

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

Report No.: AB7270

Project Name	Cameroon Flood Emergency Project
Region	AFRICA
Sector	Flood protection (50%); Public administration- Water, sanitation and flood protection (30%); Irrigation and drainage (20%)
Project ID	P143940
Borrower(s)	REPUBLIC OF CAMEROON
Implementing Agency	SEMRY
Environment Category	<input type="checkbox"/> A <input checked="" type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> FI <input type="checkbox"/> TBD (to be determined)
Date PID Prepared	March 8, 2013
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1. Key development issues and rationale for Bank involvement

Key Development Issues

1. **Despite significant natural resources, Cameroon's economic growth is lagging behind its potential and has not had a lasting impact on poverty.** Poverty levels are around 40 %, with significant regional disparities, but have largely stagnated since 2001. The 2006 debt relief under the HIPC Initiative provided some fiscal space for poverty reducing measures and investments. After declining in 2009, due to a drop in commodity prices and volumes, Cameroons exports rebounded in 2010. Recovery gained momentum in 2011, where an estimated real GDP growth of 4.2 % has been achieved, which is driven by activities in agriculture, construction and telecommunication Nevertheless, the economy is lagging behind other countries, among others through poor infrastructure, which constitute a major bottleneck for competitiveness and growth, and an unfavorable business environment.
2. **Cameroon's Northern Region is poverty trapped with a major part of the population dependent on agriculture and pastoral activities.** Cameroon's diverse geography ranges from the Sahelian semi-desert in the north to equatorial forest in the south favoring diverse economic and agricultural activities. Although Cameroon is well endorsed with natural resources, but still 70 % of the population depends on agriculture and pastoral activities for their livelihood. Poverty rates are highest in the northern rural areas, where poverty rates have actually increased since 2001. Almost two third of the population in the northern regions lives below the poverty line and chronic poverty is over 50 %. Vulnerability and food insecurity are high, where only 37 % of the total population was considered food secure.
3. **Cameroon is also challenged to address its climate variability and related disparities of growth by its limited infrastructure, legal framework and information systems.** Although the country as a whole is well endowed with abundant fresh water resources, Cameroon's climate is marked by highly variable rain-fall. Its weather-sensitive economic sectors from agriculture to water resources management are highly vulnerable to weather and

climate related shocks. Naturally, constraints and disparities in Cameroon's economic growth, especially between the semi-arid northern areas and the rest of the country, are also driven by climate risks. Cameroon lacks a comprehensive information system (such as hydro-meteorological services) to sustainably manage its water resources and address rainfall variability and faces an inadequate legal and institutional framework as well as insufficient and deteriorated infrastructure. Cameroon ranks as one of the countries in the world most vulnerable to multiple hazards, with, according to The World Bank's Natural Disaster Hotspot Analysis, an estimated 42% of the population at risk of multiple hazards (World Bank, 2005).

4. **Agricultural development plays a pivotal role for growth poverty reduction, notably in the semi-arid North of the country.** Poverty has increased recently, notably for agricultural producers and in general in the northern provinces of the North, Far-North, and Adamaoua. Increasing growth in agriculture would thus play a pivotal role in reducing poverty, sustaining growth, and achieving food security, and thereby reduce the nation's dependency on volatile oil revenues. Agricultural development thus features prominently in the Government's 2009 – 2019 Growth and Employment Strategy (DSCE). Particularly, the second pillar of the DSCE highlights the importance of economic diversification with a strong focus on agricultural development as the key income generating activity and the main source for future economic growth and poverty alleviation in rural areas.
5. **Large scale hydraulic infrastructure at the Logone River in the North Region has been developed for irrigated rice production.** Leveraging the large potential of the flood plains of the Logone River for irrigated agriculture the Government established, in the 1960s the SEMRY (*Société d'Expansion et Modernisation de la Riziculture de Yagoua*, the Society for the Expansion and Modernization of Rice Cultivation in Yagoua). The SEMRY is a parastatal company set up under the Ministry of Agriculture for the development of irrigated rice production. The SEMRY has developed two major agricultural rice production areas: SEMRY I with a 5300 ha of productive area, was developed in the 1960s, while SEMRY II, with 7000 ha of productive area, and was developed in the 1970s and 1980s. The 27 km earthen Maga Dam was constructed on the upper part of the Waza-Logone floodplain in 1979 in the Far North region to provide water for the SEMRY II irrigation scheme and for fish farming. The Maga dam remains the largest piece of infrastructure in the Logone-Chari River system, with a maximum capacity of 620 million m³. Furthermore, some 97 km of dykes were constructed along the bank of the Logone River, extending 20 km downstream from the Maga Dam to prevent the irrigated rice fields to the west of the Logone from being flooded from over-bank flow (see scheme in Annex 1).
6. **The hydraulic infrastructure, notably the Maga dam, is deteriorated, with substantial shortcomings for operation and safety of the infrastructure.** A lack of maintenance combined with wave erosion at high water levels of the lake Maga, sedimentation, erosion, lack of routine and periodic maintenance have substantially weakened the structure of Maga dam and the Logone Dyke over the past decades. SEMRY has estimated that these structures might have already lost some 0.5 to 1 m of their height or 40% of their structure over the past 30 years.

7. **In the previous years minimum maintenance has been conducted and feasibility studies for the rehabilitation of infrastructure have been financed a.o. by the World Bank.** Some maintenance of the dam has been conducted between 2000 and 2006, but not enough to ensure secure and safe operation of the dam. Several studies have been undertaken to restore parts of the flood plains of the Logone River among others through additional spillways or an increased capacity of the Vrik channel (main spillway). In 2002, the World Bank commissioned a dam safety study. In 2011, under the Agricultural Competiveness Project (PACA), engineering studies for the rehabilitation of the scheme were financed. These studies indicate substantial shortcomings in emergency preparedness and the risk of overtopping as well as wave erosion threatening the integral structure of the dam.

Rationale for Bank Involvement

8. **Exceptionally high rainfall in August and September 2012 caused widespread floods in the North and Far North regions.** From August 15 to September 17, 2012 Northern Cameroon has received exceptionally high rains, which caused floods in the districts of Gobo, Guere, Kai-kai, Maga, Vele, Girvidik, Yagoua, Logone Birni, Blangoua, Zina et Diamare in the North and Far North regions. At the end of September 2012 the precipitation had already surpassed the average annual precipitation and reached 680% of the average cumulative rainfall in September. According to local observations, this rain season had been one of the most intense and extended in the past decades, but exact hydro-meteorological data are missing.
9. **The floods have caused substantial damages to the hydraulic infrastructure further weakening the dam, putting at risk the local population of a potential dam failure.** The rains and subsequent floods have caused substantial damages on the irrigation infrastructure and Maga dam and destroyed more than 25km of the Logone Dyke. Some 100,000 people were directly affected by the floods in the area and temporarily lost their livelihoods. Exceptionally high water levels had risen to just 70 cm below the alarm level of the Maga dam, thereby further deteriorating the already weak structure putting the downstream potential at risk of a potential dam break.
10. **While emergency measures were put in place by the national authorities, structural investments are needed to completely rehabilitate the deteriorated infrastructure.** Local authorities in collaboration with the affected population put some emergency measures in place to reinforce and stabilize the dam by placing sand bags at weak points as well as filling fissures of the dam. These measures while warranted and useful were of a very temporary nature. Substantial investments are now urgently needed to rehabilitate the Maga dam, the Logone Dyke and other relevant infrastructure, while at the same time building capacity for sustainably managing water resources and preparedness for future disasters.
11. **The Government has requested the World Bank to rapidly assist to secure the infrastructure and bring the irrigation system back into productive use.** Following the devastating floods, the Government of Cameroon through MINEPAT, *Ministère de l'Economie, de la Planification et de l'Aménagement du Territoire* (Ministry of Economy, Planning, and Regional Development) requested the World Bank to assess the possibility for an emergency response operation to rapidly secure the infrastructure from further deterioration. Following this request, dated September 11, 2012, a World Bank mission was

fielded in late September 2012 to evaluate the situation. This mission visited the affected area in September 2012 and recommended, in accordance with OP/BP 8.00, urgent assistance to reduce the eminent risk of failure of these structures and to protect the lives and agricultural productivity in the North Region.

2. Proposed objective(s)

12. The Project Development Objective (PDO) is to rehabilitate key hydraulic infrastructure and improve disaster-preparedness in the Far North Region of Cameroon.

3. Preliminary description

13. The project is designed around three major components (i) rehabilitating hydraulic infrastructure, (ii) disaster risk management and emergency preparedness, and (iii) institutional support.
14. **Component A – Rehabilitation of key hydraulic infrastructure for flood protection and rice production:** This component will finance the rehabilitation of SEMRY’s deteriorated and flood affected infrastructure, notably the rehabilitation of Maga dam, the rehabilitation of 67km of the Logone dyke for flood protection as well as the reconstruction or rehabilitation of associated pumping stations, canals and spillways. These major physical infrastructure works are based on the feasibility and detailed engineering studies already conducted under the PACA project. The rehabilitation of the Maga dam will be conducted according to best practice engineering standards, including compaction and laboratory stability tests to be used for earth fill material. Drainage structures may need to be upgraded to better control seepage through the dyke. The rehabilitation of the irrigation infrastructure for the SEMRY rice schemes (about 10,000ha), reinstalling its full functionality for irrigated rice production is also planned under this component.
15. **Component B - Disaster risk and emergency management:** The flood events of August / September 2012 in Far North region of Cameroon exposed the limited capacity of SEMRY and other national authorities to prevent and respond to the floods. SEMRY will be supported to develop and enforce emergency preparedness plans for its hydraulic infrastructure and early warning systems to adequately inform potentially affected communities, as well as collaboration with the corresponding central and decentralized authorities. The acquisition of equipment including installation of hydro-meteorological equipment at Lake Maga to better monitor the water levels at the Lake will also be financed.
16. **Component C – Institutional Support:** This component would provide institutional support for sustainable water resources management including strengthening the institutional and financial capacity of SEMRY to sustainably manage and maintain the hydraulic infrastructure to prevent future flood-related disasters and deliver adequate irrigation services to its clients. This component will also finance project management and coordination costs, including consultant services, technical assistance and operating costs.

4. Safeguard policies that might apply

17. Activities supported under the proposed Project are expected to have a number of site specific environmental and social impacts. Therefore, the following safeguards policies are triggered: OP/BP 4.01 (Environmental Assessment); Natural Habitats (OP/BP 4.04), OP/BP 4.09 (Pest Management), OP/BP 4.12 (Involuntary Resettlement), OP/BP 4.37 (Safety of Dams) and OP/BP 7.50 (Projects involving International Waters).
18. As this operation is subject to OP/BP 8.00, Rapid Response to Crises and Emergencies, an Environmental and Social Screening and Assessment Framework (ESSAF) should be prepared to ensure compliance with the World Bank’s safeguards policies during implementation, building upon already initiated assessments under the PACA project. In 2012, an Environmental and Social Audit of SEMRY was prepared under the PACA project which including information about the Maga dam and Logone Dyke. While this report provides good information, it remains weak on the dam safety issues.

5. Tentative financing

Source:	(\$m.)
BORROWER/RECIPIENT	0
International Development Association (IDA)	110
Total	110

6. Key Risks

19. The overall project risk rating is **moderate**. SEMRY has shown strong commitment in pursuing the rehabilitation, and more importantly, the operation and management of the infrastructure thereafter because they are the primary beneficiaries. However, MINEPAT is the agency currently responsible for the operation and maintenance of these structures. The Bank team will discuss the institutional options and agree with MINEPAT for the sustainable operation and maintenance of the infrastructure. Although SEMRY is indirectly involved in the implementation of the on-going PACA project, it has no direct prior experience with implementing Bank-financed projects. This may pose delays in implementation. As such, the project has been specifically designed to be relatively simple to implement and the pre-investment studies for the main infrastructure have already been carried out under the PACA project.
20. Furthermore, corruption and vested interest are prevalent at all levels of society and may hamper the implementation of reforms and delivery of services, possibly also at SEMRY or related government agencies. Therefore the task team includes experienced governance and financial management experts to design appropriate and transparent measures limiting the overall governance risk. Other risks are related to the technical nature of the rehabilitation and the implications for environmental and social safeguards compliance. They will be appropriately addressed through the safeguards instruments.

7. Contact Point

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Annex 1. Scheme of the main water infrastructures.

