Project Information Document/ Integrated Safeguards Data Sheet (PID/ISDS)

Concept Stage | Date Prepared/Updated: 22-Sep-2016 | Report No: PIDISDSC19987

Public Disclosure Authorized

BASIC INFORMATION

A. Basic Project Data

Country	Project ID	Parent Project ID (if any)	Project Name
Mali	P161406		Mali Hydrological and Meteorological Services Modernization Project (P161406)
Region	**Estimated Appraisal Date**	**Estimated Board Date**	**Practice Area (Lead)**
AFRICA	Nov 01, 2016	May 31, 2017	Social, Urban, Rural and Resilience Global Practice
Lending Instrument	**Borrower(s)**	**Implementing Agency**	
Investment Project Financing	Government of Mali	Ministry of Security and Civil Protection (MSPC) - Directorate-General for Civil Protection (DGPC)	

Proposed Development Objective(s)

The proposed Project Development Objective (PDO) is to improve the country's hydro-meteorological, early warning and response systems and services in targeted areas.

Financing (in USD Million)

Financing Source	Amount
Green Climate Fund	22.75
Global Facility for Disaster Reduction and Recovery	2.50
Total Project Cost	**25.25**

Environmental Assessment Category	Concept Review Decision
B-Partial Assessment	Track II-The review did authorize the preparation to continue

Note to Task Teams: End of system generated content, document is editable from here.

Other Decision (as needed)

B. Introduction and Context

Country Context

Mali is a landlocked sahelian country located in West Africa, predominantly dry, with an area of 1,241,248 square km. It has a total population estimated at 14.5 million, with approximately 63% living in rural areas and 12% in the capital city of Bamako. The northern regions of Gao, Kidal, and Timbuktu represent two-thirds of the entire country's area, but host only 10% of the country's population. The more populated areas are in Southern part of the country, close to the Niger and Senegal Rivers. Mali shares more than 7000 km of land boundaries with seven bordering countries, including: Algeria to the north and northeast, Niger to the east, Burkina Faso to the southeast, Côte d'Ivoire to the south, Guinea to the southwest, and Senegal and Mauritania to the west.

Mali is characterized by adverse climate variability. Agriculture, food security, population, infrastructures and productive assets are highly exposed to both drought and flooding, and vulnerable to climate variability and change. Physical vulnerability is exacerbated by demographic, socioeconomic and environmental factors, which include (i) dependence on rain-fed agriculture or pasture land for nearly 80% of the population, (ii) a high rate of poverty and inequality, with inappropriate technical and financial capacities of governments and communities; (iii) settlement in floodplains due to demographic pressure and migration towards urban areas where 50% of the economic activities and assets are concentrated, in conjunction with weak urban and land use planning; and (iv) environmental degradation and soil deterioration. Drylands populations have been innovative in their efforts to cope with these immense challenges, and are in urgent need for additional support to be able to manage and overcome the incremental challenges brought upon them by climate variability and demographic pressure.

Mali is exposed to a variety of climate-related hazards, particularly droughts, floods and locust invasions. From 1980 to 2014, more than 7 million Malians were affected by 28 drought and flood events. On average, these result in an annual economic damage and loss impact of approximately US$140 million. Two thirds of Mali's land area is classified as desert or semi-desert, and the country is one of the most drought-prone in the world. Annual precipitation ranges from over 1000 mm per year in the southern Sudano-Guinean area to less than 200 mm per year in the northern Saharan area . There is high variability in annual rainfall ranges, and consecutive low rainfall / dry years have become increasingly frequent since 1968. The main flood-prone areas are urban and along the Inner Niger Delta (64,000 sq km). More than 1.5 million fishermen, farmers and pastoralists depend on annual inundations for their livelihood. Depending on the amount of rainfall, however, flood levels can vary significantly. High floods can result in casualties and extensive damages to physical assets such as roads, housing, crops and livestock, while low floods can cause very low production of rice and fish. The 2013 floods also highlighted the increasing vulnerability of Mali's urban areas to floods. In the capital of Bamako, torrential rains and inadequate drainage infrastructure provoked flash floods and resulted in 37 casualties as well as the displacement of more than 20,000 persons. Thus, early warning for flood events is critical for protecting both the lives and livelihoods of the inhabitants.

The Government of Mali recognizes the importance of addressing climate and disaster risks for strengthening the country's economic growth and poverty reduction in a meaningful manner. The Strategic Framework for Growth and Poverty Reduction (CSCRP 2012-2017), adopted by the Council of Ministers of Mali on 28 December 2011, is the reference document for the formulation and implementation of economic and social policies. The framework specifically identifies flood and drought hazards and the resulting food insecurity as significant barriers to addressing poverty reduction in the country. Mainstreaming climate change adaptation also has a prominent place throughout the framework. Following the political and security crisis of 2012-2013, the CSCRP was supplemented by the Plan for the Sustainable Recovery of Mali (PRED 2013-2014) and the Government Action Plan (PAG 2013-2018). As part of its goal to strengthen economic growth in the country, one of the stated measures of the PAG is to develop and implement a plan to reduce the risk of flood and other natural hazards.

Sectoral and Institutional Context

Sectoral Context:

Water resources and agriculture are the sectors most vulnerable to climate change in Mali, with projected decline in overall yields (maize, rice, cotton, millet / sorghum), exacerbating concerns of food security over time. Water resources in Mali comprise precipitation, local runoff, exogenous flows (mostly from Guinea) and groundwater resurgence in the Niger inland delta, which concentrates some of the most important social-economic zone. Due to Increased evaporation rate due to the rise in climatic temperature, the Inner Niger Delta is set to experience a reduced river flow. This will adversely impact the livelihoods of the Delta's inhabitants, as crop growing periods shift or get shorter, water availability decrease and fish production drops. The south of the country, including Sikasso, Mopti, and Segou, is particularly

vulnerable, where agriculture and economic activity are concentrated. These regions have high population densities and high levels of poverty while being critical for continued food security and ecosystem services, which are deteriorating.

Food security remains a challenge for Mali. Climate-induced disasters (drought, flood and locust infestations), as well as other factors including limited arable land, environmental degradation, and fluctuating commodity prices have led to food insecurity and health shocks in Mali. The resultant impact is particularly severe for vulnerable rural households dependent on subsistence farming and livestock herding. Following the 2011 drought and the subsequent loss of harvest, grain prices significantly increased in Mali in 2011– 2012, reaching price levels that were 80 to 100% above average during the lean season. The escalation of conflict in 2012 also exacerbated the devastating impacts of food shortages in the country. Children are the most impacted and at risk from food shortages as early childhood malnutrition greatly increases the risk of stunting and mortality, and can lead to irreversible mental and physical impairment. According to the last Demographic and Health Survey in Mali (2012-13), Global Acute Malnutrition among children under 5 was reported at 15%, which was substantially above the regional average. In March 2014, 3.7 million people were estimated to suffer from moderate to severe food insecurity, with 1.5 million in immediate need of food assistance.

Understanding hydrometeorological (hydromet) and climate risks, and assessing their social and economic impacts, will help develop adequate policy responses to support the country's sustainable development. Mali, as a sahelian country, has an inherent vulnerability to adverse climate events, which might be exacerbated by future climate change. Increase in the number of severe events such as droughts and floods are anticipated in the forthcoming decades. In order to cope with this evolving scenario, notably in terms of improved food production and early warning, it is necessary to support efforts from the government to improve the production and delivery of hydromet services adapted to the needs of all communities. A number of economic sectors in Mali could specifically benefit from more accurate, relevant and timely hydromet information, forecasts, warning and services. Greater understanding, monitoring and forecasting of severe weather and weather events could result in reduced loss of life and property, economic gains and prevention of losses, and most importantly, improved adaptation capacity within sectors having to cope with the negative impacts of climate variability and change.

Strengthening of hydrometeorological services is a flagship program of the Africa Climate Business Plan presented at the 21st United Nations Framework Convention on Climate Change (UNFCCC) Conference of Parties (COP21). The Africa Hydromet Program, launched in June 2015 as a partnership framework for the World Bank, the African Development Bank, WMO and other partners, will support the enhancement of climate- and disaster-resilience capacity in targeted Sub-Saharan countries, by strengthening hydromet services, end-user services (including early warning), and knowledge and advisory services. It also aims to promote regional integration by linking national hydromet systems with regional and global counterparts. The program aims to mobilize financial resources over time to strengthen national hydromet services by providing the investment, technical assistance, and capacity building needed for integrated modernization.

Mali has also adopted a climate change framework to guide climate and disaster resilience building activities. It is signatory to the UNFCCC and the Kyoto Protocol. In 2007, Mali put in place a National Adaptation Programme of Action (NAPA) to identify its urgent and immediate needs for adaptation, and is currently in the process of formulating a National Adaptation Plan (NAP) for medium- and long-term adaptation planning. Mali has strengthened its institutional framework and policy instruments so that various ministries, agencies, and partner organizations can effectively contribute to climate change adaptation and mitigation. The AEDD was founded in 2010, and is responsible for coordinating national environmental policy and performing the function of national secretariat on climate change. AEDD supported the development of the National Climate Change Policy (PNCC), the National Climate Change Strategy (SNCC), and the Action Plan for Implementation (PANC), which were adopted in July 2011. To maximize its ability to finance its national priorities, the Government of Mali developed a national climate fund to combine financing from bilateral and multilateral sources as well as from the public and private sectors. With an initial contribution from Sweden in 2013, the Mali Climate Fund is one of the first national climate funds operational on the African Continent.

Institutional Context:

Mali Météo, the National Directorate for Water Resources (DNH), the General Directorate for Civil Protection (DGPC) and the Food Security Early Warning System (SAP) are the key agencies responsible for weather and climate services including early warning and disaster risk management in Mali.

Mali Météo is an autonomous agency under the Ministry of Equipment and Transport. It has the mandate to provide reliable and timely weather and climate information as well as appropriate services to public and private users from various socio-economic sectors. Currently, their network of meteorological observations includes 19 synoptic stations, 4 weather radars, 54 agro-meteorological stations, 214 rainfall observation stations, 2 systems to receive Meteosat Second Generation satellite images (under the support of WMO, EUMETSAT, AGRHYMET). A detailed assessment of the actual situation of Mali-Météo was conducted in 2014 with financial support from USAID. This assessment pointed out the precarious financial and staffing situation of the Agency, as well as the obsolescence of the network of meteorological and agro-climatological stations, leading to inadequate services to the communities. More specifically, the spatial resolution,

number of monitored parameters and reliability of land-based synoptic, climate and agro-meteorological stations are inadequate to address users' needs. Many observation systems including radars are nonfunctional or not used for weather forecasting. Field visits revealed that communication systems are unreliable and slow, with frequent power outages. Observation systems in the north of the country were largely destroyed during the recent conflict. While priority needs were clearly greater than available resources, it was evident that sustainability considerations including allocation of adequate O&M funds and recruitment and retention of qualified personnel are the main factors which would determine the total amount and composition of the proposed modernization package for Mali-Météo.

The National Directorate for Water Resources (DNH) is part of the Ministry of Energy and Water (MEE) and is responsible for water resource management and regulation in Mali. DNH's responsibilities include inventory and evaluation of potential water resources development within the framework of the National Plan; oversight of studies for, and supervision of the construction of hydraulic works and their subsequent proper operation and management; evaluation of development projects in the water sector; and participation in sub-regional bodies and initiatives to manage water resources. In addition DNH supervises and coordinates the work of regional and sub-regional offices that provide water services; maintains a documentation and information center; and runs the Water Quality Laboratory. DNH has five divisions (rural water, urban water, construction of hydraulic works, database resources, and standards and regulations).

Food security and nutrition monitoring is carried out by the Early Warning System (SAP), which is under the Office of the President in Mali. It was created through the Cereals Market Restructuring Program (PRMC) in 1980s. In 2002, Mali developed and adopted in the National Food Security Strategy (SNSA), which was the basis for creating the Food Security Commission (CSA). Chaired by the Prime Minister, the CSA establishes food security policies, implements the national food security strategy, and provides coordination during food security crises. While reform is currently ongoing, the current mandate of SAP was established through a 2003 mission statement. The statement establishes that SAP is responsible for the continuous monitoring of the food production and availability situation, determining areas at risk, and identifying vulnerable populations. SAP coordinates information obtained from over 20 members of its network, including both regional agencies and some international organizations and NGOs. In its early years, SAP has been funded by several external donors, including the European Development Fund and USAID. The reform, initiated in 2011 and signed in January 2016, will bring back a large number of donors to support the national food security system, which prioritize targeting for distribution of about US$260 million of food assistance annually.

The Directorate General of Civil Protection (DGPC) is the coordinating body for disaster risk reduction, including emergency preparedness, response and longer-term prevention activities. Attached to the Ministry of Security and Civil Protection, the DGPC's primary mission is to develop elements of the National Civil Protection Policy and to ensure its implementation, while also ensuring inter-ministerial coordination for mainstreaming disaster risk reduction and climate change adaptation among sector-specific and crosscutting activities. The strengthening of technical (meteorological, hydrological, food security) services brings major benefits in terms of life saving and resilience if civil protection services are engaged in the process. In Mali, the national strategy for disaster risk reduction provides a large mandate to civil protection services.

Relationship to CPF

The Systematic Country Diagnostic dated June 22, 2015, highlights dependence on rain-fed agriculture as a key vulnerability and focuses on food security.

The Country Partnership Framework (CPF) for FY16-19 includes an elaborated resilience pillar focusing on developing human capital, strengthening safety nets, improving risk management mechanisms for the poor and vulnerable and mitigating climate shock, and improve basic services by developing infrastructure and connectivity.

C. Proposed Development Objective(s)

Note to Task Teams: The PDO has been pre-populated from the datasheet for the first time for your convenience. Please keep it up to date whenever it is changed in the datasheet.

The proposed Project Development Objective (PDO) is to improve the country's hydro-meteorological, early warning and response systems and services in targeted areas.

Key Results (From PCN)

1. Enhanced hydro-meteorological observing, monitoring and impact and impact forecasting services
2. Enhanced food security early warning system
3. New flood early warning services
4. Enhanced civil protection response capacities

D. Concept Description

The proposed Project would have the following component structure to support achievement of the PDO:

Component A. Institutional Strengthening, Capacity Building and Implementation Support (US$5.1M). Component A will invest in strengthening institutional setup and building capacity of human resources. This includes: i) reinforce the legal and regulatory framework of Mali Météo and DNH in order to develop partnerships and Standard Operating Procedures (SOPs) for delivery of service; ii) strengthen the Quality Management Systems to raise standards and quality control/verification procedures across the institutions; iii) implement a long-term and on-demand capacity development and training program for staff of Mali Météo, DNH, SAP and DGPC.

Component B. Modernization of observation infrastructure and forecasting (US$14,6M). Component B will finance: i) hydrological and meteorological monitoring networks at Mali-Météo and DNH (small-scale rehabilitation of priority stations and installation of new sensors); ii) transmission, data management and data dissemination hardware at Mali Météo and DNH; iii) refurbishment of facilities needed to support the services at Mali Météo and DNH; iv) technical systems and software for performing meteorological, hydrological and climate modelling and forecasting at Mali Météo and DNH; v) creation of Emergency Operations Centre(s) (COVACC) at DGPC; and vi) modernize the Food Security Early Warning Infrastructure at SAP.

Component C. Enhancement of Service Delivery to End-Users (US$6M). Component C will provide technical assistance for delivery of more accurate, timely and user-friendly products and services to users and decision-makers. The component will specifically (i) define requirements and develop feedback mechanisms with different user groups (in line with the National Framework for Climate Services); and (ii) develop customized products and services made available to user groups through dedicated interfaces. Priority target end-users are those involved in (a) agro-meteorological information services, (b) food security; (c) civil protection emergency and contingency plans; and (d) aviation. This component will target beneficiaries with a gender-disaggregated approach. Within this context, the delivery of information will use combination of media (radios, TV, newspapers), Internet, cellphone and smartphones to reach users according to their needs. The success of this service delivery component will be dependent upon how users of hydro-meteorological information will receive support (from other projects) in developing capacities at the right level (local governments, farmers' associations, etc.) in select zones in order to convert information into action/decision. This component is essential in promoting the image of Mali-Météo and DNH to the public and decision makers and potentially generating new sources of revenues in the future.

Component D. Project Management (US$1.55M). This component will finance the following activities: (i) incremental operating costs; (ii) technical design of sub-projects; (iii) procurement, financial management, safeguards, monitoring and evaluation, quality control and contract management; and (iv) audit, studies and assessments required under various project components

Note to Task Teams: The following sections are system generated and can only be edited online in the Portal.

SAFEGUARDS

A. Project location and salient physical characteristics relevant to the safeguard analysis (if known)

B. Borrower's Institutional Capacity for Safeguard Policies

C. Environmental and Social Safeguards Specialists on the Team

D. Policies that might apply

Safeguard Policies	Triggered?	Explanation (Optional)
Environmental Assessment OP/BP 4.01	Yes	
Natural Habitats OP/BP 4.04	No	
Forests OP/BP 4.36	No	
Pest Management OP 4.09	No	
Physical Cultural Resources OP/BP 4.11	Yes	
Indigenous Peoples OP/BP 4.10	No	
Involuntary Resettlement OP/BP 4.12	No	the project does not anticipate land acquisition or resettlement
Safety of Dams OP/BP 4.37	No	
Projects on International Waterways OP/BP 7.50	No	
Projects in Disputed Areas OP/BP 7.60	No	

E. Safeguard Preparation Plan

Tentative target date for preparing the Appraisal Stage PID/ISDS

Nov 02, 2016

Time frame for launching and completing the safeguard-related studies that may be needed. The specific studies and their timing should be specified in the Appraisal Stage PID/ISDS

The overall environmental and social impact of the project is expected to be positive. The project will adhere to the requirements of World Bank safeguard policies. More specifically, DGPC has already consulted, developed adopted and disclosed an Environmental and Social Management Framework (ESMF), available in InfoShop at http://documents.worldbank.org/curated/en/2016/05/26399241/mali-first-phase-climate-resilience-sub-saharan-africa-environmental-assessment-cadre-de-gestion-environnementale-sociale

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APPROVAL

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