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, Cameroon’s 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 endowed 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 at Yagoua and SEMRY II at Maga. SEMRY I site consists of five major irrigation blocks of 5300 ha completed between 1972 and 1977 at Yagoua. SEMRY II consists of four major irrigation blocks of in total 6200 ha established between 1978 and 1986 supplied by the Maga dam. The 27 km long 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 70 km of embankments were constructed along the Logone River to prevent the irrigated rice fields to the west of the Logone River 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 settled for some 0.2 to 0.5 m 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. Furthermore, it is not evident that there are any systematic operations and maintenance plans in place to sustain improvements made during these punctual interventions. As previously mentioned the pre-feasibility studies for the rehabilitation of the hydraulic infrastructure conducted under PACA indicated substantial shortcomings in emergency preparedness and 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 floods caused substantial damages to the hydraulic infrastructure further weakening the Maga dam and putting at risk the local population of a potential dam failure. Exceptionally high water levels had risen to 70 cm above the alarm level of the Maga dam, thereby further deteriorating the already weak structure and putting the downstream population at risk of a potential dam break. In case of a potential failure of Maga dam it is estimated that about 150km² would potentially be flooded, putting at risk up to 120,000 people. The rains and subsequent floods also caused substantial damages to the irrigation infrastructure and destroyed more than 25km of the Logone dyke. Approximately 60,000 people or 1,222 families in the Maga district and 9,025 families in the Logone and Chari district were affected.

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 targeted areas 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 (US$99.2 million):** This component will finance the rehabilitation of flood affected infrastructure, notably the rehabilitation of Maga dam, 70km of the Logone embankment and related infrastructure for flood protection, as well as the rehabilitation of the associated water conveyance/irrigation infrastructure for SEMRY rice schemes (7,500ha). Thereby its full functionality for water conveyance will be reinstalled. Accordingly, this component will consist of three sub-components (i) Rehabilitation of Logone embankment, (ii) Rehabilitation of Maga dam and related infrastructure, and (iii) Rehabilitation of irrigation areas.

15. **Component B - Disaster risk and emergency management (US$2.6 million):** The component will consist of two sub-components (i) strengthening hydro-meteorological data management to support design and installation of a hydro-meteorological monitoring system in the three main tributaries to Lake Maga, and rehabilitation existing weather stations in the project area to better plan, operate the hydraulic infrastructure and be prepared for potential emergencies; and (ii) strengthening emergency management to support SEMRY and local authorities to develop an operational contingency plan and ensure its full implementation and dissemination to population.

16. **Component C – Institutional Support:** This component would provide institutional support for strengthening the capacity of SEMRY to sustainably manage, maintain and operate the hydraulic infrastructure. The component will also finance an external dam safety panel, which will review the feasibility studies, safety measures and construction. This component will also finance project management and coordination.
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: Environmental Assessment (OP/BP 4.01); Natural Habitats (OP/BP 4.04); Pest Management (OP/BP 4.09); Physical Cultural Resources (OP/BP 4.11); Involuntary Resettlement (OP/BP 4.12); Safety of Dams (OP/BP 4.37) and Projects on International Waters (OP/BP 7.50).

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) has been prepared to ensure compliance with the World Bank’s safeguards policies during implementation, building upon already initiated assessments under the PACA project. The relevant instruments, including an Environmental and Social Assessment (ESIA), Pest and Pesticides Management Plan (PPMP), Resettlement Action Plan(s) (RAPs) will be prepared and disclosed during the project implementation. Civil works will not start prior to the completion and disclosure of relevant safeguards instruments. Consistent with the World Bank operational policy OP/BP 7.50, a riparian notification was sent to The Republic of Chad and the Lake Chad Basin Commission (CBLT). Furthermore, in accordance with World Bank operational policy OP/BP 4.37 Safety of Dams a dam safety panel shall review design, construction and emergency measures in place. An interim contingency plan covering the period until the rehabilitation works would be completed shall be drafted and implemented.

4. Tentative financing
Source: ($m.)
BORROWER/RECIPIENT 0
International Development Association (IDA) 108
Total 108

5. Key Risks

19. The overall project risk rating is rated as substantial. Although SEMRY is indirectly involved in the implementation of the ongoing PACA project, it has no direct prior experience with implement-ting 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 design studies for the main hydraulic 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. The potential environmental and social risk associated with the project is high. They will be appropriately addressed through the safeguards instruments.
21. The Operation Risk Assessment Framework (ORAF) will also be used to monitor and reassess risks and review mitigation measures during project implementation.

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7. **Implementing agency**  
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Annex 1. Scheme of the main water infrastructures.