitations during the rainy season as well as changing seasons and weather patterns. These changes in climate variability have a direct impact on the country's: i) environment (e.g.: biodiversity and natural resources); ii) economy (e.g. particularly in priority sectors, such as agriculture, fishing, livestock farming, forests, water and environment, that are key to the country's growth and development); and iii) urban population. For instance, it is known that some of the resulting cyclones have devastated large swathes of what is left of the extremely bio-diverse Eastern humid forests with significant impacts on endemic and threatened biodiversity (and associated economic impact on tourism, for instance).

Between 1990 and 2013, losses resulting from the combined effects of floods, cyclones and locust invasions have caused damage evaluated at around US\$2.2 billion. Flooding (apart from the coastal flooding) and cyclones have caused damage of around US\$40-50 million per episode. In 2008, in particular, during which three consecutive cyclones hit the country, an economic loss equivalent to 4 percent of GDP and a decrease of 0.3 percent of the growth in real GDP were recorded, including damages and losses worth US\$103 million in the agricultural sector, US\$127 million in the housing sector and public administration, and US\$46 million in the transport sector. Recovery was estimated at approximately US\$155 million. These disasters create major budget volatility, especially in the short term, as the Government of Madagascar needs to finance emergency assistance and early recovery activities.

The impact of those disasters and climate change on the economy is particularly worrisome for a country whose population is extremely poor, predominantly rural (with close to 80 percent of the population based in rural areas) and heavily reliant on natural resources and the agriculture/fishery sectors to ensure basic livelihood. Indeed, livelihoods heavily depend on subsistence agriculture, fragile pasture lands, timber and fuel wood, and small scale fisheries, each rarely in connection to markets and often in direct or indirect relationship with forests and other natural resources.

A large majority of households in the poorer segments of the population are employed in the agricultural sector. For instance, agriculture is the main sector of employment of the household head for the bottom 80 percent of the country, with only the fourth and fifth consumption quintiles engaged in large numbers in services, manufacturing, and public administration.

Agricultural productivity is low in Madagascar and has been falling in the past 50 years. Most farmers also consume the majority of their production with a relatively small share of production being marketed. Low agricultural productivity can be attributed to limited use of improved technologies and weak extension services, limited availability and high costs of improved inputs, limited access to credit, deficient infrastructure, lack of land tenure security, soil degradation as well as a weak human capital base. High transport costs hinder access to markets and provide disincentives for investments. The Rural Access Index for Madagascar (2010), defined as the percentage of rural people who live within 2 km of an all weather road, is 25 percent, extremely low even by developing country standards.

Finally, poverty and disaster risks are also increasingly becoming an urban problem in Madagascar. Of the 15 million poor in the country, 12 percent lived in urban areas in 2012, and it is expected that half of the population will be living in urban areas within the next 20 years. Antananarivo has almost 3 million inhabitants and accounts for about half of the country's urban dwellers. Every year, 100,000 to 150,000 people move to Antananarivo and a vast majority settle in high-risk areas. Antananarivo is highly exposed and vulnerable to floods and the large concentration of population and assets in the flood plain of the city is a major concern. The catastrophic flooding that occurred in Greater Antananarivo in January 2015, affecting an estimated 93,000 people and displacing 40,000, with an estimated economic impact equivalent to 1.1% of GDP, provided evidence of the risk at hand.

The response to this urban phenomena will require a better analysis of the factors leading to increased exposure of people and infrastructure (e.g.: unplanned urban growth, settlement in flood risk areas, access to land, climate change and variability), and increased vulnerability (e.g.: lack of maintenance of flood-protection infrastructure, landfilling in flood plain, drainage infrastructure no longer adapted to changing climate). It will also require increased investments in i) drainage and flood protection infrastructure, ii) climate-proofing urban development, iii) capacity building of the poorest to prepare for and respond to disasters.

It is within this context that the country has expressed an interest in developing a Strategic Program for Climate Resilience (SPCR) under the Pilot Program for Climate Resilience (PPCR).

**Institutional Context:** There are several structures dedicated to the implementation of activities related to climate resilience and managing risks in their respective sectors. The "Cellule de Prevention et Gestion des Urgences" (CPGU), a coordination unit within the Prime Minister's office, was created as a technical unit that provides high-level strategic advice on disaster risk management (DRM), primarily by mainstreaming disaster risk reduction into sectorial planning and programs. Its objectives are to reduce the vulnerability of the country's infrastructure and build resilience to climate hazards. The "Bureau National de Gestion des Risques et des Catastrophes" (BNGRC), under the Ministry of the Interior and Decentralization (MID), is in charge of the operational aspects involved in the management of risks and disasters, as well as the coordination of emergency relief.

However, those structures are not yet sufficiently coordinated across sectors and ministries. This makes the consistent integration of climate resilience in the country's development planning highly challenging. Specific areas for improvement include providing key guidance on: i) planning, monitoring and evaluation; ii) the mobilization of funds and technical resources within the State; iii)

the mobilization of international funding; and iv) the production and utilization of scientific and socio-economic information on the relationship between climate and development in the design, preparation and implementation of programs and projects.

Finally, while Madagascar has improved its capacity to prepare for and response to disasters, the economic costs from disasters remains high. This thus calls for a systematic integration of disaster mitigation and prevention in all public investments.

### **Relationship to CAS/CPS/CPF**

The country's Systematic Country Diagnostic (SCD) highlights that Madagascar is one of the most climate vulnerable countries in the world, with a poor and predominantly rural population, a high geographical exposure to climate events, and a lack of readily available resources to respond to and recover from natural disasters. The poor are often the worst impacted by natural hazards because they have less ability to cope efficiently with the negative social and economic impacts on their lives. The SCD recommends making the protection of the poor against natural disaster-related shocks a priority, especially since mitigation and adaptation in the context of natural disasters are unambiguously a public good, and hence the use of public resources towards this area is uncontroversial. It also points out that a better definition of the roles and mandates of disaster risk management institutions as well as stronger capacity of staff responsible for environmental and climate change risks management will be necessary to improve disaster risk management and to protect the poor from the negative impacts of climate change in the long term. The PPCR will therefore directly contribute to this goal.

Moreover, the Country Partnership Framework (CPF) is currently in development. The preparation of the SPCR will certainly help formulate the CPF in the area of climate change and resilience.

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

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

The proposed project development objective is to formulate a Strategic Program for Climate Resilience (SPCR) and its relevant investment plan and to establish the enabling environment for its implementation.

### **Key Results**

The primary result will be the development of an SPCR, a country owned strategic document that will spell out the resilience vision and plan for the country of Madagascar, and will be accompanied by a set of technical assessments, capacity building and institutional/climate risk analysis. Main expected results are: (1) knowledge of climate resilience and climate risk management in Madagascar have been strengthened; (2) an institutional environment favorable to the development and implementation of the SPCR has been established; (3) priority investments have been identified and planned, and the consultation process have been realized; and (4) the Implementing Agency is in place for the implementation, monitoring and evaluation of this TA project and has the necessary resources, including human resources.

Overall, by the end of the proposed task, the Government will be better equipped to integrate climate resilience into planning and financing processes, build consensus on an approach to climate resilient development, and mobilize resources in the event of extreme weather events. It will have a clear roadmap to mainstreaming climate resilience into public investment, public finances and territorial development.

### **III. Preliminary Description**

#### **Concept Description**

The objective of the PPCR is to pilot and demonstrate ways to integrate climate risk information and resilience into core development planning, while complementing other ongoing activities. Within the context of Madagascar, the Government suggested in its expression of interest that was submitted to the CIF in March 2015, several priority sectors. These sectors have been stated as priority actions in the Government of Madagascar's Intended Nationally Determined Contributions (INDC) - Contribution Prevue Determinee au niveau National (CPDN), which was developed in preparation for COP21. The following sectors are particularly targeted: agriculture, fishing, livestock farming, forests, water and environment. The high biodiversity of Madagascar plays a significant role in adaptation and some analytical work could explore the policy implications for conservation as well as the possibility of piloting ecosystem-based adaptation.

The SPCR could also help explain to what extent the severity of the drought spells are caused by human interference in natural resources, such as forest removal for charcoal production, and explore water management techniques in the semi-arid that could be deployed in Madagascar's Southern region.

Resilience within public infrastructure has also been identified as a priority sector, along with the protection of coastal zones. Finally, the production of and access to climate-related data that must be improved through the strengthening of hydro-meteorological services will also be considered a priority. Those sectors are primarily linked to vulnerability in rural areas. However, urban resilience in Madagascar should also be examined in the development of the SPCR. This also applies to resilience in budgeting and public spending, as the country's fiscal vulnerability limits its capacity to mobilize resources when a disaster strikes.

In line with the above, proposed activities will be articulated around the four following components:

- Strengthening knowledge on climate resilience and climate risk management in Madagascar (building on on-going risk modeling activities implemented under the SWIO-RAFI ASA);
- Establishing an enabling institutional environment favorable to the development and implementation of the SPCR and to the mainstreaming of climate resilience into development planning and capacity building;

- Supporting the identification, prioritization and planning of the interventions, consultation process, and investment feasibilities;
- Supporting the implementing agency in the execution and monitoring and evaluation of the proposed activities.

#### IV. Safeguard Policies that Might Apply

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

#### V. Financing (in USD Million)

Total Project Cost:	1.5	Total Bank Financing:	0
Financing Gap:	0		
<b>Financing Source</b>			<b>Amount</b>
Climate Investment Funds			1.5

#### VI. Contact point

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