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EMERGENCY PROJECT PAPER

ON A

PROPOSED CREDIT

IN THE AMOUNT OF SDR 71.6 MILLION
(US\$ 108 MILLION EQUIVALENT)

TO THE

REPUBLIC OF CAMEROON

FOR A

FLOOD EMERGENCY PROJECT

May 28, 2013

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CURRENCY EQUIVALENTS

(Exchange Rate Effective April 30, 2013)

Currency Unit	=	Franc CFAF (XAF)
CFAF 501.59205	=	US\$ 1
US\$ 1.5090	=	SDR 1

FISCAL YEAR
January 1 – December 31

ABBREVIATIONS AND ACRONYMS

CAA	<i>Caisse Autonome d'Amortissement du Cameroun</i> (National Debt Management Agency)
CAS	Country Assistance Strategy
CFAF	CFA Franc
cm	Centimeter
CPAR	Country Procurement Assessment Review
DA	Designated Account
EOI	Expression of Interest
ESIA	Environment and Social Impact Assessment
ESMP	Environment and Social Management Plan
ESSAF	Environmental and Social Screening and Assessment Framework
ESW	Economic and Sector Work
EU	European Union
FCFA	<i>Franc de la Communauté Financière d'Afrique</i> (CFA Franc, local currency)
FUGRIMA	<i>La Fédération des Unions des Groupements des Riziculteurs de Maga</i> (Federation of Rice Producer Organisations of Maga)
FUGRIYA	<i>La Fédération des Unions des Groupements des Riziculteurs de Yagoua</i> (Federation of Rice Producer Organisations of Yagoua)
GDP	Gross Domestic Product
GoC	Government of Cameroon
IBRD	International Bank for Reconstruction and Development
ICB	International Competitive Bidding
IDA	International Development Association
IFR	Interim Financial Report
ISR	Implementation Status and Results Report
MCM	Million cubic meters
M&E	Monitoring and Evaluation
MINADER	<i>Ministère de l'Agriculture et du Développement Rural</i> (Ministry of Agriculture and Rural Development)
MINATD	<i>Ministère de l'Administration Territoriale et de la Décentralisation</i> (Ministry of Territorial Administration and Decentralization)
MINEE	<i>Ministère de l'Energie et l'Eau</i> (Ministry of Energy and Water Resources)
MINEPDED	<i>Ministère de l'Environnement, de la Protection de la Nature et du Développement Durable</i> (Ministry of Environment, Nature Protection and Sustainable

	Development)
MINEPAT	<i>Ministère de l'Economie, de la Planification et de l'Aménagement du Territoire</i> (Ministry of Economy, Planning and Regional Development)
MINMAP	<i>Ministère Chargé des Marchés Publics</i> (Ministry of Public Contracts)
NCB	National Competitive Bidding
NGO	Non-Governmental Organization
OP	Operational Policy
ORAF	Operation Risk Assessment Framework
PACA	<i>Projet d'Amélioration de la Compétitivité Agricole</i> (Agricultural Competitiveness and Diversification Project)
PAP	Project Affected People
PCU	Project Coordination Unit
PEFA	Public Expenditures and Financial Accountability
PEMFAR	Public Expenditure Management and Financial Accountability Review
PIE	Project Implementation Entity
PIM	Project Implementation Manual
PFM	Public Finance Management
PMFP	Public Finances Master Plan
PPMP	Pest and Pesticide Management Plan
PRSP	Poverty Reduction Strategy Paper
PSC	Project Steering Committee
RAP	Resettlement Action Plan
RTMT	Regional Technical Monitoring Team
SDR	Special Drawing Rights
SEMRY	<i>Société d'Expansion et Modernisation de la Riziculture de Yagoua</i> (Society for the Expansion and Modernization of Rice Cultivation in Yagoua)
VAT	Value-added Tax

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**Republic of Cameroon
Cameroon Flood Emergency Project**

CONTENTS

	Page
I. Introduction.....	1
II. Emergency Challenge	1
III. Bank Response: The Project.....	5
IV. Appraisal of Project Activities	9
V. Implementation Arrangements and Financing Plan	17
VI. Key Risks and Mitigating Measures	20
VII. Terms and Conditions for Project Financing.....	21
Annex 1: Detailed Description of Project Components.....	23
Annex 2: Results Framework and Monitoring	33
Annex 3: Summary of Estimated Project Costs.....	35
Annex 4: Operational Risk Assessment Framework (ORAF).....	36
Annex 5: Financial Management and Disbursement Arrangements.....	40
Annex 6: Procurement Arrangements	48
Annex 7: Implementation and Monitoring Arrangements	58
Annex 8: Project Preparation and Appraisal Team Members.....	60
Annex 9: Environmental and Social Safeguards Framework	61
Annex 10: Economic and Financial Analysis	92
Annex 11: Documents in Project Files	97
Annex 12: Statement of Loans and Credits.....	97
Annex 13: Country at a Glance	100
Annex 14: Maps.....	103

CAMEROON
 FLOOD EMERGENCY PROJECT
 EMERGENCY PROJECT PAPER
 AFRICA REGION

Basic Information	
Country Director: Gregor Binkert Sector Manager/Director: Magda Lovei / Jamal Saghir Team Leader: Shelley McMillan Project ID: P143940 Expected Effectiveness Date: July 15, 2013 Lending Instrument: Investment Project Financing (IPF)	Sectors: Flood protection (40%); Public administration (20%); Irrigation and drainage (40%) Themes: Water Resources Management (40%), Natural Disaster Management (30%), Rural Services and Infrastructure (20%), Climate Change (10%) Environmental category: A Expected Closing Date: June 30, 2017
Project Financing Data	
[.] Loan [x] Credit [] Grant [] Guarantee [] Other: Proposed terms: Standard, with 40 years maturity	
Financing Plan (US\$ 110 m)	
Source	Total Amount (US \$m)
Total Project Cost:	108
Cofinancing:	-
Borrower:	-
Total Bank Financing:	108
IBRD	-
IDA	108
New	108
Recommitted	
Client Information	
Recipient: Republic of Cameroon	
Responsible Agency: Ministry of Economy, Planning and Regional Development (MINEPAT)	
Project Implementing Entity: SEMRY (<i>Société d'Expansion et Modernisation de la Riziculture de Yagoua</i>) Yagoua, Cameroon Contact Person: M. Marc Samatana (Director General) Telephone No.: (237) 96 79 79 00 Fax No.: (237) 22 29 62 85 Email: samatanamarc@yahoo.fr	

Estimated disbursements (Bank FY/US\$m)				
FY	2014	2015	2016	2017
Annual	12.4	36.8	38.6	20.2
Cumulative	12.4	49.2	87.8	108
Project Development Objective and Description				
Project development objective: The PDO is to rehabilitate key hydraulic infrastructure and improve disaster-preparedness in target areas in the Far North Region of Cameroon.				
Project description: The proposed credit would help finance the costs associated with rehabilitation of key hydraulic infrastructure for flood protection and rice production in the Far North Region of Cameroon. The proposed project will support the Government in rehabilitating flood affected, damaged and deteriorated hydraulic infrastructure, notably 70km Logone embankment, Maga dam and related water conveyance/irrigation infrastructure at both locations. The project will furthermore assure that emergency and disaster preparedness measures are put in place and that the population is well informed about disaster preparedness and emergency management procedures. Specifically, the project will have three major components as follows:				
<u>Component A:</u> 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.				
<u>Component B:</u> 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				
<u>Component C:</u> Infrastructure Operation and Maintenance, Project Management (US\$ 2.9 million): 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 and Exception to Policies		
Safeguard policies triggered: 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)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Does the project require any exceptions from Bank policies? Have these been approved by Bank management?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Conditions and Legal Covenants:		
Financing Agreement Reference	Description of Condition/Covenant	Date Due
Article V, Section 5.01, (a)	(i) The Subsidiary Agreement has been executed on behalf of the Recipient and the Project Implementing Entity, in accordance with Section I.B of Schedule 2 to this Agreement.	Effectiveness condition
Article V, Section 5.01, (b)	(ii) The Recipient has established the Project Steering Committee in accordance with the provisions of Section I.A.1 of Schedule 2 to this Agreement.	Effectiveness condition
Article V, Section 5.01, (c)	(iii) The Recipient has established the Regional Technical Monitoring Team in accordance with the provisions of Section I.A.2 of Schedule 2 to this Agreement.	Effectiveness condition
Article V, Section 5.01, (d)	(iv) The Recipient has extended the mandate of PACA-IU in accordance with the provisions of Section I.A.3(a) of Schedule 2 to this Agreement.	Effectiveness condition

Section V, A of Schedule 2	Without limitations upon the provisions of Section I.F.1 of this Schedule 2, the Recipient shall ensure that all Safeguards Instruments required under the Project are disclosed in country and at the Association's Infoshop, no later than 120 days prior to the signing of any contracts for works to be carried out under Part A of the Project.	Disbursement condition
Section I, A.1 (b) of Schedule I	<p>Dated Covenants</p> <ul style="list-style-type: none"> Not later than twelve (12) months after the Effective Date, the Project Implementing Entity shall establish and thereafter maintain within its structure the Project implementation unit (SEMRY-PIU) which shall at all times be comprised of qualified and experienced personnel in adequate numbers, and to this end, the Project Implementing Entity shall recruit, a Project Coordinator, an assistant Project Coordinator, financial management specialist, a procurement specialist, monitoring and evaluation specialist, environmental and social safeguards specialist, an agricultural specialist, an agronomist, a water resources management specialist, a civil engineer, agricultural technician, agricultural machinery technician, and a water management technician. 	12 months after effectiveness
Section II, B.3 of Schedule I	<ul style="list-style-type: none"> Not later than twelve (12) months after the Effective Date, the Project Implementing Entity shall install, within the SEMRY-PIU, a computerized financial management and accounting system in a manner satisfactory to the Association. 	12 months after effectiveness
Section II, B.4 of Schedule I	<ul style="list-style-type: none"> In order to ensure the timely carrying out of the audits, not later 	6 months after effectiveness

Section I, A.2 of Schedule I	<p>than six (6) months after the Effective Date, the Project Implementing Entity shall recruit independent auditors with qualifications, experience and terms of reference acceptable to the Association.</p> <ul style="list-style-type: none"> • The Project Implementing Entity shall establish, not later than six (6) months after the Effective Date, and thereafter maintain, until the Association is satisfied that the construction of the Dam has been fully rehabilitated, an independent dam safety panel (“Dam Safety Panel”) comprised of experts having qualifications and experience acceptable to the Association, to periodically report to the Association on, inter alia, progress in rehabilitating the Dam, together with associated dam safety risks, and shall carry out Part A.2 of the Project in accordance with the recommendations of the Dam Safety Panel. 	6 months after effectiveness
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I. Introduction

1. This Project Paper seeks the approval of the Executive Directors to provide a credit in the amount of SDR 71.6 million (US\$ 108 million equivalent) to the Republic of Cameroon for the *Cameroon Flood Emergency Project* (the proposed Project).
2. The proposed credit would finance the costs associated with rehabilitation of key hydraulic infrastructure for flood protection and rice production in the Far North Region of Cameroon. The proposed project will support the Government in rehabilitating flood affected, damaged and deteriorated hydraulic infrastructure, notably 70km of the Logone River embankment, Maga dam and related water conveyance/irrigation infrastructure at both locations. The project will furthermore assure that emergency and disaster preparedness measures are put in place and that the population is well informed about disaster preparedness and emergency management procedures.
3. The design of the project builds upon past and ongoing projects in Cameroon, particularly the Agricultural Competitiveness Project - PACA - *Projet d'Appui à la Compétitivité Agricole* (P112635). Under PACA, the detailed engineering studies for the rehabilitation of the irrigation areas and the rehabilitation of the Logone embankment and Maga dam rehabilitation are prepared. PACA also supports the institutional development of SEMRY - *Société d'Expansion et Modernisation de la Riziculture de Yagoua* (Society for the Expansion and Modernization of Rice Cultivation in Yagoua) - which is the main agency involved in the preparation and implementation of the proposed Project. The proposed Project will also draw upon the project implementation and coordination facilities of PACA for an interim period. Lastly, the proposed project builds upon the findings of a flood impact assessment carried out in September 2012, which was technically and financially supported by the Global Facility for Disaster Reduction and Recovery (GFDRR).

4. This proposed project will be financed by IDA with no co-financing involved.

II. Emergency Challenge

Country Context

5. Cameroon's economy remains vulnerable to a variety of internal and external shocks. With 45% of its population engaged in subsistence agriculture, the country is particularly vulnerable to environmental risks such as flooding, drought, and desertification. Macroeconomic risks are also to be taken into account, as the 2008–09 global financial crisis demonstrated. Limited export diversification in terms of products and markets exposes the economy and its people to the volatility of prices and demand for its key exports.

6. 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. 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 these 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 institutional framework as well as insufficient and deteriorated infrastructure.

7. 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). Cameroon's vulnerability to extreme climate events may further increase according to different climate change projections. The mean annual temperature is projected to increase by 1.0 to 2.9°C by the 2060s, and 1.5 to 4.7°C by the 2090s. Models are broadly consistent in projecting increases in September-October-November rainfall – projected changes range from -6% to +26%¹.

8. Chronic poverty in Cameroon is primarily a rural phenomenon and is wide-spread in the northern regions. Around 38% of the population in rural areas is chronically below the poverty line, as opposed to only 3.2% of the urban population. Furthermore, the majority of Cameroon's population makes its living from the land and is particularly vulnerable to climate shocks and natural disasters. According to the United Nations' World Food Program the Northern and Eastern regions of Cameroon have the highest share of households considered food insecure. The North, which is characterized by an agro-ecological Sahelian climate, has experienced recurrent shocks in the last years, including droughts in 2004 and 2009, floods in 2009 and 2012, and a cholera outbreak in 2010 and 2011. More than 60% of households are vulnerable to food insecurity in the North and Far North².

Sector and Institutional Context

9. Agriculture contributes more than half of Cameroon's non-oil export revenues and employs almost 60% of the economically active population. Agricultural development can play an important role to accelerate growth and reduce poverty, notably in the semi-arid north of the country. Furthermore, developing the agriculture sector would also contribute to greater food security and significant job creation, and could contribute to reducing the nation's dependency on volatile and diminishing oil revenues.

10. Notably the agricultural sector is highly vulnerable to the potential climate change related impacts. An evaluation of approximately 15 climate change scenarios in Cameroon estimated that net revenues in the agricultural sector could rise by as much as US\$ 2.9 billion, if future climates are mild and wet, but could fall by as much as US\$ 12.6 billion, if they are hot and dry (World Bank, 2007³).

11. 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.

¹ Africa Adaptation Program

² Ibid.

³ The World Bank, 2007: The Economic Impact of Climate Change on Agriculture in Cameroon. Ernest I. Molua and Cornelius M Lambi. Policy Research Working Paper 4364. Washington, DC, USA

12. Most of the Far North region of Cameroon drains through the Logone-Chari River system to Lake Chad. The climate in this region is soudano-sahelian with a distinctive rainy season from May to September, peaking usually in the month of August. The climate is characterized by a high inter- and intra-annual variability with an average annual precipitation of 800 mm. Following a more humid phase in the 1950s and 1960s the period between the 1970s and 1990s was substantially drier. Before 1970, the flood waters of the Logone peaked at a discharge of approximately 2,200 m³/s, while after 1970 only discharges of 1,410 m³/s were reached during the flood season.

13. The development of irrigated rice production in this region of Cameroon dates back to the 1950s. Leveraging the large potential of the flood plains of the Logone River for irrigated agriculture SEMRY was established as *Secteur Expérimental de Modernisation de la Riziculture de Yagoua* in 1954 to support rice producers, processing and commercialization of products. To further intensify the rice production in the area, extend infrastructure and services to farmers, SEMRY was transformed into *Société d'Expansion et Modernisation de la Riziculture de Yagoua* - Society for the Expansion and Modernization of Rice Cultivation in Yagoua in 1971. SEMRY manages two sites 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.

14. 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.

15. The hydraulic infrastructure, notably the Maga dam, is deteriorated with substantial shortcomings in the operation and safety of the infrastructure. Lack of maintenance combined with wave erosion at high water levels of the lake Maga, sedimentation, erosion, and 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.

16. When SEMRY was established in 1971 the operation and maintenance of the hydraulic infrastructure of the Logone dyke and the Maga dam belonged to its core mandate. During the 1990s the mandate to operate and maintain the infrastructure was transferred to the Government, under MINEPAT, *Ministère de l'Economie, de la Planification et de l'Aménagement du Territoire* (Ministry of Economy, Planning, and Regional Development). SEMRY has since focused only on the operation of the irrigation services and due to limited human and financial resources at MINEPAT including weak local presence in the Far North, maintenance of the Maga dam and Logone dyke has been inadequate. During the appraisal mission, MINEPAT agreed that SEMRY will be responsible for the operation and maintenance of the hydraulic infrastructure of the Logone dyke and the Maga dam until a long term appropriate, national governance structure has been established.

17. 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, there have not been 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.

Nature of the Emergency

18. From August 15 to September 17, 2012 Northern Cameroon has received exceptionally high rainfall, 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.

19. 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. To help minimize the risks for the upcoming 2013 rainy season and until the entire hydraulic system is properly rehabilitated, MINEPAT has authorized SEMRY and the Ministry of Defense to undertake temporary repairs to reinforce the weakest points of the hydraulic infrastructure.

Government interventions and request for assistance

20. In response to the floods the Government put a number of urgent measures in place: (i) establishing a disaster response coordination unit in the Far North region, headed by the governor of the region; (ii) mobilizing FCFA 1.5 billion for humanitarian assistance to the population, such as tents, other food and non-food items, and medication; (iii) emergency repairs conducted by SEMRY with support from the local population to reinforce and stabilize the dam by placing sand bags at weak points and filling fissures; and (iv) appeal for support from the international community, including EU, UN and World Bank.

21. As mentioned above, to further stabilize the hydraulic infrastructure before the next rainy season and until the entire system has been rehabilitated, MINEPAT and the Ministry of Defense agreed to conduct a number of stabilization works at priority areas along the Logone embankment, Maga dam and the Mayo Vrick channel minimize the disaster risk during the next rainy season. In this regard, MINEPAT agreed to make FCFA 350 million (approximately US\$

0.7 million) available for the Ministry of Defense to execute the emergency works. The works will be supervised by a task force chaired by the Governor of the Far North Region.

III. Bank Response: The Project

Brief description of the Bank's strategy of emergency support

22. The Government of Cameroon (GoC) has requested the World Bank to rapidly assist in securing infrastructure and bringing irrigation system back into productive use. Following the devastating floods, GoC through MINEPAT 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.

23. Different options for responding to the emergency were discussed by the World Bank. While PACA has advanced some of the technical assessments on the hydraulic infrastructure, it provided little scope to address some of the urgent infrastructure rehabilitation works due to budget constraints and different development objectives. Proceeding with urgent rehabilitation of the hydraulic infrastructure through a new operation under World Bank Operational Policy on Rapid Response to Crises and Emergencies (OP/BP 8.00)⁴ would ensure that the rehabilitation can commence in the shortest possible time frame, thereby responding to the critical situation in the affected areas and the GoC's request for support.

24. The emergency rehabilitation of the key hydraulic infrastructure is closely linked to the related rice irrigation areas of SEMRY I at the Logone embankment and SEMRY II at the Maga dam. The irrigation infrastructure (i.e. water intakes, pumping stations, canals, etc.) form part of the water conveyance system and this infrastructure is also in need of rehabilitation. Therefore, while the project focuses on rehabilitating the flood protection infrastructure (i.e. 70 km Logone embankment and Maga dam), it also includes the key irrigation infrastructure. Both aspects are equally important for sustainable water management and flood prevention. Furthermore, the overall rehabilitation contributes to the economic viability of the project and contributes to food security in the Far North region.

Project Development Objectives

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

Summary of Project Components

26. The project is designed around three major components: (A) rehabilitation of key hydraulic infrastructure for flood protection and rice production; (B) disaster risk and emergency management; and (C) infrastructure operation and maintenance, project management.

⁴ On April 8, 2013, OP 8.0 was integrated into the new World Bank Policy of Investment Project Financing (IPF, OP 10.0), and as such, OP 8.0 no longer exists at the time of the publication of this report. However, it was agreed at the Regional Operational Committee meeting on April 15, 2013 that the project be processed under OP/BP 8.0. In addition, the principles under which the Project was prepared and approved remain valid under OP 10.0."

27. Component A – Rehabilitation of key hydraulic infrastructure for flood protection and rice production (US\$ 99.2 million - IDA): This component will finance the rehabilitation of flood affected infrastructure, notably the rehabilitation of Maga dam, 70km of the Logone dyke and related infrastructure for flood protection, as well as the rehabilitation of the irrigation infrastructure for SEMRY rice schemes (7,500ha). Thereby the full functionality for water conveyance will be reinstalled. Accordingly, this component will consist of three sub-components (i) rehabilitation of the Logone embankment, (ii) rehabilitation of Maga dam and related infrastructure, and (iii) rehabilitation of irrigation areas.

28. These major physical infrastructure works are based on the feasibility and detailed engineering studies already conducted under PACA. The detailed design for the rehabilitation of the irrigation areas has already been completed, while the feasibility/detailed design for the hydraulic infrastructure, i.e. Maga dam and Logone embankment, is currently ongoing, including additional surveys and geological tests to inform the design. The design for the dam is to be reviewed by an independent Panel of Experts.

29. *Subcomponent A.1 Rehabilitation of the Logone embankment (US\$ 18.2 million - IDA):* Rehabilitation of the Logone embankment is expected to include the following activities:

- (i) Strengthening the embankment along the entire 70km length, from Pouss to Yagoua by restoring the embankment profile.
- (ii) Slope protection, including vegetation along upstream and downstream slopes to protect against surface erosion and rip rap/gabion protection at critical points.

30. *Subcomponent A.2 Rehabilitation of Maga dam and related hydraulic infrastructure (US\$ 41 million - IDA):* Rehabilitation of Maga dam is expected to include the following activities:

- (i) Strengthening the embankment structure by rehabilitating damaged sections, fixing internal erosion / piping, and restoring and amending the embankment profile, including possible upstream blanket, for critical areas along the entire 27 km length in accordance with the improved design.
- (ii) Installation of adequate drainage in the dam structure to reduce the pore water pressure in the body and foundations of the dam, including downstream shell drainage /channels along the toe of the embankment.
- (iii) Installation of slope protection, where necessary, including vegetation along upstream and downstream slopes and gabion walls on the downstream slope and in the toe area to protect against wave impact and surface erosion and enhance overtopping resistance.
- (iv) Rehabilitation of spillway including gates and concrete structures and widening and deepening the Mayo Vrick channel to its original design.
- (v) Construction of an additional emergency spillway if needed as recommended by the feasibility study. Additional works at the Pouss weir along the Logone River, including the installation of gate structures to manage flows between the Logone River and Maga dam, as a future option may also be recommended.
- (vi) Complementary works (seepage control, drainage, protection works) as required in high risk sections, for example in sections of the embankment at high risk of piping failures.

31. ***Subcomponent A.3 Rehabilitation of Irrigation Areas (US\$ 40 million - IDA):*** This activity will finance the rehabilitation of approximately 7,500 hectares of existing irrigation schemes (out of a total 11,500 ha), which are connected to the Logone embankment and Maga dam. Of these 7,500 ha, 3,200 ha are located at SEMRY I at Yagoua and 4,300 ha are located at SEMRY II at Maga. The rehabilitation works focus on the sites, which are particularly degraded and play an important role for the drainage and rapid evacuation of water in this hydraulic system. Rehabilitation works consist of rehabilitating channels, access routes and other related infrastructure as well as re-leveling irrigation fields.

32. ***Component B - Disaster risk and emergency management (US\$ 2.6 million - IDA):*** The flood events of August / September 2012 in the 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 implement a contingency plan for the hydraulic infrastructure and 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. The component will consist of two sub-components:

33. ***Subcomponent B.1 Strengthening Hydro-meteorological Data Management (US\$ 0.6 million - IDA)*** will support the design and installation of a hydro-meteorological monitoring system in the three main tributaries to Lake Maga, and rehabilitation of existing weather stations in the project area to better plan, operate the hydraulic infrastructure and be prepared for potential emergencies.

34. ***Subcomponent B.2 Strengthening Emergency Management (US\$ 2.0 million - IDA)*** will support SEMRY and local authorities to develop an operational contingency plan and ensure its full implementation and dissemination to population.

35. ***Component C – Infrastructure Operation and Maintenance, Project Management (US\$ 2.9 million - IDA):*** This component will provide institutional support for strengthening the capacity of SEMRY to sustainably manage, maintain and operate the hydraulic infrastructure. This will support the development of an operation and maintenance plan for the hydraulic infrastructure, including recommendations to ensure operation and maintenance beyond the project lifetime. This plan would include among others (i) a systematic review of current practices and systems; (ii) definition of the requirements for the new systems; and (iii) extended on the job training and support so that maintenance systems and techniques are embedded in the institution. Involving local people in basic surveillance will be considered, assuming instrumentation is appropriate and observation methods are well described. Furthermore this component will 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. The activities will be divided into two sub-components: *Subcomponent C.1 Institutional Strengthening (US\$ 0.25 million - IDA)* and *Subcomponent C.2 Project Implementation Support (US\$ 2.65 million - IDA)*.

36. **Price Contingencies:** An unallocated amount of US\$ 3.35 million has been added to the total base cost of project components (as described above) to cover exchange rate fluctuations and inflation.

Eligibility for Processing under OP/BP 8.0

37. The proposed project is an Emergency Recovery Credit that would be processed under the OP/BP 8.00⁵ and is considered the most appropriate instrument to respond to the immediate needs of the GoC following the devastating floods of 2012. This policy is triggered upon the formal request from the GoC, dated September 11, 2012, for urgent support from the World Bank to address flooding in the north of the country. The North and Far North regions of Cameroon have suffered from repeated natural disasters, notably drought in 2009 and 2011 as well as floods in 2010 and 2012. In 2012, an estimated 60,000 people were directly affected in the two worst hit districts of Maga and Logone/Chari. Up to 120,000 people were at risk of a potential failure of Maga dam.

38. The severe flooding experienced 2012 in the Far North was a result of several factors: (i) exceptionally high rainfall; (ii) ineffective water resources management; and (iii) poor condition of the Maga dam and the Logone dike and the associated infrastructure (spillway, canals, pumping stations, etc.) due to insufficient maintenance. The objective of the proposed project is therefore to support the Government in its efforts to rehabilitate the above described infrastructure and thereby prevent a major failure of these structures and to build preparedness through strengthened water resources and disaster risk management linked to the Maga dam and Logone dyke. Therefore, and in accordance with OP/BP 8.00, urgent assistance is proposed to prevent future adverse economic and social impacts.

39. The proposed project would provide an emergency response to support the following OP/BP 8.00-sanctioned objectives: (a) rebuilding and restoring physical and social and economic infrastructure in the aftermath of the floods; and (b) assisting in building technical and material capacity for disaster management and risk reduction. The flexible and accelerated procedures provided under OP/BP 8.00 are vital to the rapid and effective implementation of the proposed project. Without the provisions of OP/BP 8.00, Bank resources could not be mobilized quickly enough to rapidly rehabilitate the hydraulic infrastructure in the Far North Region and ensure proper disaster and emergency management measures to be in place.

Consistency with Country Assistance Strategy

40. The national development priorities are expressed in the Government's long term planning document "Vision 2035" and for the nearer time horizon in the 2009 "Growth and Employment Strategy", equivalent to a Poverty Reduction Strategy. This strategy foresees investments in infrastructure, productivity increases in agriculture and livestock farming, mining and key value chain and improving business environment. The World Bank's Country Assistance Strategy (CAS, 02/23/10), which covers the Financial Years 2010 to 2014, has nine CAS outcomes, divided between the cross cutting theme "Governance" and two strategic themes

⁵ See footnote number 4.

“Increasing Competitiveness” and “Improving Service Delivery”. The proposed project supports the CAS as explained below.

41. Under the first strategic theme, “Increasing Cameroon’s Competitiveness”, this operation will support axis (ii) “activities geared toward ensuring the transparent, equitable, and sustainable use of natural resources, including mining, agriculture, fisheries and protected areas”. Under the second strategic theme, “Improving Service Delivery”, the project will focus on axis (ii) “local development, where the focus is on increasing access to basic services through infrastructure upgrading and capacity building for improved local governance”.

42. This emergency operation contributes directly to the CAS outcomes “increased access to and quality of infrastructure services” and “improved business climate and investment in targeted value chains”. As formulated in the CAS, PACA was meant to contribute to this CAS outcome by rehabilitating the irrigation areas in the Far North of Cameroon. However, while PACA has supported the feasibility and detailed design studies for the irrigation area rehabilitation, the proposed Project will now contribute to this CAS outcome since the actual rehabilitation of the irrigated areas has been included in its design.

43. Furthermore, the Country Assistance Strategy Progress Report, dated October 2, 2012, makes reference to the floods in Cameroon’s North and Far North Regions and inherent volatility to natural hazards. The urgent need to rehabilitate the hydraulic infrastructure in the Far North of the country is thus expressed in this CAS Progress Report.

Expected Outcomes

44. The expected outcomes for this project include: (a) rehabilitation of 97 km of flood protection infrastructure in the Far North Region of Cameroon, (b) disaster preparedness and contingency plan approved and disseminated to the affected population, and (c) number of beneficiaries, gender disaggregated.

45. The outputs expected from the project are: (i) 27 km of Maga dam rehabilitated and strengthened; (ii) 70 km of the Logone embankment rehabilitated and strengthened; (iii) increase of Spillway capacity at Maga dam; (iv) surface of irrigation area rehabilitated; (v) number of functioning hydro-meteorological stations installed; (vi) number of key government and community stakeholders trained on emergency preparedness and response, with a gender focus; and (vii) operation and maintenance plan for key hydraulic infrastructure developed and disseminated.

46. The Results Framework is included in Annex 2.

IV. Appraisal of Project Activities

47. This section provides summary assessments of the economic, technical, institutional, fiduciary, environmental and social aspects of the proposed project.

Economic and financial analysis

48. The rehabilitation of the Logone dyke, Maga dam, related hydraulic infrastructure and irrigation schemes, and the institutional support to SEMRY will contribute, among others to: (i) increase the level of rice production to a minimum threshold of 100,000 tons for the dry season campaign; (ii) increase the production of rice paddy by optimizing the cultivation on the plots through the practice of double cropping; and to (iii) help farmers and their families to sustainably increase their income, and SEMRY to achieve the financial sustainability. Quantified economic benefits are mainly derived from: (i) the increased added values of rice production through the rehabilitation of irrigated schemes (55% of total benefits); and (ii) economic cash-flows from SEMRY services (45%) on the irrigated areas.

49. An Economic Rate of Return (ERR) of 16% and a Net Present Value (NPV) of US\$ 14.6 million have been calculated for the base case (see annex 10). These results can be considered satisfactory in the context of emergency. At the same time, it is expected that the project would: (i) prevent the targeted area from the risk of flooding and secure the perimeters for at least 25 years; and (ii) generate additional benefits in terms spill-over effects on the rural economy and increased rural income opportunities and incomes.

50. Discussions are ongoing on the recovery of costs from water users to finance operation and maintenance of the hydraulic infrastructure, including the potential scope for adjusting the water user fees based on improved services or transferring some of the responsibilities for maintenance to the water users. Annex 10 provides further details on the potential future cost recovery for the operation and maintenance of the hydraulic infrastructure.

51. Several efforts have already been made to ensure that SEMRY would be in a better position in the future to sustainably operate and maintain the hydraulic infrastructure beyond the lifetime of the project:

- (i) The government through MINEPAT and MINADER assigned a contract worth FCFA 36 billion (US\$ 72 million equivalent) to SEMRY to strengthen its institutional capacity and service delivery for the period 2013 to 2015. This contract covers maintenance and operating costs of the hydraulic infrastructure, as well as improved service delivery to the rice producers, including facilitating the provision of improved seeds and fertilizers.
- (ii) Within PACA an institutional audit of SEMRY is currently being conducted. This audit will provide recommendations for the sustainability of SEMRY's operations including staffing and cost recovery from its operations.

Social Assessment

52. The proposed project is expected to improve the social well-being of the Cameroonian population living in the project area in the Far North, in particular by (i) improving income for rice farmers through improved services and yields, (ii) improved food security through increased national rice production in the Far North, which is regularly affected by droughts and food security issues, and (iii) reduced vulnerability of the riparian communities to flooding in the future.

53. Overall the project activities are foreseen to yield more positive impacts such as (i) safeguarding the basic socio-economic infrastructures in the Far North region and (ii) improving

national food security in the north of the country, where 60% of the population are at risk of food insecurity. Although difficult to quantify, the social benefits that would be generated by the project are estimated to be significant despite the social safeguards challenges which are described below.

54. Community preparedness for natural disasters would be strengthened through a dedicated, gender sensitive community outreach and awareness raising plan, which will ensure that communities are aware of the contingency plan and can play an active role in response and preparedness to disasters. The community involvement will be tested in simulation exercises.

55. It is also important to note that the project may have potential negative social impacts, mainly related to the potential involuntary resettlement of people from high risk flood zones. These potential social impacts are described further in the sections of this document on Environmental and Social Category and Safeguards.

Technical

56. The Project design builds on lessons learned under earlier projects and is informed by the studies which have already been completed or are ongoing under PACA.

(a) Studies delivered by PACA that concern the SEMRY zone include: (i) feasibility and detailed studies for the rehabilitation of SEMRY's irrigation areas, (ii) pre-feasibility studies for the rehabilitation of Logone dyke, Maga dam, and Mayo Vrick spillway and channel, (iii) environmental and social audit of SEMRY, and (iv) diagnostic of producer organizations in the SEMRY area.

(b) Studies that are underway (to be completed by July 2013) include: (i) feasibility / detailed studies for the rehabilitation of Logone dyke, Maga dam, the Mayo Vrick channel, and (ii) institutional and strategic audit of SEMRY which aims at defining its new institutional requirements (in terms of mandate and responsibilities, organization, staffing, management, budget, etc).

57. The formulation of *Component A – Rehabilitation of Key Hydraulic Infrastructure* has been informed by the above mentioned studies. The design and costing of *Subcomponent A.3 - Rehabilitation of Irrigation Areas* is based on the detailed design studies for the rehabilitation of irrigation areas (*Avant Projet détaillé de réhabilitation des périmètres irrigués*). This guarantees a timely start of the procurement process for the rehabilitation, since the technical design is already available. The design of *Subcomponent A.1 - Rehabilitation of Logone Embankment* and of *Subcomponent A.2 - Rehabilitation of Maga dam and related infrastructure* derives from the recently completed prefeasibility studies and ongoing feasibility / detailed design studies. For the detailed design studies the following considerations have been taken into account:

(a) Wherever possible new construction would build upon the existing consolidated earth embankments. In addition, any new embankment would take several years to settle and consolidate. New structures are only proposed to be built where existing structures are so weak that they would not provide a decent foundation as in the case of the Logone River embankment.

(b) Design development should allow for future improvements to increase protection levels.

(c) Any new structures installed would be simple, with minimal operation and maintenance requirement.

(d) Given the restricted working time in the dry seasons, the embankment rehabilitation may need to be carefully planned within the project lifetime. As a matter of general principle, the dyke construction would start from downstream and move upstream in order to avoid negative impacts to the downstream areas.

(e) The crest height of the Logone embankment would be set equal to the level of any embankment along the right bank, with allowances for settlement. The potential impact of new embankment construction on other riparians must be disclosed.

(f) Rehabilitation and slope protection methods should center on those techniques which SEMRY have already used successfully and where materials are available locally; re-profiling with compacted earth gabions, rip rap and vegetation.

(g) As this is an emergency project the embankment is not being designed so as to be also used as a road. The only design conditions considered are extreme climatic conditions and localized human use by foot or boat.

(h) Sediment deposits are expected to progressively reduce the capacity of the Logone River, increasing the design flood heights. This will be considered in the embankment design, for example crest heights or off set from the river.

(i) A hydrological assessment would include an indication of the discharge and return period against which the new dykes can provide protection; Very likely limited to a review of existing data plus simple runoff simulation.

58. Given the potential high risk related to the design and construction of the Maga dam, namely (i) major defects observed in the existing embankment structure over 27 km; (ii) insufficient spillway capacity: only 100 m³/s after rehabilitation of gates and downstream channels, in comparison with the incoming flow of around 2,000 m³/s for only 100 years return period floods; and (iii) large reservoir capacity (620 million m³) resulting in high downstream flooding risks in the case of dam failure, an independent Panel of Experts will be established to review the design and safety measures of the Maga dam, including the plans for construction supervision and quality control, instrumentation plan, operation & maintenance plan, and contingency/emergency preparedness plan.

59. Capacity building activities supported under component C of the proposed project will be linked closely to the implementation of activities under components A and B. Therefore the project will promote appropriate management practices to maximize the economic and social benefits in the targeted areas while maintaining or enhancing the ecological support functions of the natural resource.

60. A Monitoring and Evaluation (M&E) system will be established to inform project management about implementation progress and to generate information about water resources management, monitoring and maintenance of the hydraulic infrastructures, and risk management. Information generated through the M&E system will be made available to the Government, project beneficiaries, and key stakeholders.

Institutional assessment

Project coordination

61. Based on the evaluation of MINEPAT and SEMRY, the designated Project Implementation Entity (PIE), the following implementation arrangements have been agreed for the proposed project. These are based to the extent possible, on existing institutional structures. The overall oversight of the project is with MINEPAT with the responsibility for project implementation delegated to SEMRY, which is therefore the Project Implementation Entity (PIE). The project implementation mechanisms will comprise of a Project Steering Committee (PSC), a Regional Technical Monitoring Team (RTMT) and a Project Coordination Unit (PCU) hosted by SEMRY. Further details are explained in section D.

Financial management

62. In line with the Financial Management Manual for World Bank-financed Investment Operations dated March 1, 2010 and the Operation Risk Assessment Framework (ORAF) framework, a financial management assessment of SEMRY was performed. The objective of the assessment was to determine whether: (i) SEMRY has adequate financial management arrangements to ensure that the project funds will be used for their intended purposes in an effective, efficient and economical way; (ii) reliable financial reports will be prepared in a timely manner; and (iii) the project's assets will be safeguarded.

63. The overall financial management risk rating of the project during the preparation phase is considered to be **substantial**, and is expected to be **moderate** after the implementation of mitigation measures. The financial management arrangements, subject to the effective implementation of mitigating measures, are considered adequate and fulfill the requirements of OP/BP 10.02. These mitigating measures mainly consist of: (i) the recruitment of a senior accountant with acceptable qualifications and sound experience in managing IDA financed project; (ii) the establishment of an administrative and financial management manual to include mainly disbursement, reporting and auditing arrangements related to this project; (iii) the installation of a computerized information system to monitor the project's financial transactions; (iv) the preparation of appropriate terms of reference for the recruitment of an independent external auditor; (v) the recruitment of said external auditor not later than six months after project effectiveness, and (vi) the amendment of the Terms of Reference (TOR) for SEMRY's internal auditor to include this project.

64. During a transitional period, until the PCU is in place and given the emergency nature of this operation, the PCU of PACA⁶ will ensure the financial management of the project. PACA financial management arrangements comprising staff with track record in World Bank financed projects (1 financial manager, 1 senior accountant, 6 regional accountants, 1 internal auditor) and an acceptable financial and administrative manual of procedures are considered adequate by the World Bank.

⁶ PACA (P112635) has a moderately satisfactory FM performance [December 2012 supervision] mainly due to delay in collecting supporting documents in justification of the advances granted to the project's operators. This is being addressed with the ongoing recruitment of the clerk accountants to be based in the regional coordination.

Disbursement Arrangements

65. Funds will flow from the IDA Account into one designated account (DA) denominated in CFAF and opened in a reputable commercial bank in Cameroon that is acceptable to the World Bank. The designated accounts will be managed according to the disbursement procedures described in the administrative, accounting, and financial procedures manual and the Disbursement Letter (DL). Disbursements under the Credit will be transaction-based. Direct payment, reimbursement, and special commitment methods will apply as appropriate. Disbursements may become report-based eventually when SEMRY has the capacity to produce reliable and acceptable IFRs. The minimum value of the direct payments, reimbursements and special commitments will be 20% of the designated account ceiling.

66. Retroactive financing is not foreseen in the proposed project.

67. The project's detailed financial management arrangements are described in Annex 5.

Procurement

68. An assessment of the procurement arrangements of the project has been carried out. The overall procurement risk for the project is rated as **high** because of the big contracts and the very limited experience of SEMRY in the implementation of Bank-financed projects. The procurement assessment recommended the following mitigation measures: (i) recruitment of qualified procurement specialist; (ii) establishment of an administrative and financial manual to include procurement arrangements related to this project; and (iii) installation of a comprehensive record keeping system. During the transition period, when the PACA PCU will be in charge of procurement, the overall procurement risk for the project is rated as **moderate**. Details are provided in a mitigation action plan (see Annex 6).

69. It is important to note that a new institutional reform centralizes procurement responsibilities to the Ministry of Public Contracts (MINMAP). Several concerns have been raised by the World Bank related to this reform. The Government presented a decree (*Arrêté* No. 006/A/MINMAP dated May 8, 2013) stating that the mandate of the Special Tender Board (*Commission Spéciale de Passation des Marchés* or "CSPM") of PACA has been enlarged to cover the proposed Cameroon Flood Emergency Project. This mandate will be maintained during the entire execution of the proposed project. Under these arrangements, it is understood that the PCU (also known as *Maitre d'Ouvrage*) will be in charge of procurement and contract execution without threshold limitations.

70. The draft procurement plan for the first 18 months of the project was carefully discussed and reviewed during appraisal and negotiations. During the project's implementation, the procurement plan will be updated upon agreement between the PCU and the World Bank as required, but at least annually to reflect actual project implementation needs and any increases in institutional capacity. A summary will be disclosed on the Bank's external website once the project is approved by IDA's Board of Directors.

Environmental and Social Category and Safeguards

71. Activities to be financed under the proposed project are expected to include the rehabilitation of key hydraulic infrastructure, notably Maga dam and Logone embankment, as

well as rehabilitation of irrigated production areas. The following safeguards policies are therefore triggered: Environmental Assessment (OP/BP 4.01), Natural Habitats (OP/BP 4.04), Pest Management (OP/BP 4.09), Cultural Heritage (OP/BP 4.11), Involuntary Resettlement (OP/BP 4.12), Dam Safety (OP/BP 4.37) and International Waters (OP/BP 7.50). 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.

72. The potential environmental and social impacts related to the rehabilitation and improvement works of the Maga dam and Logone embankment are expected to be limited in scale and magnitude, as long as the rehabilitation scope is not extended significantly beyond the embankments. However, there is a high social risk related to this extended area as it can potentially affect several thousands of people. **Therefore the project has been classified as category A.**

Table 1: Safeguard Policies Triggered by the Proposed Project

Safeguard policies triggered:		
Environmental Assessment (OP/BP 4.01)	[x] Yes	[] No
Natural Habitats (OP/BP 4.04)	[x] Yes	[] No
Forests (OP/BP 4.36)	[] Yes	[x] No
Pest Management (OP 4.09)	[x] Yes	[] No
Physical Cultural Resources (OP/BP 4.11)	[x] Yes	[] No
Indigenous Peoples (OP/BP 4.10)	[] Yes	[x] No
Involuntary Resettlement (OP/BP 4.12)	[x] Yes	[] No
Safety of Dams (OP/BP 4.37)	[x] Yes	[] No
Projects on International Waterways (OP/BP 7.50)	[x] Yes	[] No
Projects in Disputed Areas (OP/BP 7.60)	[] Yes	[x] No

73. The Government has defined a buffer area of 300 m from the Logone embankment and Maga dam, as a security zone. In the past decades, these areas were progressively inhabited by local communities. The exact dimensions of this zone will be set in the detailed design studies. During the 2012 floods 1,222 families were affected in Maga district and 9,025 families in Logone et Chari district respectively. At that time, most of the families living in this buffer area were affected by the floods and consequently temporarily relocated by the GoC. For the 2013 rainy season, as a preventive measure, the GoC may resettle approximately 1000 persons in high flood risk areas by moving them to a temporary safe site. The GoC will comply with OP 4.12 as they undertake these interim arrangements, which are defined in an official note sent to the World Bank on May 10, 2013. The note was reviewed by the World Bank's safeguard specialists to ensure compliance with OP 4.12. The note includes the following information: (i) identification of suitable temporary relocation areas, including an assessment of resettlement areas currently being prepared and housing arrangements; (ii) identification of the exact number of people and their assets who need to be temporarily relocated (to be provided with the completion of the detailed design studies); (iii) consultations with families temporarily being resettled to inform them about the interim resettlement arrangements; (iv) moving allowance as

well as other entitlements for assistance, and; (v) timetable for resettlement with preference for this population to be the first group to be resettled in permanent resettlement locations.

74. These persons who are temporarily resettled will be subsequently included in the project Resettlement Action Plan(s) that will be prepared for the project during implementation. The RAP(s) may be done in phases, based on the appropriate technical approach for repairs/rehabilitation required for the Maga dam, Majo Vrick spillway channel, Logone dyke, and irrigation infrastructure, as well as the numbers of project-affected people (PAPs), which could be in the range of several thousand persons⁷. As previously mentioned, the exact number of PAPs will be determined in the detailed design studies. Such phasing will take account of the most urgent security and safety aspects.

75. 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 (annex 9). The ESSAF is consistent with Bank operational policies and procedures, investment operations subject to OP/BP 8.00, and the guidance note for crises and emergency operations for application of Bank safeguard and disclosure policies. This ESSAF provides general policies, guidelines, codes of practice and procedures to be integrated into the implementation of the proposed project. The ESSAF describes the approach and principles to be followed to ensure due diligence in managing the potential adverse environmental and social impacts and risks associated with the project.

76. The ESSAF is developed specifically for this proposed project, to ensure due diligence to avoid causing harm or exacerbating social tension and to ensure consistent treatment of social and environmental issues by the GoC and service providers. The purpose of the ESSAF is also to assist the PCU and all concerned public agencies in screening project-supported activities for their likely social and environmental impacts, identifying documentation and preparation requirements and piloting the investments. The detailed descriptions of project-supported activities and their exact locations will be made available to facilitate the monitoring and evaluation of project implementation. In addition, the ESSAF is providing a framework for the establishment of guidelines for land acquisition and eventual compensation, codes of practice for the prevention and mitigation of potential environmental and social impacts, and safeguards procedures for inclusion in the technical specifications of contracts.

77. The relevant safeguards instruments (ESIA/ESMP, PPMP, and RAPs) will be prepared during the first year of the project implementation.

78. 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), representing all riparian of the Lake Chad Basin. The notification was sent and clearly indicated that the detailed studies for the rehabilitation of the Logone dyke, Maga dam and Majo Vrick spillway channel will be sent to The Republic of Chad and CBLT once available.

79. 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. The dam safety

⁷ Not all PAPs will be resettled. Some may lose part of their land and assets and may be compensated accordingly.

panel will be established and operational within 6 months after effectiveness. An interim contingency plan covering the period until the rehabilitation works would be completed shall be drafted and implemented. During construction a detailed contingency plan will be developed and the affected population will be trained in disaster preparedness and emergency management procedures.

80. There are no dams further upstream of the project area, which could potentially affect the hydraulic infrastructure.

81. SEMRY, the project implementation entity, has so far only weak capacity to deal with environmental and social safeguards aspects in accordance to The World Banks standards and procedures. It was therefore agreed that the environmental and safeguards issues will be managed in a two-step approach: Until the PCU is in place at SEMRY; the environmental and social aspects will be managed by the relevant expert of the PCU of PACA. Once the PCU is established at SEMRY a health, safety and environmental specialist will be responsible environmental and social safeguard issues. Relevant training in social and environmental safeguards will be provided to this specialist. The World Bank safeguards team will work closely with PCU to ensure that appropriate measures are taken in compliance with World Bank safeguards policies.

82. It is foreseen to conduct comprehensive, regular consultations with the potentially affected population and other stakeholders throughout project preparation and implementation, beyond the minimum recommendations for public consultations as good practice. The project affected persons will be consulted at least twice during the preparation of the ESIA. The first consultation will be organized before the TOR is finalized and the second once the draft ESIA report is prepared. In addition, before the RAP(s) are prepared, the Government has agreed to conduct appropriate consultations with the project-affected people. The ESSAF has been shared with the main authorities at local and national levels and will be disclosed on the MINEPAT website and the World Bank Infoshop.

83. The proposed project does not require any exceptions to World Bank environmental and social safeguards policies.

84. The proposed project's Integrated Safeguards Data Sheet (ISDS) has been disclosed at the World Bank Infoshop.

V. Implementation Arrangements and Financing Plan

Project Oversight and General Supervision

85. The Borrower is represented by MINEPAT. The *Caisse Autonome d'Amortissement* (CAA) will manage the Designated Account (DA) and will sign withdrawal applications to IDA on behalf of the project. Overall responsibility for project implementation will be delegated to SEMRY, which is therefore the Project Implementation Entity (PIE). The project implementation mechanisms will comprise of a Project Steering Committee (PSC), a Regional Technical Monitoring Team (RTMT) and a Project Coordination Unit (PCU) hosted by SEMRY.

86. The Project Steering Committee (PSC) would be responsible for, inter alia: (i) approving the Project's Annual Work Plan and Budget prepared by the PCU; (ii) overseeing overall performance of the project and providing policy guidance; and (iii) identifying necessary Project adjustments based on the implementation status and results. It shall be chaired by a representative at the director level, of MINEPAT, with the Project Coordinator as secretary. The PSC will be comprised, inter alia, of (i) representatives of MINEPAT, MINADER, MINTP, MINEFI, MINEPDED, MINEE, CAA, Governor of the Far North Region, SEMRY and PACA; and (ii) one representative of each apex producer organization in the SEMRY zone (FUGRIMA and FUGRIYA). The PSC will meet at least twice a year.

87. The PSC will be supported by a RTMT (*Groupe Régional de Suivi Technique*), comprising the regional representatives of the main entities involved: MINEPAT, MINADER, MINTP, MINEPDED, MINEE, SEMRY, PACA; one representative of FUGRIMA and one representative of FUGRIYA. The RTMT will be chaired by the Governor of the Far North region of Cameroon. On behalf of the PSC, it will provide just-in-time project oversight and guidance, including inter alia: reviewing all documents and reports produced for submission to the Project Steering Committee through the PACA PCU or SEMRY PCU, as applicable; ensuring implementation of the recommendations of the Project Steering Committee; and monitoring annual work plans. The RTMT will meet quarterly or when deemed necessary.

88. The submission of a signed decree of MINEPAT formally establishing the Project Steering Committee and the Regional Technical Monitoring Committee are effectiveness conditions for the proposed project.

Project Coordination and Management

89. The concession agreement (No 72/488, dated September 26 1972) confirmed the mandate of SEMRY includes the operation and maintenance of the hydraulic infrastructure. This concession agreement also confirmed that the Maga area belongs to the Logone River valley and is thus covered by the said concession agreement.

90. SEMRY will therefore be the PIE for the project and host the PCU, who will be in charge of project implementation. The submission of a signed subsidiary agreement between MINEPAT and SEMRY formally designating SEMRY the responsibility for implementation of the project and hosting of the PCU is an effectiveness condition for the proposed project.

91. Project Coordination Unit (PCU): After a competitive selection agreeable to IDA and validated by the PSC, SEMRY on behalf of the Steering Committee will contract technical staff for the PCU. PCU staff will be initially contracted for duration of one year, renewable based on positive performance evaluation.

92. The PCU will facilitate implementation of the project, monitoring and evaluation, financial management, and procurement. The PCU will have the following responsibilities: (i) consolidating annual work programs and budgets; (ii) facilitating the implementation of project activities; (iii) ensuring that project implementation is carried out in conformity with the project implementing manuals: technical, M&E, financial, procurement, and disbursement procedures agreed between the PCU and the World Bank; (iv) monitoring and evaluation; and (v) preparing

and transmitting technical, financial, environmental, and M&E reports to the PSC, RTMT, the World Bank, and other key stakeholders.

93. In a transition period, until a fully operational PCU has been established at SEMRY, the PCU of PACA will implement the proposed project. In this transition period the PACA PCU will ensure that procurement, financial management, social and environmental safeguards are implemented according to standards acceptable to The World Bank. MINEPAT shall issue a decree to formally assign the PACA PCU the responsibility for implementation of the project for the transition period. This decree is an effectiveness condition for the proposed project.

Project Implementation Manual

94. The Project Implementation Manual (PIM) details the organizational and technical procedures of the proposed project, including financial management and procurement. Two volumes of the PIM: one for technical, M&E, environmental, social, and institutional aspects and another for administration, procurement and financial management were submitted prior to negotiations and reviewed during negotiations.

Annual Work Plan

95. No later than September 15 in each year (or one month after the effectiveness date for the first year of Project Implementation) the Government shall prepare a draft annual work plan and budget for the project for the subsequent calendar year of project implementation to be reviewed by The World Bank. Annual Work Plans and budgets may be revised as needed during project implementation subject to the prior written approval by the World Bank.

Financing plan

Table 2: Project Financing Plan

Components Sub-Component	Total (IDA)	
	<i>Sum of Total Cost (US\$ '000)</i>	%
A. Rehabilitation of key hydraulic infrastructure for flood protection and rice production	99,210	91.9%
B. Disaster Risk and Emergency Management	2,580	2.4%
C. Infrastructure Operation and Maintenance, Project Management	2,861	2.6%
Sub-Total	104,651	96.9%
Contingencies	3,349	3.1%
Grand Total	108,000	100.00%

Expenditure categories

96. The proposed project would have four expenditure categories: (i) goods, works, and consultants' services for component A of the project; (ii) goods, works, non-consulting services,

and consultants' services for component B of the project; (iii) goods, non-consulting services, consultants' services, and operating costs for component C of the project; and (iv) unallocated. See Annex 5 for details.

Bank supervision

97. Monitoring and evaluation will be managed by the PCU. The World Bank team will assist the PCU in tracking performance indicators during regular implementation support missions. In accordance with OP/BP 8.00 on Rapid Response to Crises and Emergencies requirements, a Bank team will visit Cameroon no less than twice during the first 12 months following effectiveness of the project to supervise ongoing activities. Thereafter the project will be supervised at least one a year.

Implementation schedule

98. The proposed project would be implemented over a 4 year period, with a closing date of June 30, 2017. The contracts for the identified infrastructure works are all expected to be signed during the first 12 months of implementation.

VI. Key Risks and Mitigating Measures

99. The overall project risk rating is rated as **substantial**. As referenced in Annex 4: Operation Risk Assessment Framework (ORAF), key risks have been identified as well as mitigation measures to minimize the potential impact of these risks. The ORAF will also be used to monitor and re-assess risks and review mitigation measures during project implementation.

100. It is important to note that although SEMRY is indirectly involved in the implementation of the ongoing 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 design studies for the main hydraulic infrastructure have already been carried out under PACA.

101. Furthermore, corruption and vested interest are not uncommon and may hamper the implementation of reforms and delivery of services. 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 risks associated with the project are **high**. They will be appropriately addressed through the safeguards instruments.

102. Key risks to achieving Project Development Objectives (PDO) were identified as well as mitigation measures to minimize the potential impact of these risks. These are presented in the ORAF. The overall risk rating for project implementation is **substantial**. The table below summarizes the specific risks that could jeopardize successful implementation of the proposed project and indicates their severity.

Table 3: Project Risk Rating Summary

Risk Category	Rating
Stakeholder Risk	Substantial
Implementing agency risk	Substantial
- Capacity	Substantial
- Governance	Substantial
Project Risk	Substantial
- Design	Moderate
- Social and Environmental	High
- Program and Donor	Low
- Delivery Monitoring and Sustainability	Substantial
- Natural Disasters	Substantial
- Safety and Security	Substantial
Overall Implementation Risk	Substantial

103. Implementing agency level risks include inadequate coordination, and low technical capacity for quality control and to generate and incorporate actionable technical information into emergency preparedness and response mechanisms. Annex 4 contains the Operation Risk Assessment Framework (ORAF) including mitigation measures.

VII. Terms and Conditions for Project Financing

104. The project would be 100% financed by IDA. Following the GoC's official request for financial support, the project will be financed by a Standard IDA credit in the amount of SDR 71.6 million (US\$108 million equivalent). The credit has a grace period of 10 years and a final maturity of 40 years. A service charge of three quarters of one percent (3/4 of 1%) will accrue on the amount disbursed and outstanding.

Conditions for Effectiveness

105. The following project specific conditions for effectiveness have been agreed:

- (i) The Subsidiary Agreement has been executed on behalf of the Recipient and the Project Implementing Entity, in accordance with Section I.B of Schedule 2 to this Agreement.
- (ii) The Recipient has established the Project Steering Committee in accordance with the provisions of Section I.A.1 of Schedule 2 to this Agreement.
- (iii) The Recipient has established the Regional Technical Monitoring Team in accordance with the provisions of Section I.A.2 of Schedule 2 to this Agreement.
- (iv) The Recipient has extended the mandate of PACA-IU in accordance with the provisions of Section I.A.3(a) of Schedule 2 to this Agreement.

Conditions for Disbursement

106. The PCU shall ensure that all safeguards instruments (ESIA, PPMP, RAPs) required under the Project are disclosed in country and at the World Bank Infoshop, no later than 120 days prior to the signing of any contracts for works to be carried out under component A of the project.

Covenants

107. Dated covenants:

- (i) Not later than twelve (12) months after the Effective Date, the Project Implementing Entity shall establish and thereafter maintain within its structure the Project implementation unit (SEMY-PIU) which shall at all times be comprised of qualified and experienced personnel in adequate numbers, and to this end, the Project Implementing Entity shall recruit, as of the date of establishment of SEMRY-PIU, a Project Coordinator, an assistant Project Coordinator, financial management specialist, a procurement specialist, monitoring and evaluation specialist, environmental and social safeguards specialist, an agricultural specialist, an agronomist, a water resources management specialist, a civil engineer, agricultural technician, agricultural machinery technician, and a water management technician.
- (ii) Not later than twelve (12) months after the Effective Date, the Project Implementing Entity shall install, within the SEMRY-PIU, a computerized financial management and accounting system in a manner satisfactory to the Association.
- (iii) In order to ensure the timely carrying out of the audits, not later than six (6) months after the Effective Date, the Project Implementing Entity shall recruit independent auditors in accordance with the provisions of Section III of this Schedule, with qualifications, experience and terms of reference acceptable to the Association.
- (iv) The Project Implementing Entity shall establish, not later than six (6) months after the Effective Date, and thereafter maintain, until the Association is satisfied that the construction of the Dam has been fully rehabilitated, an independent dam safety panel (“Dam Safety Panel”) comprised of experts having qualifications and experience acceptable to the Association, to periodically report to the Association on, inter alia, progress in rehabilitating the Dam, together with associated dam safety risks, and shall carry out Part A.2 of the Project in accordance with the recommendations of the Dam Safety Panel.

Republic of Cameroon
Cameroon Flood Emergency Project

Annex 1: Detailed Description of Project Components

INTRODUCTION

1. The major part of the Sahelian Far North Region of Cameroon drains through the Chari-Logone River system into Lake Chad. Here the Logone River forms the border with Chad and joins the Chari River at its confluence at N'Djamena (Chad) / Kousseri (Cameroon). The Logone's sources are located in the Western Central African Republic, Northern Cameroon, and Southern Chad. The combined river system of the Logone-Chari is the most important contributor of Lake Chad, contributing 90% of its inflow. Lake Chad is the largest lake in Sahelian Central / West Africa at the border between Niger, Nigeria, Cameroon and Chad and has since ancient times been the backbone of the regional economy based on trade, fisheries, and irrigated agriculture. In recent decades it has shrunk substantially, affected by vast extractions of water, rapid population growth, sedimentation and a changing climate pattern. The Maga dam in Northern Cameroon remains one of the largest intervention structures in the Logone Chari River system. The map in annex 14 illustrates the location of the project area in Cameroon's Far North region and within the entire Logone Chari River Basin.
2. The region's climate falls within the soudano-sahelian zone with a distinctive rainy season from May to September, peaking usually in the month of August with an average annual precipitation of 800 mm. Following a rather humid phase of the 1950s and 1960 from the 1970s to the 1990 a dry period followed. Before 1970 the flood waters of the Logone peaked at a discharge of 2200 m³/s, while after 1970, discharges of 1410 m³/s were only reached during the flood season. In the drought years of 1984 and 1987, the flood water levels reached only 500 m³/s to 700 m³/s. In the later years, similar low water flows, i.e. as little as 48 m³/s were reduced even further to as little as 22 m³/s.
3. Cameroon's vulnerability to extreme climate events may further increase according to the different climate change projections. Although to date there is limited data coverage for major parts of Central and Western Africa, it is estimated that the mean annual temperature in Cameroon has already increased by 0.7°C since 1960 and that the mean annual rainfall over Cameroon has decreased by around 2.9 mm per month (2.2%) per decade since 1960. The mean annual temperature is projected to increase by 1.0 to 2.9°C by the 2060s, and 1.5 to 4.7°C by the 2090s. Models are broadly consistent in projecting increases in September-October-November rainfall – projected changes range from -6% to +26%⁸.
4. Leveraging on the large potential of the flood plains for irrigated agriculture the Government has established SEMRY (*Société d'Expansion et de Modernisation de la Riziculture de Yagoua*) as a parastatal company for the development of irrigated rice production under the Ministry of Agriculture. SEMRY developed two major agricultural rice production areas: SEMRY I with a 5300 ha of productive area, was developed in the 1960ies, while SEMRY II with 6200 ha of productive area was developed in the 1980ies. The 27 km earthen Maga Dam was constructed on

⁸ Africa Adaptation Program

the upper part of the Waza-Logone floodplain in 1979 to provide water for the SEMRY II irrigation scheme and for fish farming. The Logone embankment prevents the irrigated rice fields from being flooded from over-bank flow from the Logone River. A detailed description of the infrastructure and its features is given below.

The Hydraulic Infrastructure

5. The **Maga dam** is a homogeneous earth fill dam built on the upper part of the Waza-Logone floodplain to provide water for the SEMRY irrigation scheme, operating for 34 years since it was built in 1978/79. The total reservoir capacity and live storage capacity are respectively 620 MCM and 400 MCM. The dam has an average height of 4 m, maximum height 5 m, a crest level at 314.5 m above sea level and a crest length of 27 km. The embankment crest width is 3.5 m, the gradient of the upper slope (vertical: horizontal) is 1:4, and downstream is 1:1.75. The embankment body is composed of clay and silt materials, according to the recent pre-feasibility study; this structure was initially compacted in 15cm layers, which were excavated from the surface layer in nearby areas. No cutoff / key trench were constructed at the foundation. It should be noted that the spillway capacity is only 100 m³/s in comparison with the incoming flow of around 2,000 m³/s corresponding to only 100 years return period floods. Coupled with major defects in the embankment structure of the dam, overtopping risk should therefore be considered significant. A summary of inflows and outflows to the Maga dam reservoir is given below⁹:

Table 1.1: In- and outflows of Lake Maga

Structure	Location / Description	Inflow volume / Maximum discharge capacity
Inflow:		
Tsanaga Boula and Grueleo Mayos	Ephemeral rivers - Base flows: - Mayo Tsanaga: 216 m ³ /s - Mayo Boula: 35 m ³ /s - Mayo Guerleo: 56 m ³ /s	2142 m ³ /s 100-year flood
Djafga valve and canal	Leading from Logone river 11km upstream of Lake Maga adjacent to SEMRY irrigated area	30 m ³ /s
Rainfall on the lake free surface	Total surface area is estimated as 400km ²	-
Outflow:		
Mayo Vrick spillway	10 manually opened guillotine gates	100 m ³ /s
Mayo Vrick d/s channel	Blocked by sediment and vegetation. Houses on either bank. Discharges to Logone river 20km d/s	< 20 m ³ /s
Irrigation intakes	Four intakes, each with two manually operated gates, each gate has a capacity of 16m ³ /s	64 m ³ /s
Inflow / Outflow:		
Pouss weir	700m long mass concrete sill (312.19 m above sea level) between Maga Lake and the Logone River.	

⁹ Source: Le Competing Bet, 2006

6. The Logone Embankment is a homogeneous earth embankment built along the left bank of the Logone River in 1954 to protect the adjacent SEMRY irrigation scheme from flooding. The last major maintenance works were completed in the 1980s. The total embankment length is 70km; 47km of this are compacted earth, the remaining 23 km are uncompacted. The 47 km were built during the initial development of the SEMRY irrigation area by the local responsible agency and was apparently rebuilt in the 1980s using a similar method to the construction of Maga dam. The remaining 23 km appear to be informal constructions, mostly by local communities, of pushed earth with little or no compaction and no clear alignment. The original sections were 0.5-3m high with a crest width of 2.5m. Along the compacted sections the embankment is around 1 m in height with a crest width of 1-1.5m. The gradients of the upper and downstream slopes are around 1v:2h. The embankment body is composed of clay and silt materials which were excavated from the surface layer of nearby areas. No cutoff / key trench were constructed at the foundation.

7. The following irrigation infrastructure exists in Yagoua and Maga: SEMRY I site consists of five major irrigation blocks of 5300 ha completed between 1972 and 1977 at Yagoua. Here double cropping is only possible on approximately 3000 ha since the water extraction from the Logone River is limited by the Moundou agreement between Chad and Cameroon from 1970, ensuring a minimum discharge of the river of 5 m³/s or 10 m³/s from May to December respectively. SEMRY II consists of four major irrigation blocks of in total 6200 ha were established between 1978 and 1986 supplied by the Maga dam.

The 2012 Floods

8. From August 15 to September 17, 2012 the region 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, that rainy season had been one of the most intense and extended in the past decades, but exact hydro-meteorological data are missing. Nevertheless, it was estimated that the return period of the rainfall event in 2012 was around 50 years. The rains led to the flooding of the Tsanaga, Boula, Grueléo Mayos (ephemeral rivers) and the Logone River. During this flood period Lake Maga depassed the warning level (312.50 m above sea level) by 70 cm.

9. The floods affected the economic and social livelihoods of approximately 60,000 people in the two worst hit districts Maga and Chari/Logone. The floods caused damages to the irrigation infrastructure, the Maga dam and on parts of the Logone dyke, and related losses due to foregone harvests. At the peak of the floods in August / September 2012 up to 120,000 people below the Maga dam were at a potential risk of a breach of the dam.

10. The 2012 flood was the first time that all gates had been opened in Mayo Vrick spillway and it was noted that in flood conditions these gates are difficult to operate. Although discharge through the Mayo Vrick prevented the overtopping of the Maga dam, downstream areas were flooded due to lack of channel capacity. All spillway gates were left open over 40 days in order to return the lake to safe levels. SEMRY staff and local communities undertook emergency repair works along the Maga dam and Logone Embankment. This mainly involved raising or

supporting the crest of the structures with sandbags and grouting up the piping failures in the Maga dam. Along the Logone embankment there were three major breaches along the unconsolidated section of the embankment increasing inflows to Maga Lake. The situation was apparently close to catastrophic, through either overtopping or piping failure. Once a dam section is breached, there is no way to prevent the entire volume of water from flooding the vast downstream area.

Post Flood Conditions of the Hydraulic Infrastructure

11. A lack of maintenance over many years, erosion from climatic and human impacts, combined with recent high flood levels, has left these two structures in a fragile state:

- (a) Maga dam has several serious structural defects. A large number of piping holes / internal erosion have been observed; the majority of those observed formed during the 2012 flooding and are concentrated on the sections close to the spillway and the Mayo Vrick channel. Piping holes may be related to poor compaction works between compacted layers during the initial construction. Along the length of the dam there is a high level of subsurface seepage related to the absence of a cut-off trench.
- (b) Wave impact causes significant erosion on the upstream slope of the embankment, particularly around the irrigation intakes and spillway. The downstream slope also shows intensive and deep gullies apparently caused by waves overtopping the crest, wind and rain action. According to different estimates, but it seems that the crest has settled by around 20-50 cm in many sections over the years. These issues are compounded by holes created by termites and anthropogenic erosion, which have combined to cause maximum settlements of up to a meter in some areas.
- (c) The spillway gates have not been regularly maintained for many years, apart from semi-annual cleaning. During the 2012 flood, 2 gates could not be opened due to breaks in the frame and sand/rock blockage. The rip rap/boulder placed downstream for energy dissipation and erosion control has also been vandalized leading to the concrete structure being undermined in some places. The Mayo Vrick channel is obstructed by sedimentation, and vegetation which significantly reduce its conveyance capacity.
- (d) During the 2012 flood there were a number of breaches along the uncompacted section of the Logone dyke. It was estimated that approximately 35% of this length has been destroyed or has completely degraded. This uncompacted section likely has no or little structural integrity.
- (e) The compacted section of the Logone dyke has suffered from lack of maintenance and extensive erosion, due to wind, rain and wave action in addition to human impacts. The crest width has reduced to less than a meter in many locations and the height has reduced, through a combination of settlement and erosion.
- (f) Severe erosion was noted along the Logone river bank for a length of around 3.5km of the embankment, with a risk of complete collapse of the river bank at a number of locations. A recent study identified more than 10 highly critical, and three important, areas of degradation within the zone covered by this project¹⁰.

¹⁰ ERE Development, 2012

Critical failure mechanisms and risk levels

12. The large population at risk (around 120,000) and large reservoir capacity of the Maga dam (600 MCM) mean that the safety level needs to be set to a much higher level than is typical for a 5m high dam. An outline dam break analysis was completed in 2012¹¹ and showed that approximately 600 km² downstream would be inundated during a dam break situation. Typically, a safety level of around 1000 – 10,000 years is adopted for similar dams, although the adopted safety level differs depending on a number of factors. At least a 1 in 100 year return period should be used in the design for the Logone embankment which effectively protects Lake Maga from flooding, in addition to adjacent communities and infrastructure.

13. The hydrological analysis completed in 2006 estimates peak inflows for a 100 year event as around 7,800 m³/s, including the inflow from Mayos and rainfall over 400 km² of reservoir surface. An initial review suggests that this may be overly conservative and that design flood flows are expected to be approximately 2,000 m³/s for a 100-year flood to be verified with hydrological/ reservoir simulation results.

14. The critical failure mechanisms of the Maga dam are piping and overtopping failures with surface erosion also being a concern. Overtopping of the embankment would lead to rapid failure with catastrophic downstream impacts. The spillway and the Mayo Vrick channel appear to be significantly undersized for the reservoir capacity and additional spillway capacity is likely essential. The location of this additional spillway needs careful consideration to avoid impacting downstream communities. The possibility of extending the spillway along the Logone embankment also needs to be investigated further following more detailed hydrological assessments. Discussions with the consultant preparing the design indicate that a return period of 50-years may be proposed for spillway design.

15. Given such a large deficit in required spillway capacity (around 2,000 m³/s); the size of the reservoir capacity (620 million m³), and high downstream flooding risks, the design of the Maga dam needs to include overtopping resistance measures, such as placing gabion walls on the downstream slope and in the toe area over critical areas of the dam, to avoid catastrophic failure of the dam. In the current costing surface protection is provided against wave impact at the crest and erosion on the downstream slope, there may be a significant cost increases if full protection against overtopping is required. The Panel of Experts will provide review and guidance on the design and dam safety measures.

Emergency Repair Works

16. A number of emergency repairs on the Logone dyke and Maga dam have been conducted following the floods of August / September 2012, initially by SEMRY and since early 2013 under the leadership of the Army Corps. On the Maga dam this work includes removing bushes and termite mounds and reinstalling the original crest height and level along the whole length of the dam. In addition 9km of the upstream slope and 6km of the downstream slope will be returned to their original section following severe erosion. Along the Logone embankment work

¹¹ Évaluation de l'état du barrage, des digues, du réservoir et des structures hydrauliques du système de Maga-Logone-Vrick. Situation hydrologique, géotechnique et menaces naturelles, Dr. Sergio Mora-Castro et MSc. Javier Saborío-Bejarano, November 2012

includes repairing the 3 major breaches caused during the 2012 flood and 400m of slope protection works. The 18 gates along the Maga and Logone embankments will also be checked and repaired under these emergency works.

DESCRIPTION OF THE DIFFERENT COMPONENTS

17. Component A – Rehabilitation of key hydraulic infrastructure for flood protection and rice production (US\$ 99.2 million - IDA): This component will finance the rehabilitation of flood affected infrastructure, notably the rehabilitation of Maga dam, 70km of the Logone dyke and related infrastructure for flood protection, as well as the rehabilitation of the 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 the Logone embankment, (ii) Rehabilitation of Maga dam and related infrastructure, and (iii) Rehabilitation of irrigation areas.

18. These major physical infrastructure works are based on the feasibility and detailed engineering studies already conducted under PACA. The detailed design for the rehabilitation of the irrigation areas has already been completed, while the design development for the hydraulic infrastructure is currently ongoing, including additional surveys and tests to inform the design.

19. Subcomponent A.1 Rehabilitation of the Logone embankment (US\$ 18.2 million - IDA): Rehabilitation of the Logone embankment is expected to include the following activities:

- (i) Strengthening the embankment along the entire 70km length, from Pouss to Yagoua by restoring the embankment profile.
- (ii) Slope protection, including vegetation along upstream and downstream slopes to protect against surface erosion and rip rap/gabion protection at critical points.

20. Subcomponent A.2 Rehabilitation of Maga dam and related hydraulic infrastructure (US\$ 41 million - IDA): Rehabilitation of Maga dam is expected to include the following activities:

- (i) Strengthening the embankment structure by rehabilitating damaged sections, fixing internal erosion / piping, and restoring and amending the embankment profile, including possible upstream blanket, for critical areas along the entire 27 km length in accordance with the improved design.
- (ii) Installation of adequate drainage in the dam structure to reduce the pore water pressure in the body and foundations of the dam, including downstream shell drainage /channels along the toe of the embankment.
- (iii) Installation of slope protection, where necessary, including vegetation along upstream and downstream slopes and gabion walls on the downstream slope and in the toe area to protect against wave impact and surface erosion and enhance overtopping resistance.
- (iv) Rehabilitation of spillway including gates and concrete structures and widening and deepening the Mayo Vrick channel to its original design.
- (v) Construction of an additional emergency spillway if needed as recommended by the feasibility study. Additional works at the Pouss weir along the Logone River, including the

installation of gate structures to manage flows between the Logone River and Maga dam, as a future option may also be recommended.

(vi) Complementary works (seepage control, drainage, protection works) as required in high risk sections, for example in sections of the embankment at high risk of piping failures.

21. *Subcomponent A.3 Rehabilitation of Irrigation Areas (US\$ 40 million - IDA)*: This activity will finance the rehabilitation of approximately 7,500 ha of existing irrigated schemes (out of a total 11,500 ha), which are connected to the Logone embankment and Maga dam. Of those 7,500 ha, 3,200 ha are located at SEMRY I at Yagoua and 4,300 ha are located at SEMRY II at Maga. The rehabilitation works focus on those sites, which are particularly degraded and play an important role for the drainage and rapid evacuation of water in this hydraulic system. Rehabilitation works consist of rehabilitating channels, access routes and other related infrastructure as well as the re-leveling irrigation fields.

22. **Component B - Disaster risk and emergency management (US\$ 2.6 million - IDA)**: The floods highlighted a number of short-comings in the management of the hydraulic infrastructure and prevention of potential disasters and response to it. An observation system, providing information on water levels and discharge for a forward looking planning and operation of the hydraulic system did not exist. Such an information system is a critical building block for the planning, operation of the infrastructure and thus for disaster risk reduction, providing early information.

23. SEMRY and the local authorities of the Far North Region were caught unprepared by the floods, without means, equipment, clear responsibilities or actions agreed between Government and SEMRY to respond. Although SEMRY's mandate remains limited to operating the irrigation infrastructure of SEMRY 1 and SEMRY 2 irrigation area, they hastily provided equipment, coordinated emergency works along the dykes, filled sand bags and released water through Mayo Vrick. An emergency coordination cell was installed and chaired by the governor of the Far North Region. Communication with the affected population remained ad hoc, while several people were affected, not only where the dam was effectively breached, but also at several other locations, effective and timely warning and communication remained challenged.

24. With the rehabilitation of infrastructure financed by this project, the risk of future infrastructure failures and floods effects will be substantially minimized. Nevertheless, establishing a fully operational contingency plan will be an essential element for the sustainable operation of the infrastructure in the region. This component comprises of two major sets of activities or sub-components:

- Strengthening the hydro-meteorological monitoring system for sustainably operating infrastructure and reducing risks in the project area;
- Establishing a fully operational contingency plan for the hydraulic infrastructure and related areas.

25. *Subcomponent B.1 Strengthening Hydro-meteorological Data Management (US\$ 0.6 million - IDA)*: Hydro-meteorological information for the operation of the hydraulic infrastructure and irrigation system remains limited. No information is available on water levels and discharge of the three major tributaries to Lake Maga (Mayo Tsanaga, Mayo Boula, and Mayo Guerléo), the

Logone River at Yagoua or further upstream, which is essential for the sustainable planning and risk adverse operation of the hydraulic infrastructure. Currently, eight rainfall stations are operational in the Far North Region, the weather station of SEMRY at Yagoua is not operational. Information for the existing rainfall stations is transmitted infrequently, not systematically shared by involved government agencies and not captured and analyzed systematically by SEMRY.

26. This sub-component will thus finance the installation of a functional hydro-meteorological information system within the project area, will provide training for the involved technicians and decision makers and facilitate the exchange of information between SEMRY and other relevant government agencies such as the National Centre for Meteorology and the Ministry of Water and Energy. More specifically the component will include:

- (a) Technical Assistance for the design of hydro-meteorological monitoring system in the project area, including maintenance, transmission, collection and analysis of data. This should provide the necessary information for planning and decision making at SEMRY and required information for an operational contingency plan.
- (b) Purchase and installation of hydro-meteorological monitoring equipment, including the renovation of the buildings for the station of SEMRY at Yagoua, and water level recorders for the Lake Maga watershed.
- (c) Capacity building for data observers, technicians and decision makers in observation and analysis of data and maintenance of equipment.

27. *Subcomponent B.2 Strengthening Emergency Management (US\$ 2.0 million - IDA)*: With the rehabilitation of the hydraulic infrastructure, notably Maga dam and Logone dyke, the risk of future floods or a potential failure of the Maga dam affecting the population and infrastructure will be substantially reduced. A contingency plan is an important building block to manage the residual risk of a potential dam failure or flood. For the construction phase until the infrastructure is fully rehabilitated an interim contingency plan should be formulated to define appropriate actions for the specific risk level.

28. A contingency plan has the objective to reduce the risk of life and impacts on infrastructure and livelihoods of the affected population:

- (a) Determines the different emergency levels based on accurately observed water levels, other relevant hydro-meteorological information, geological information and directly observed events on the hydraulic infrastructure such as seepage through the dam, embankment cracking or blocked spillways.
- (b) Provides guidance for preventive and emergency actions to be taken for the different emergency levels and scenarios to reduce impact as much as possible.
- (c) Identifies people and properties at risk: Building upon the relevant engineering design of Maga dam and Logone dyke, topographic information, historic flood information and hydro-meteorological information inundation maps for different scenarios or return periods will be drafted and related properties and people at risk will be identified.
- (d) Describes roles, responsibilities and appropriate notifications: The roles and responsibilities of the involved organizations (SEMRY, government agencies, local authorities, NGOs, others) and their specific staff will be determined for the different emergency levels. Notification lines

with appropriate means of communication, including back up plans will be determined and regularly updated.

(e) Determines supplies and resources: Necessary supplies, such as sand bags, communication equipment or machinery necessary for the different interventions will be determined.

(f) The contingency plan provides clear guidance on emergency procedures, such as assembly areas for the affected population, evacuation means and areas for temporary housing. It provides a communication plan for effective communication with the population tailored to the local habits and practices.

(g) Is regularly followed up and updated: A contingency is regularly updated, tested and improved among others through regular simulation and table top exercises.

29. This sub-component will thus provide technical assistance for the formulation of contingency plan for the Maga dam and the rehabilitated sections of the Logone dyke. It will include the purchase of equipment, capacity building, community out-reach and study tour to allow responsible staff of SEMRY and Government agencies to learn from study state of the art emergency management for comparable hydraulic structures, e.g. in the United States.

(a) Technical Assistance for the formulation of a Contingency Plan, including interim plan, with the definition of emergency scenarios for the operation of Maga Dam and the dykes at the Logone River, identification of areas at risk, responsibilities, actions to be taken, and communication strategy.

(b) Purchase of equipment for emergency interventions, such as communication equipment (walkie-talkies, megaphones, etc), cloths for emergency operators and others.

(c) Capacity building for SEMRY, government officials and NGOs for implementing and regularly updating of the contingency plan. This will include a table top simulation exercise and exchange study tour on emergency planning for dam operators.

(d) Sensitization and training of local communities on how to respond in case of emergencies. This will be conducted through a range of different media adapted to the local context. The sensitization will be implemented through a diverse group of stakeholder organizations, notably rice producer organizations of SEMRY, secondary schools in the three departments Logone et Chari, Diamari and Mayo Dana and women organizations.

30. Component C – Infrastructure Operation and Maintenance, Project Management (US\$ 2.9 million - IDA): The institutional support component will finance those activities supporting SEMRY to and related government agencies in the operation and maintenance of the hydraulic infrastructure and to conduct the overall project implementation. This component is thus sub-divided into two sub-components (i) Institutional support for integrated water resources management, and (ii) project implementation.

31. Subcomponent C.1 Institutional Strengthening (US\$ 0.25 million - IDA): This sub-component will support the development and implementation of an operation and maintenance plan for the hydraulic infrastructure. With this regard two main issues were identified:

(a) Maintenance planning and recording / reporting: In the past 6 years only limited maintenance has been carried out thereby contributing to the poor conditions of the hydraulic infrastructure.

Furthermore, there does not appear to be a plan for preventative maintenance of the structures or clear reporting lines for notifying the hierarchy of requirements and potential problems. Much of the data previously collected on the hydraulic infrastructure, for example geotechnical tests and maintenance works, has not been systematically reported.

(b) The operational rules for Maga dam: The live storage volume (400 MCM) seems to be much higher than the irrigation water requirements, estimated at 100-200 MCM¹². Lowering the operational water level would allow increased environmental flows to be released into the downstream Waza floodplain and would provide a safety buffer against flood flows. However, this needs to be further assessed taking into consideration the inefficiency and losses from the irrigation system; sedimentation reducing reservoir volume; use of the reservoir for navigation and fisheries, etc. In addition there need to be clear operational rules for effective and early response in the event of high inflows. In the 2012 floods, the opening of the Maga dam spillway gates appeared to depend largely upon decisions by individuals rather than a systematic process.

32. The activities under this sub component include:

(a) Development of an operation and maintenance plan, including regular safety inspection, and reporting procedures and requirements. In addition to technical specifications and intervals of maintenance works this plan would also provide guidance on structural inspections and grading conditions. This development process would be participative and would review the causes of previous poor maintenance to identify the support needed in addition to the O&M plan itself. Involving local people in basic surveillance should be considered, assuming instrumentation is appropriate and observation measures are well described.

(b) Capacity building in the implementation of the operation and maintenance plan, this would include workshops and on the job training over the period of the project.

(c) Implementing a dam safety panel of national and international experts, to review the design, the construction and safety measures taken. This training would include both technicians and management staff so that the needs for management support and budget requirements are understood.

33. *Subcomponent C.2 Project Implementation Support (US\$ 2.65 million - IDA)*: This component will provide support to SEMRY to host the PCU and implement the project. It will thus finance the rent of office space, provision of vehicles, hiring of staff for the project coordination unit and different consultancies to assure project implementation according to standards acceptable to IDA.

34. **Price Contingencies**: An unallocated amount of US\$ 3.35 million has been added to the total base cost of project components (as described above) to cover exchange rate fluctuations and inflation.

¹² 2013 site visit discussions and recommandation from Évaluation de l'état du barrage, des digues, du réservoir et des structures hydrauliques du système de Maga-Logone-Vrck. Situation hydrologique, géotechnique et menaces naturelles, Dr. Sergio Mora-Castro et MSc. Javier Saborío-Bejarano, November 2012

Republic of Cameroon
Cameroon Flood Emergency Project

Annex 2: Results Framework and Monitoring

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

PDO Level Results Indicators	Core	Unit of Measure	Baseline	Cumulative Target Values				Frequency	Data Source/Methodology	Responsibility for Data Collection	Description
				2014	2015	2016	2017				
Flood protection infrastructure rehabilitated		Number of Km	0	0	30	70	97	Annual	Site Progress Reports	PCU	
Contingency Plan approved and disseminated		Yes / No	no	No	No	yes	yes	Annual	Project reports	PCU	
Direct project beneficiaries (number), of which female (percentage)	[x]	Number of beneficiaries	0	13650	33930	54600	78000	Annual	Project reports and surveys	PCU	
		% female	0	5	13	21	30	Annual	Project reports and surveys	PCU	
Intermediate Outcome Indicators											
<i>Component A. – Rehabilitation of key hydraulic infrastructure for flood protection and rice production</i>											
Kilometers of Logone River embankment rehabilitated		Number of km		0	20	50	70	Bi-annual	Site Progress Reports	PCU	
Kilometers of Maga Dam rehabilitated		Number of km	0	0	10	20	27	Bi-annual	Site Progress Reports	PCU	

Increase in Maga dam spillway capacity		Number of m3/s	20	20	100	400	400	Annual	Project Reports	PCU	The increased spillway volume is to be determined based on the result of the ongoing feasibility / detailed design study
Area provided with irrigation and drainage services (Irrigation area rehabilitated)	[x]	Number of ha	0	1300	3250	5200	7500	Bi-Annual	Project Reports	PCU	
<i>Component B - Disaster risk and emergency management</i>											
People trained in disaster preparedness and emergency management (contingency plan) for key hydraulic infrastructure		Number of people trained.	0	0	50	50	100	Annual	Project Reports	PCU	Professional staff of SEMRY and government
Hydro-meteorological monitoring system for key hydraulic infrastructure operational		Number of equipment installed	0	5	15	15	15	Annual	Project Reports	PCU	
<i>Component C – Infrastructure Operation and Maintenance, Project Management</i>											
Operation and maintenance plan for key hydraulic infrastructure developed and disseminated.		Yes / No	no	No	No	yes	yes	Annual	Project reports	PCU	

Republic of Cameroon
Cameroon Flood Emergency Project

Annex 3: Summary of Estimated Project Costs

1. Project Financing Plan

Components Sub-Component	Total (IDA)	
	<i>Sum of Total Cost (US\$ '000)</i>	<i>%</i>
A Rehabilitation of key hydraulic infrastructure for flood protection and rice production	99,210	91.9%
A.1) Rehabilitation of the Logone River Embankment	18,285	16.9%
A.2) Rehabilitation of Maga dam and related hydraulic infrastructure	41,020	38.0%
A.3) Rehabilitation of Irrigated Areas	39,905	36.9%
B Disaster Risk and Emergency Management	2,580	2.4%
B.1) Strengthening Hydro-meteorological Data Management	550	0.5%
B.2) Strengthening Emergency Management	2,030	1.9%
C Infrastructure Operation and Maintenance, Project Management	2,861	2.6%
C.1) Institutional Strengthening	250	0.2%
C.2) Project Implementation Support	2,611	2.4%
Sub Total	104,651	96.9%
Contingencies	3,349	3.1%
Grand Total	108,000	100.00%

Republic of Cameroon
Cameroon Flood Emergency Project

Annex 4: Operational Risk Assessment Framework (ORAF)

Stage: Board

Project Stakeholder Risks			
Description : There is a potential risk of weak coordination among the different entities involved in the project, notably among MINEPAT, SEMRY and other ministries who have an interest in the project activities.	Rating: Substantial Risk Management: Effective coordination will be ensured through the establishment of a Project Steering Committee involving all major involved entities who have an interest in the project activities. MINEPAT will chair the Steering Committee and will be responsible for coordination within the government.		
	Resp: Government	Stage: Preparation and Implementation	Due Date : June 2013
Implementing Agency Risks (including fiduciary)	Rating: Substantial Risk Management: SEMRY will host a Project Coordination Unit (PCU) with qualified technical staff to implement the project. The staffing will include procurement, financial management, safety health and environmental specialist as well as social development experts to ensure that project implementation will be conducted according to standards acceptable to IDA. In a transitional period until no later than 12 months after effectiveness the PACA PCU will support the project implementation concerning fiduciary and safeguard aspects of project implementation. The World Bank will provide adequate capacity building for the relevant project management issues.		
Capacity Description: SEMRY, the designated project implementing entity, has a number of qualified technical staff to manage the hydraulic infrastructure and irrigation facilities. It has no experience with the implementation of major World Bank financed projects and has only weak capacities to address fiduciary, environmental and social aspects of project implementation. Fiduciary: SEMRY has a weak capacity in managing donor funds, notably World Bank resources. It has no qualified staff experienced in managing World Bank financed projects, no appropriate accounting procedures, manuals or auditing mechanisms. SEMRY is not experienced in procurement procedures acceptable to the World Bank.	Resp: Government	Stage: Implementation	Due Date : June 2014
			Status: In Progress
			Status: Forthcoming

Governance	Rating: Substantial				
Description:	Risk Management :				
Infrastructure Ownership: MINEPAT has recently confirmed to assign SEMRY the full mandate for operation and maintenance of the hydraulic infrastructure for an interim period. For the longer-term, it is not yet clear, which government entity will be in charge of the operation and maintenance.	Infrastructure Ownership: During project implementation assessments will inform SEMRY and the government about suitable governance for its infrastructure, structures including operation and maintenance. This shall also allow the government to make the necessary budget allocations for a sustainable operation of the infrastructure.				
	Resp: Government	Stage: Implementation	Due Date : June 2017	Status: Forthcoming	
Project Risks					
Design	Rating: Moderate				
Description :	Risk Management :				
In the spirit of an emergency operation to rehabilitate the hydraulic infrastructure following the 2012 floods in rapid manner, the project design is kept simple. It should be noted that the Maga dam has major deficiencies in the embankment structure, large deficiency in spillway capacity (around 2,000 m ³ /s), the size of the reservoir capacity (620 million m ³), and high downstream flooding risks.	Risk management and dam safety measures will be fully considered under the ongoing feasibility / detailed design of the rehabilitation works. Rehabilitation works of the dam will be undertaken for priority areas based on the detailed design and available budget, whilst some intermediate – long term measures will be recommended for future action. An Operation & Maintenance Plan, Instrumentation Plan and Contingency Plan / Emergency Preparedness Plan will also be prepared for the dam. A Panel of Experts will be established within 6 months after effectiveness to provide review and guidance on the detailed design and dam safety measures of the dam.				
	Resp: Both	Stage: Preparation	Due Date : June 2013	Status: In Progress	
Social & Environmental	Rating: High				
Description :	Risk Management :				
The overall social and environmental risk of the project is considered to be high. Although the project only rehabilitates existing infrastructure, it also affects a buffer zone 300 m (dam safety zone) downstream of the embankment/ infrastructure. This buffer zone has been settled in the recent years and may re-require resettlement of the affected population. Appropriate standards for resettlement according to standards acceptable to the World Bank, may not be in place for the next rain season in 2013.	The project environmental category is Category A. An ESSAF has been prepared, which provides guidance on implementing safeguards measures. The Government will comply with OP 4.12 provision for the rehabilitation works including the dam security area, which will be defined by the detailed technical design of the project. An ESIA/ESMP, PPMP, and RAP(s) will be prepared during project implementation.				
The government may not be able to implement the RAP according to standards acceptable to the World Bank during project implementation. Furthermore the Bank is likely to be held accountable for the guidance and advice it provides for the government's interim resettlement program.	The government will ensure that in a transition period - which will also cover the first rainy season before the civil works have commenced and until a detailed RAP has been established – that people, who would temporarily be relocated are relocated to a safe place, with a minimum standard of food and non-food items provided. These affected people will then be covered by the RAP as soon as it is available. The World Bank will inform the Government about potential resources to be mobilized for implementing the RAP(s).				
	A health and safety specialist will be assigned at SEMRY PCU to ensure environmental and social due diligence in full compliance with WB safeguards policies. During an interim period, no more				

SEMRY's capacity to deal with World Bank safeguards is weak, as it has currently no staff with experience in managing environmental and social safeguards in compliance with World Bank regulations.	than six month after effectiveness, the environmental and social issues will be managed by the PACA PCU. The World Bank Safeguards team will provide support during supervision mission and training will be provided to the PCUs of the proposed project.
	Resp: SEMRY Stage: Preparation and Implementation Due Date : December 2013 Status: In Progress
Program & Donor	Rating: Low
<p>Description:</p> <p>Following the floods of September 2012 the government has requested several development partners for assistance. There is a potential risk of an uncoordinated duplication of efforts.</p>	<p>Risk Management :</p> <p>The World Bank will coordinate its efforts to rehabilitate hydraulic Infrastructure in the Far North with other development partners, such as the European Union, to ensure complementarity of the efforts.</p> <p>Upon appraisal no other development partner has indicated to finance rehabilitation works in the target area in the Far North region.</p>
	Resp: Bank Stage: Preparation Due Date : June 2013 Status: In Progress
Delivery Monitoring & Sustainability	Rating: Substantial
<p>Description :</p> <p>Monitoring: There is a very low monitoring and evaluation capacity (conform World Bank standards) currently at SEMRY, who will be responsible for the project implementation.</p> <p>Sustainability: There is a potential risk that SEMRY will in future not have the required resources for sustainable operation and maintenance of the rehabilitated infrastructure.</p>	<p>Risk Management :</p> <p>Monitoring: The PCU will hire a qualified monitoring and evaluation specialist, who is familiar with the monitoring standards acceptable to The World Bank. The World Bank will provide training in monitoring and evaluation to the PCU.</p> <p>Sustainability: During project implementation capacity building will be provided to SEMRY for sustainably operating and maintaining the infrastructure. The operation and maintenance plan shall inform about sustainable financing mechanism for operation and maintenance of the infrastructure. All infrastructure designs will be designed in such a way that they require only little maintenance.</p>
	Resp: Both Stage: Implementation Due Date : December 2014 Status: Forthcoming
Natural Disasters	Rating: Substantial
<p>Description :</p> <p>In 2012 floods have caused substantial damages in the Far North and North Region of Cameroon. The proposed project intervenes to specifically reduce the risk of future flooding in the area. Nevertheless, a residual risk of flooding remains in the project area, particularly in the first year and potentially in the second year of the project.</p>	<p>Risk Management :</p> <p>The government is currently putting emergency rehabilitation works in place to stabilize the infrastructure as much as possible for potential future floods. The project will further support the development of an emergency management and disaster preparedness plan for the hydraulic infrastructure, including an outreach program to assure that the affected communities are well prepared to potential disasters. For the interim period until the rehabilitation works have been completed and a final contingency plan is place, an interim contingency plan will be formulated.</p>

	Resp: Government	Stage: Preparation and Implementation	Due Date : December 2014	Status: In Progress			
Safety and Security	Rating: Substantial	Risk Management : The World Bank task team completed a field visit to the project area in March 2013 and appropriate measures were taken by the GoC and The World Bank to ensure security of the staff. It is expected that similar appropriate security measures will be taken during project implementation.					
Description : Security concerns in the Far North region of Cameroon have lately risen with the abduction of a French family by Boko Haram near the border with Nigeria. The security and safety of World Bank staff and contractors may be at risk during field visits to these areas.	Risk Management : The World Bank task team completed a field visit to the project area in March 2013 and appropriate measures were taken by the GoC and The World Bank to ensure security of the staff. It is expected that similar appropriate security measures will be taken during project implementation.						
Overall Risk	Rating: Substantial						
	Comments: The overall risk rating for project implementation is substantial, based on the average of overall stakeholder risk; implementing agency risk including governance; and the project risk including the environmental and social risk..	Resp: Both	Stage: Preparation and Implementation	Due Date: June 2017			
				Status: In Progress			

Republic of Cameroon
Cameroon Flood Emergency Project

Annex 5: Financial Management and Disbursement Arrangements

Project Overview

1. Project development objective: The PDO is to rehabilitate key hydraulic infrastructure and improve disaster-preparedness in target areas in the Far North Region of Cameroon.
2. Project description: The project focuses on the rehabilitation of hydraulic infrastructure to protect the flood affected population and improve rice production in the Far North Region of Cameroon. SEMRY and relevant government agencies will be supported to strengthen their emergency and disaster management capacity.

Country PFM situation and Use of Country System

3. Following 2006 PEMFAR (Public Expenditure Management and Financial Accountability Review) and 2007 PEFA (Public Expenditures and Financial Accountability) that identified several weaknesses in Cameroon's Public Financial system (budget credibility, comprehensiveness and transparency, policy-based budgeting, budget execution, accounting and reporting, auditing and external scrutiny), the country has been embarked in a comprehensive reforms to improve budget transparency and efficiency which result in the elaboration of the *Nouveau Régime Financier de l'Etat* (2007) and a public financial management modernization plan (PMFP) covering 2009-2015 period. The GoC is also introducing program budgeting in the 2013 budget year as part of these reforms. The public financial management modernization plan is composed of seven strategic pillars (planning, budget execution-revenue, donors financing, budget execution-expenses, accounting, cash and debt management and internal and external control) which are achieved through the implementation of 170 actions, under the leadership of a dedicated high level Committee (*Comité de Pilotage des Réformes des Finances Publiques*).
4. Following the independent midterm review of PMFP it stands out that 18% of the actions were implemented, about 37% are ongoing and the remaining 45% are lagging behind. The report has been approved by World Bank and has pointed out the need to undertake a use of country system assessment to determine risks associated with and modalities to use country system in current and future World Bank funded project. Such assessment will be performed in FY14.

Financial Management

5. **Risk Assessment and Mitigation.** The project's fiduciary management will be the responsibility of SEMRY. The overall residual risk rating is **moderate**. The assessment undertaken during preparation phase concludes to these mitigations measures, (i) the recruitment of a senior accountant with the qualification and experience satisfactory to IDA, (ii) the establishment of an administrative and financial manual of procedures for the project; (iii) the installation of a computerized information system to support the financial management of the project activities; (iv) the preparation of appropriate terms of reference for the recruitment of an independent external auditor by negotiation; and (v) the recruitment of said external auditor not

later than six months after effectiveness to ensure that annual audit reports are prepared and transmitted timely to IDA.

6. In a transition period, until an operational PCU has been established, the PACA PCU will ensure financial management of the project. The detailed terms of this collaboration will be agreed between PACA and SEMRY in a Memorandum of Understanding, which will be signed during negotiations.

7. The overall residual risk rating is **substantial** before implementation of the mitigation measures.

Table 5.1: Financial Risk and Mitigation Measures

Risk	Risk Mitigating Measures Incorporated into Project Design	Residual Risk/ (Risk) rating	Preparation/ Implementation
Inherent risk		High	
Country level Delay in the implementation of the PFM master plan could hamper the governance.	Implement PFM reform agenda with the support of Word Bank and others donors (Afdb and EU).	High	
Entity level In spite of the governance framework described in the MoU (3 years <i>contrat plan</i>) with the Government, SEMRY has weak capacity in managing donor funds.	Recruit a qualified senior accountant with track records in World Bank financed project Outsource for 12 months maximum the fiduciary responsibility with PACA under a MoU to be signed between the two parties Rely on the governance structure described in the “ <i>Contrat Plan</i> ” signed with the GoC. A dedicated technical Secretariat has been established to oversee the implementation of the rehabilitation component.	Substantial	Implementation Implementation Implementation
Project level Rehabilitation component (more than 90% of the project financing) might imply a risk a fraud and corruption as well as hamper the whole project in case of failure	Rely on the governance structure described in the “ <i>Contrat Plan</i> ” signed with the GoC. A dedicated technical Secretariat has been established to oversee the implementation of the rehabilitation component. Perform technical review of “Bureau d’Etudes” by an independent consultant, set up dam safeguard council and perform internal audit mission and Bank integrated fiduciary review	Substantial	Over Implementation
Control Risk		Substantial	
Budgeting Delay in preparing yearly budget and inappropriate monitoring of budget execution resulting in delay in achieving project’s objectives	Conduct pre investment studies for the main infrastructure under PACA. Follow strictly budget procedures and timeline as per administrative and financial manual of procedures. Ensure that the annual work program is in line with the procurement plan to prevent any delay due to the procurement process. Track budget variances and take proactive decisions	Moderate	Preparation Implementation Implementation Implementation
Accounting	Recruit one senior accountant with track record in	Moderate	Implementation

Risk	Risk Mitigating Measures Incorporated into Project Design	Residual Risk/ (Risk) rating	Preparation/ Implementation
Lack of capacity (staff, accounting software, outdated accounting principles) in financial management of World Bank financed project which will result in delay and inaccuracies in recording financial transactions.	World Bank financed project. Provide training in financial management of World Bank financed project to SEMRY financial staff Rely temporarily (12 months maximum) in PACA financial staff expertise Implement accounting software to handle the project's transactions and generate the required financial information.		Implementation Implementation Implementation
Internal Controls and Internal audit Lack of a comprehensive manual of procedures The existing audit function at SEMY is not effective	Rely temporarily (12 months maximum) on PACA administrative and financial manual of procedures Establish an administrative and financial manual of procedures Amend Internal auditor TORs	Substantial	Implementation Implementation Preparation
Funds Flow Funds may be diverted or used for non-project eligible purposes.	Open a Designated Account in acceptable commercial bank into which funds will be deposited Perform technical review of "Bureau d'Etudes" by an independent consultant, set up dam safeguard council and perform internal audit mission and Bank integrated fiduciary review	Substantial	Preparation Implementation
Financial Reporting and Monitoring Lack of accounting software could delay the submission of agreed IFRs and annual project financial statements	Implement accounting software to handle the project's transactions and generate the required financial information.	Substantial	Implementation
External Auditing Inadequate audit opinion of SEMRY's external auditor.	Recruit qualified and independent external auditors under TORs satisfactory to the Bank. The audit will be performed according to internationally recognized standards, the scope and the objectives of the audit tailored to the particularity of the project. A technical audit or VFM audit will be required for the rehabilitation component.	Moderate	Implementation
Fraud & Corruption Risk of fraud & corruption in the contracts management	Ex post controls: financial internal audit and external audit, and integrated fiduciary review will be performed. Oversight of the rehabilitation component by the technical secretariat established as part of the <i>Contrat Plan</i> will be key. Ex ante controls: Internal control system described in the manual of procedures	Substantial	Implementation Implementation
Overall FM Risk		Substantial	

8. **Strengths.** The existence of the 3 years “*Contrat Plan*” between SEMRY and GoC which is endowed with a dedicated technical secretariat to oversee the implementation of the rehabilitation component is a key strength.

Table 5.2: Key weaknesses and Action Plan to reinforce the control environment

Significant Weaknesses or risks	Actions	Responsible	Completion
SEMRY’s financial staff are not familiar with World Bank’s FM procedures SEMRY’s internal control system is weak	Recruit a senior accountant with track records in World Bank financed project Amend internal auditor ToRs to include this project Establish a manual of the financial and administrative procedures Sign a decree to rely during 12-month transition period on PACA financial staff and procedures. Set up a computerized information system Recruit an external auditor acceptable to the Bank	SEMRY SEMRY SEMRY MINEPAT/SEMRY SEMRY SEMRY	TORs agreed by negotiation (completed) / Recruitment finalize 12 months after effectiveness By negotiations (completed) By negotiations (completed) By effectiveness (condition) 12 months after effectiveness 6 months after effectiveness

9. **Staffing.** SEMRY has a financial division comprising an accounting unit, a budget unit and a human resources unit. The financial division is headed by a Financial Manager not experienced in the financial management of donors funded projects. The Head of accounting position is vacant. An internal auditor Unit also exists within SEMRY and is headed by an internal auditor. SEMRY should recruit a senior accountant with track record in World Bank financed project. The ToRs of the senior accountant need to be agreed with the World Bank at negotiation. Training on World Bank financial management procedures will be delivered to SEMRY financial staff at the project launching and periodically as needed.

10. During the transition period of 12 months, PACA financial staff (one FMS, one senior accountant, six regional accountants, and one internal auditor) will handle the financial management of this operation. PACA financial staff has strong experience in World Bank financed project.

11. **Budgeting.** The overall responsibility for preparing a consolidated annual work plan and budget will lie with the SEMRY to be submitted to the World Bank for review September 15 of each (or within one months after the effectiveness date). The different steps of budget management (preparation, revision, adoption, and execution) will be detailed in the Project Implementation Manual. The consolidated annual work plans and budgets will be prepared yearly by SEMRY and submitted to the Bank for review and approval. The annual work program

will be in line with the procurement plan to prevent any delay due to the procurement process. Likewise, the pre investment studies for the main infrastructure will be conducted under PACA. A budget execution report will be included in a quarterly interim financial report to ensure that adequate actions are taken to address budget execution variances.

12. Accounting Arrangements and System. SEMRY will have the overall responsibility for maintaining the accounts of the project activities and ensuring that the annual financial statements are produced in a timely manner and in accordance with the accounting standards that are enforced in Cameroon.¹³ SEMRY will acquire a computerized accounting system to record the project's transactions and to produce the required periodic reports no later than twelve months after effectiveness date. One senior accountant with experience and qualifications that are satisfactory to IDA will be recruited on a competitive basis to ensure the effective financial management of the project and located within the accounting unit.

13. Internal Control and Accounting Procedures. The administrative, financial, and accounting procedures of this emergency operation will be defined as part of project operational manual. The manual will include a disbursement and reporting arrangements of this project with a clear description of the initiation and approval processes with respect to segregation of duties. During a transition period (12 months maximum) from the project's launching, PACA's manual of procedures will be used. SEMRY will acquire a computerized accounting system to capture all project-related transactions. SEMRY's financial manager and the senior accountant to be recruited will be responsible for maintaining all necessary controls to ensure: (i) that the project funds are used only for the intended purposes in an efficient and economical way; (ii) the preparation of accurate, reliable, and timely periodic financial reports; and (iii) that the project's assets are adequately safeguarded. The World Bank LOA and financial management (FM) units will provide adequate training in disbursement and FM procedures to the project FM team. All of these measures will enhance the internal control system.

14. Internal Audit. The terms of reference for the internal auditor will be amended and submitted to the World Bank for non-objection. The internal auditor will submit periodic reports on his findings and recommendations to strengthen the internal control system.

15. Financial Reporting and Monitoring. The quarterly interim financial reports (IFRs) to be generated from the computerized financial management system will be produced in accordance with the format agreed with IDA and submitted to IDA within 45 days of the end of each calendar quarter. The IFRs will include: (i) sources and uses of funds by the classifications of project expenditures; (ii) a comparison of budgeted and actual project expenditures (commitment and disbursement) to date and for the quarter; (iii) a statement of the use of funds by component or activity; (iv) designated account activity; and (v) a physical progress report on the implementation of the project.

16. External Auditing. The annual financial statements and quarterly IFRs as well as the internal control system will be subject to an annual audit by a reputable and independent auditing firm based on terms of reference that are satisfactory to IDA. The scope of the audit will be tailored to the project's specific risks in accordance with World Bank requirements and will be

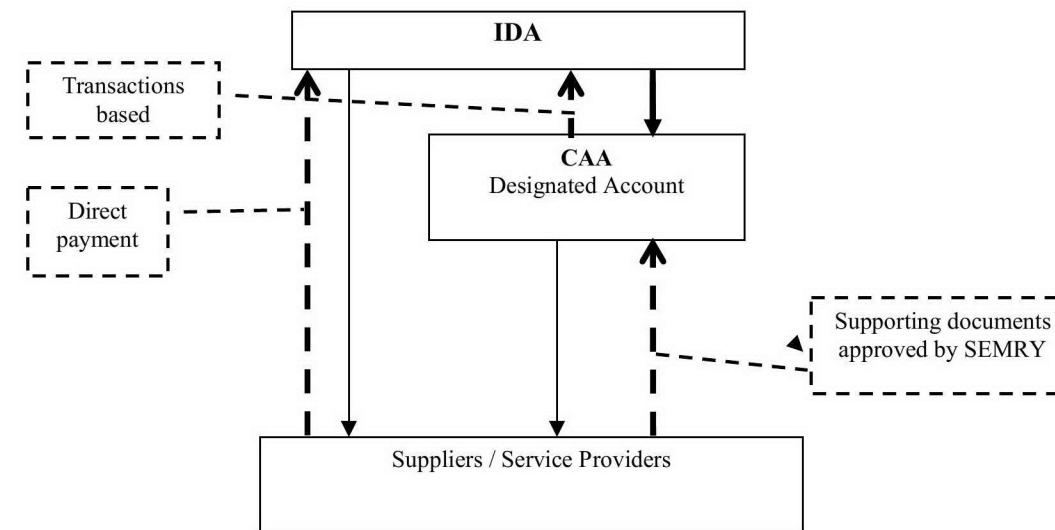
¹³ The accounting principles set out by *L'Organisation pour l'Harmonisation en Afrique du Droit des Affaires–OHADA* which call for double entries and accrual accounting system.

agreed upon with the government. The project will comply with the World Bank's access to information and disclosure policies disclosing audit reports publicly and promptly after receiving them. The project's external auditor will be hired within six months of effectiveness. A single audit opinion, in compliance with International Standards on Auditing, will be issued and will cover all project receipts, payments, and accounts. The audited financial statements, along with the auditor's report and management letter (incorporating management's comments) covering any identified internal control and accounting system weaknesses, will be submitted to IDA within six months of the end of each financial year.

17. Flow of Funds. Funds will flow from the IDA Account into one designated accounts (DA) denominated in CFAF 2.6 billion and opened in a reputable commercial bank in Cameroon that is acceptable to the Bank. The designated accounts will be managed according to the disbursement procedures described in the administrative, accounting, and financial procedures manual the Disbursement Letter (DL). Disbursements under the Credit will be transaction-based. Direct payment, reimbursement, and special commitment methods will apply as appropriate. Disbursements may become report-based eventually when SEMRY has the capacity to produce reliable and acceptable IFRs. The minimum value of the direct payments, reimbursements and special commitments will be 20% of the designated account ceiling. The project's authorized signatories will submit applications electronically using eDisbursement available from the World Bank's secure Client Connection website.

18. Arrangements for the Flow of Funds are shown in the Figure 5.1 below.

Figure 5.1: Flow of Funds



Legend	<i>Transfers of funds</i> <i>Flow of documents</i> <i>Payment to suppliers</i>	
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19. Table 5.3 specifies the categories of eligible expenditures that may be financed by the Credit (“Category”), the amounts of the Credit allocated to each category (component), and the percentage of expenditures to be financed.

Table 5.3 Eligible Expenditures

Category	Total (IDA)	
	<i>Amount of Credit allocated (US\$)</i>	<i>Percentage of expend- itures to be financed</i>
(1) Goods, Works, and Consultants’ Services for Component A of the Project	99,210,000	100% (excluding value added taxes and customs duties)
(2) Goods, Works, Non-consulting Services, and Consultants’ Services for Component B of the Project	2,580,000	100% (excluding value added taxes and customs duties)
(3) Goods, Non-consulting Services, and Consultants’ Services and Operating Costs for Component for Component C of the Project	2,861,000	100% (excluding value added taxes and customs duties)
(4) Unallocated	3,349,000	
Grand Total	108,000,000	

20. Table 5.4 summarizes the main action to be undertaken to ensure proper financial management.

Table 5.4: Financial Management Action Plan

Action to be undertaken	Time-frame	Responsible body
1. Establish an accounting, financial, and administrative manual of procedures	Prior to negotiations (negotiations condition completed)	SEMRY
2. Prepare the appropriate terms of references for the recruitment of an external auditor	Prior to negotiations (negotiations condition completed)	SEMRY
3. Amend the ToRs of SEMRY’s internal auditor	Prior to negotiations (negotiations condition completed)	SEMRY
4. Agree on interim financial report (IFR) format	Negotiations (completed)	SEMRY
5. Recruit a senior accountant to be located within accounting unit and with strong experience in World Bank financed	Within 12 months after effectiveness	SEMRY
6. Install a computerized information system for the financial management of the project’s activities	Within 12 months after effectiveness	SEMRY
7. Recruit an external auditor	Within 6 months after effectiveness	SEMRY

21. Conclusions of the FM Assessment. The overall residual FM risk at preparation is considered Substantial. The proposed financial management arrangements for this project are considered adequate and met the Bank's minimum fiduciary requirements under OP/BP10.00.

22. Implementation support plan. FM implementation support intensity and frequency will be in line with risk-based approach, and will involve a collaborative approach with the entire Task Team. A first implementation support mission will be performed two months after the project effectiveness. Afterwards, the missions will be scheduled by using the risk based approach model and will include the following diligences: (i) monitoring of the financial management arrangements during the supervision process at intervals determined by the risk rating assigned to the overall FM Assessment at entry and subsequently during Implementation (ISR); (ii) integrated fiduciary review on key contracts; (iii) review the IFRs; (iv) review the audit reports and management letters from the external auditors and follow-up on material accountability issues by engaging with the task team leader, Client, and/or Auditors; the quality of the audit (internal and external) is to be monitored closely to ensure that it covers all relevant aspects and provide enough confidence on the appropriate use of funds by recipients; and (v) others assistance to build or maintain appropriate financial management capacity and efficient internal control system.

Republic of Cameroon
Cameroon Flood Emergency Project

Annex 6: Procurement Arrangements

1. **Procurement** for this project will be carried out in accordance with the World Bank “Guidelines: Procurement of Goods, Works, and Non-Consulting Services under IBRD Loans and IDA Credits & Grants by World Bank Borrowers” dated January, 2011; and “Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credit & Grants by World Bank Borrowers”, dated January, 2011, and the provisions stipulated in the Legal Agreement. Procurement (works, goods, and non-consulting services) or Consultant Selection methods, prequalification, estimated costs, prior review requirements, and time-frame will be agreed in the Procurement Plan. The Procurement Plan will be updated at least annually or as required to reflect the actual project implementation. The Bank’s Standard Bidding Documents (SBD) or Cameroon’s National Standard Bidding Documents satisfactory to the Association will be used. To the extent practicable the Bank’s Standard Bidding Documents for goods and Standard Requests for Proposals for proposals, as well as all standard evaluation forms, will be used throughout project implementation. As an emergency project and it’s entitled to the specificity and the flexibility of OP 8.00.

2. **Specific procurement procedures applicable for project processed under OP/ BP 8.00.** To ensure the necessary flexibility required for an emergency operation the following specific procurement procedures can be applied in emergency operations:

- using rapid procurement methods (direct contracting or simple shopping) for the procurement of services of qualified UN agencies/programs and/or suppliers (for goods) and civil works contractors already mobilized and working in emergency areas (for works);
- using single sourcing or Consultant’s Qualification Selection (CQS) for contracting firms already working in the area and which have a proven track record for the provision of technical assistance;
- extending contracts issued under existing projects for similar activities by increasing their corresponding contract amounts;
- where alternative arrangements are not available, using Force Account for delivery of services directly related to the emergency;
- using NCB, accelerated bidding and streamlined procedures and applying Bank provisions on elimination, as necessary, of bid securities;
- actively supporting the borrower at various stages of procurement, including in their preparation of Terms of Reference, Requests for Proposals, bidding documents, and drafting of shortlists;
- providing the borrower, under its request, with a long list of pre-qualified international procurement agents.

3. Advertising. A comprehensive General Procurement Notice (GPN) will be prepared by the Borrower and published in the United Nations Development Business online (UNDB online) following Board Approval, to announce major consulting assignments and any international competitive bidding (ICB). The GPN shall include all ICB for works, goods, and non-consulting services contracts and all large consulting contracts (i.e., those estimated to cost US\$300,000 or more). In addition, a specific procurement notice is required for all works and goods to be procured under ICB in UNDB online. Requests for Expressions of Interest (EOI) for consulting services expected to cost more than US\$300,000 shall be advertised in UNDB online. An EOI is required in the national gazette, a national newspaper, or an electronic portal of free access for all consulting firm services regardless of the contract amount. In the case of NCB, a specific procurement notice will be published in the national gazette, a national newspaper, or an electronic portal of free access. Contract awards will also be published in UNDB, in accordance with the Bank's Procurement Guidelines (para. 2.60) and Consultants Guidelines (para. 2.28).

4. Requirements for National Competitive Bidding. Works, goods and non-consulting services contracts will use National Competitive Bidding (NCB) procurement methods in accordance with national procedures using Standard Bidding Document acceptable to IDA and subject to the additional requirements:

- In accordance with paragraph 1.16 (e) of the Procurement Guidelines, each bidding document and contract financed out of the proceeds of the financing shall provide that (i) the bidders, suppliers, contractors and their subcontractors, agents, personnel, consultants, service providers, or suppliers shall permit the Association, at its request, to inspect all accounts, records and other documents relating to the submission of bids and contract performance, and to have said accounts and records audited by auditors appointed by the Association; and (ii) the deliberate and material violation of such provision may amount to an obstructive practice as defined in paragraph 1.16 (a)(v) of the Procurement Guidelines:
- Invitations to bid shall be advertised in national newspapers with wide circulation.
- The bid evaluation, qualification of bidders and contract award criteria shall be clearly indicated in the bidding documents.
- Bidders shall be given adequate response time (at least four weeks) to submit bids from the date of the invitation to bid or the date of availability of bidding documents, whichever is later.
- Eligible bidders, including foreign bidders, shall be allowed to participate.
- No domestic preference shall be given to domestic contractors and to domestically manufactured goods; and association with national firm shall not be a condition for participation in a bidding process.
- Bids are awarded to the substantially responsive and the lowest evaluated bidder proven this bidder is qualified. No scoring system shall be allowed for the evaluation of bids, and no “blanket” limitation to the number of lots which can be awarded to a bidder shall apply.
- Qualification criteria shall only concern the bidder's capability and resources to perform the contract taking into account objective and measurable factors.

- Fees charged for the bidding documents shall be reasonable and reflect only the cost of their printing and delivery to prospective bidders, and shall not be so high as to discourage qualified bidders.

5. Procurement Environment. Recent changes in the Cameroon legislation have modified the institutional architecture of the bodies responsible for public procurement in the country. The new organizational structure was introduced through three decrees issued on 8 March, 2012. No special exceptions, permits or licenses need to be specified in the Financing Agreement since the procurement code, approved by the President of the Republic in September, 2004 allows IDA procedures to take precedence over any contrary provisions in local regulations.

6. Procurement arrangements for Bank-financed projects in Cameroon have been under discussion for some time as the national system has been revised to shift responsibility for the bulk of procurement and contract management from decentralized agencies to a newly created Ministry of Public Contracts (MINMAP). IDA fielded a procurement mission between October 31 and November 10, 2012 to assess the potential effects these changes and notably the possible effect on Bank-financed projects in Cameroon. The mission concluded that the new centralized system could lead to a number of positive outcomes. However, concerns were raised with respect to technical and legal responsibilities as well as regulatory issues. This mission was followed by another one conducted jointly with other Development Partners based in Cameroon during the period of January 28 to February 3, 2013, in order to (i) discuss the recommendations of the initial mission; (ii) facilitate the transition from the old to the new procurement system; and (iii) ensure the smooth implementation of the Bank financed projects. MINMAP has confirmed in writing to the Bank that it accepts the proposed short term measures of the donors concerning existing projects as identified in the documents of negotiations and the legal agreements, which consist of the creation of special tender boards with full procurement responsibility and the PCU (“*Maître d’Ouvrage*”) in charge of the publication of tenders, contracts award and signature of all contracts. The national prior review will be now conducted by MINMAP as the previous body in charge of this review was dissolved. For the new projects, the Bank is willing to accept the national systems as proposed by MINMAP, however, we expect MINMAP to take all the steps needed to ensure the smooth implementation such as:

- A dedicated commission in MINAMP to handle procurement under Bank projects with specialists that are knowledgeable of Bank procurement policy.
- Close monitoring by MINMAP of the project implementation and monthly reporting on the advancement in procurement and contract implementation.
- Periodical meetings with the World Bank Country Office in Yaounde to discuss procurement related portfolio performance issues.

7. Specific procurement arrangements for this project. For the current project, to which the transition arrangements apply, and given the emergency character of the project, it was agreed to rely on the special tender board of the existing Bank financed project PACA in lieu of a new special tender board for the proposed project. MINMAP has created on May 8, 2013 (Arrêté No006/A/MINMAP), a special tender board (*Commission Spéciale de Passation des Marchés* or “CSPM”) for the Flood Emergency Project through the revision of PACA’s CSPM decree (*arrêté*) extending its mandate to the proposed project. Under these arrangements, it is understood that the PCU (also known as *Maitre d’Ouvrage*) will be in charge of procurement and

contract execution without threshold limitations. MINMAP will also carry out prior review above a threshold to be defined in the decree. The decree defines inter alia: (i) the membership of the ‘‘*Commission Spéciale de Passation des Marchés*’’ - members should have adequate knowledge of applicable procurement procedures; (ii) the functions and responsibilities of the *Maitre d’ouvrage*/ PCU in carrying out procurement and contract execution - launching the call for tenders, award, signing the contracts and making payments; (iii) the role of MINMAP in conducting prior review and the prior review thresholds which shall not be less than the dismantled “*Commissions Spécialisées de Contrôle des Marchés*”. As soon as it is set up, the PCU of the Flood Emergency Project will take over from PACA’s PCU responsibility on procurement for the project implementation.

8. Procurement of Works. Works procured under this project consist of the rehabilitation of Yagoua and Maga irrigation sites, and the rehabilitation of the Logone River embankment and of Maga dam and its related hydraulic infrastructure. Civil works costing more than US\$ 10,000,000 equivalent will be procured through ICB. Other works contracts costing less than US\$ 10,000,000 equivalent will use NCB procurement methods in accordance with national procedures using Standard Bidding Document acceptable to IDA and subject to the additional requirements set forth or referred to above in the paragraph above mentioned “Requirements for National Competitive Bidding” of this annex 6. Small works estimated to cost less than US\$200,000 equivalent per contract may be procured through shopping, based on price quotation obtained from at least three contractors in response to a written invitation to qualified contractors. The procurement method “*Force Account*” may be used when it is the only practical procurement method, after Bank no-objection, and under the circumstances describe in the provision 3.9 of the procurement guidelines.

9. Procurement of Goods and Non Consulting Services. Under this project no major procurement of Goods or Non-Consulting Services through ICB is foreseen. Procurement of Goods under this project will include: vehicles, computers, software and office equipment and furniture necessary for the functioning of the project; as well as equipment and material for the implementation of component 2 of the project, namely the emergency management equipment and the furniture and installation of hydro-meteorological equipment. Taking into account the level of value added, and manufacturing/production capacity in the country, procurement of goods will be bulked where feasible (of similar nature and need at same time period) into bid packages of at least US\$1 million equivalent, so that they can be procured through suitable methods to secure competitive prices. Goods estimated to cost US\$1 million equivalent and above per contract will be procured through ICB, which will use the Bank’s Standard Bidding Documents. For others goods contracts costing less than US\$1 million equivalent, NCB procurement methods will be used in accordance with national procedures using Standard Bidding Document acceptable to IDA and subject to the additional requirements set forth or referred to above in paragraph on Requirements for National Competitive Bidding:

- Procurement of goods and non-consulting services, including those of readily available off-the-shelf maintenance of the office electronic equipment and other services such as printing, and editing, that cannot be grouped into bid packages of US\$100,000 or more, may be procured through prudent shopping in conformity with Clause 3.5 of the procurement guidelines.

- Based on country-specific needs and circumstances, shopping thresholds for the purchase of vehicles and fuel may be increased up to US\$500,000, considering the major cars dealers and oil providers are consulted.

10. Selection of Consultants. Consulting services will be used for the following activities: (i) impact evaluation; (ii) supervision of the rehabilitation works of Yagoua and Maga irrigation sites; (iii) supervision of the rehabilitation works of Logone river embankment and Maga dam and related hydraulic infrastructure; (iv) Technical assistance for a contingency plan, (v) Technical assistance for hydro-meteorological system assessment, data management equipment and capacity building, (vi) outreach and awareness raising, (vii) development of operation and maintenance plans and capacity building, (viii) dam safety experts etc. These consulting services will be procured with the most appropriate method among the following which are allowed by Bank guidelines and included in the approved procurement plan: Quality-and Cost-Based Selection (QCBS), Quality-Based Selection (QBS), Selection under a Fixed Budget (SFB), Least-Cost Selection (LCS):

- Selection based on Consultants' Qualifications (CQS) will be used for assignments that shall not exceed US\$300,000. Single Source selection shall also be used in accordance with the provisions of paragraphs 3.9 to 3.13 of the Consultant Guidelines, with IDA's prior agreement. All terms of reference will be subject to IDA Prior Review.
- Assignments of Engineering Designs & Contract Supervision in Excess of US\$300,000, and all other technical Assistance assignments above US\$100,000, must be procured on the basis of international short-lists and in accordance with the provisions of the paragraph 2.6 of the consultants' guidelines.
- Consultants for Services Meeting the Requirements of Section V of the consultant guidelines will be selected under the provisions for the Selection of Individual Consultants, through comparison of qualifications among candidates expressing interest in the assignment or approached directly.

11. Operational Costs financed by the project include, inter alia, utilities and offices supplies, vehicle operation, maintenance and insurance, building and equipment maintenance costs. They will be procured using the project's financial and administrative procedures included in the PIM and based on the annual work plan and budget. For services (car maintenance, computers maintenance, etc.) to be financed through operational costs, the project will proceed by service contracting for a defined period.

12. Trainings, Workshops, Seminars, Conferences and Study Tours will be carried out on the basis of approved annual work plan and budget that will identify the general framework of training and similar activities for the year, including the nature of training, study tours, workshops, the number of participants, and cost estimates.

Institutional arrangements for procurement and capacity assessment including risk mitigation measures

13. A Project Coordination Unit at SEMRY will be in charge of project implementation. However, during a transition period until a fully operational PCU at SEMRY is in place, the PCU of PACA will implement the proposed project. An assessment of these procurement

arrangements of the project has been carried out and the procurement assessment recommended the following mitigation measures for SEMRY: (i) recruitment of qualified procurement specialist, (ii) establishment of an administrative and financial manual to include procurement arrangements related to this project, and (iii) installation of a comprehensive record keeping system. Details are provided in a mitigation action plan. Furthermore, while acknowledging the motivation of the institutional reform transferring responsibilities to MINMAP (December 2011), several concerns have been raised by the World Bank on the technical and legal responsibility and related regulatory issues (see Procurement Environment).

14. Risks identified and proposed mitigation measures. The overall procurement risk for the project is rated as **high**. This is due to, among other factors, the country environment risk of corruption in procurement, especially on big contracts, and the very limited experience in the implementation of Bank-financed projects for the SEMRY. A mitigation action plan has been agreed which, if properly implemented and monitored, will bring this risk to Moderate. The action plan in Table 6.1 below needs to be implemented and appropriately monitored in order to bring the risk to **moderate**. In addition, it is also recommended the development of a comprehensive record keeping system.

Table 6.1: Procurement Action Plan

Elaboration and submission a procurement plan to the World Bank	First draft at appraisal and final version to be discussed during negotiations (completed)	SEMRY
Finalize and submit to IDA a satisfactorily version of the project implementation manual comprising a section on procurement for use by the project	Action completed by negotiations	SEMRY
Terms of reference of the PACA procurement specialist to be updated to incorporate Flood Emergency Project duties	Action completed by negotiations	PACA
Creation of a special tender board " <i>Comission spéciale de Passation des Marchés</i> " (CSPM), which is acceptable to the Bank, through the revision of the Agriculture Competitiveness Project (PACA) CSPM decree to extend its use to the current Flood Emergency Project.	Action completed by negotiations	SEMRY/MINEPAT/ MINMAP
Provide to the SEMRY PCU, two procurement assistants / junior procurement specialists from SEMRY with qualifications and experiences acceptable to the Bank, in order to assist the procurement specialist of PACA/ SEMRY in the Procurement Section SEMRY's PCU and reinforce the capacity and ownership of SEMRY.	Action completed by negotiations	SEMRY
Designate the Procurement Specialist of PACA PCU as a member and head of the Procurement Section of the SEMRY PCU.	6 months after effectiveness	PACA PCU/SEMRY
The World Bank recommends to strengthen the capacity of the PACA CSPM and the key staff of the procurement section of the SEMRY PCU including the procurement assistants/junior procurement specialists, on the procurement and consultant guidelines dated January, 2011	As needed during project life	PACA PCU through a consultant, training center or training session with the participation of the World Bank procurement staff, if need be

15. Institutional responsibility for procurement and implementation arrangements. The PCU of PACA and the one assigned to SEMRY are the key implementing entities and will be responsible for compliance with relevant procurement procedures. These implementing entities depending on the period of project implementation are responsible for ensuring that the necessary national clearances and approvals have been received before the no-objection requests are transmitted to the World Bank. Procurement contracts costing FCFA 5 million (US\$ 10,000 equivalent) or more will be conducted with the technical support of a special tender board to be set up by a decree (“*arrêté*”) of the Minister in charge of public contracts. This is a condition for effectiveness for the proposed project. For contract amounts of less than FCFA 5 million (US\$10,000 equivalent) the implementing entity will rely on an internal procurement committee. Details of the institutional arrangement and the responsibility of this internal procurement committee will be provided in the PIM.

16. Procurement Plan. A first draft Simplified Procurement Plan for project implementation has been elaborated, providing the basis for the procurement methods, and will be available for discussions. This plan, covering the first 18 months of project implementation, was reviewed at appraisal. The final version of this procurement plan was discussed and agreed upon by the Borrower and the project team at negotiations. It will be available in the project’s database and a summary will be disclosed on the Bank’s external website once the project is approved by the IDA Board of Executive Directors. The Procurement Plan will be updated in agreement with the Project Team annually or as required to reflect the actual project implementation needs and improvement in institutional capacity.

17. Publication of Results and Debriefing. Publication of results of the bidding process is required for all ICBs, Limited International Biddings (LIBs), and Direct Contracting. Publication should take place as soon as the no-objection is received, except for Direct Contracting which may be done quarterly and in a simplified format. Publication of results for NCB and Shopping should follow the requirements of the procurement code of Cameroon. The disclosure of results is also required for selection of consultants. All consultants competing for the assignment should be informed of the result of the technical evaluation (number of points that each firm received) before the opening of the financial proposals, and at the end of the selection process the results should be published. The publication of results in selection of consultants applies to all methods. For CQS and SSS, however, the publication may be done quarterly and in a simplified format. The publication of results may be done through Client Connection. Losing bidders/consultants shall be debriefed on the reasons why they were not awarded the contract if they request explanation.

18. Fraud and Corruption. The procuring entity as well as Bidders /Suppliers/Contractors /Services Providers shall observe the highest standard of ethics during the procurement and execution of contracts financed under the program in accordance with paragraphs 1.14 and 1.15 of the Procurement Guidelines and paragraphs 1.22 and 1.23 of the Consultants Guidelines. The Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants”, dated October 15, 2006, and revised in January, 2011, will apply to this project.

19. Frequency of Procurement Supervision. The capacity assessment of the implementing agency has recommended supervision missions to visit the field at least once a year to carry out a post review of procurement actions.

Summarized Procurement Plan

20. The main works, goods and non-consulting services to be procured in the project are listed in Annex Table 6.2.

Table 6.2: List of Works, Goods, and Non-Consulting Services Contract Packages to be Procured

Ref. No.	Description	Estimated Cost (US\$)	Procurement Method	Domestic Preference (yes/no)	Review by IDA (Prior/Post)	Comments/ Completion date
1	Rehabilitation works of Yagoua and Maga irrigation perimeters	38,859,000	ICB	No	Prior	June 2016
2	Rehabilitation works of Logone river embankments and dikes, and Maga dam Mayo Vrick	57,617,000	ICB	No	Prior	June 2016
3	Furniture and installation of hydro meteorological equipment	350,000	NCB	NO	Post	1 st contract by NCB / September 2014
4	Emergency management equipment	200,000	NCB	No	Post	September 2015

21. Prior review thresholds for Works, Goods and Non-consultant services. Contracts estimated to cost above US\$5 million for works and US\$500,000 for goods per contract, the first NCB contracts for works and goods, eventually others as identified in the procurement plan and all Direct Contracting will be subject to prior review by IDA.

22. The main consulting assignments of the project are listed in Annex Table 6.3.

Table 6.3: List of Consulting Assignments with Selection Methods and Time Schedule

Ref. No.	Description of Assignment	Estimated Cost (US\$)	Selection Method	Review by IDA (Prior / Post)	Comments/ Completion date
1	Supervision of the Rehabilitation works of Yagoua and Maga irrigation perimeters	1,047,000	QCBS	Prior	July 2016
2	Supervision of the Rehabilitation works of Logone river embankments, Maga dam and Mayo Vrick channel	1,688,000	QCBS	Prior	July 2016

Ref. No.	Description of Assignment	Estimated Cost (US\$)	Selection Method	Review by IDA (Prior / Post)	Comments/ Completion date
3	Technical Assistance for Hydro-meteorological system assessment , data management equipment specification and capacity building	200,000	QC	Prior	January 2014
4	Technical Assistance for Contingency Plan	1,300,000	QCBS	Prior	March 2016
5	Consultant to draft TORs for Contingency Plan	30,000	IC	Post	November 2013
6	Consultant in charge outreach	250,000	QCBS	Prior	September 2015
7	Financial audit for the first two years	50,000	LCS	Prior	June 2016
8	Mid-term evaluation of the project	50,000	IC	Post	September 2015
9	Impact Evaluation	100,000	IC	Prior	December 2016
10	Project Coordinator (2 years renewable)	75,000	IC	Prior	August 2015
11	Senior Accountant (2 years renewable)	48,000	IC	Prior	August 2015
12	Financial Management Specialist (2 years renewable)	65,000	IC	Prior	August 2015
12	Agricultural Specialist and Deputy Coordinator (2 years renewable)	65,000	IC	Prior	August 2015
13	Water Resource Specialist (2 years renewable)	65,000	IC	Prior	August 2015
14	Civil Engineer (2 years renewable)	65,000	IC	Prior	August 2015
15	3 Technicians for Agriculture, Water Management and Machinery (2 years renewable)	144,000	IC	Prior	48,000 US\$ by Contract August 2015
16	Recruitment of Procurement Specialist	65,000	IC	Prior	48,000 US\$ by Contract/August 2016
17	Agro-economist and Monitoring expert (2 years renewable)	65,000	IC	Prior	August 2015
18	Health, Safety and Environmental Specialist	58,000	IC	Prior	August 2015
19	Recruitment of 3 dam experts	210,000	IC	Prior	70,000 US\$ by panelist/March 2016
20	Development of Operation and Maintenance Plan and Capacity Building	150,000	QCBS	Post	
21	Social Assessment	20,000	IC	Post	December 2013
22	Resettlement Action Plan (RAP)	60,000	IC	Post	December 2013
23	Environmental and Social Impact Assessment (ESIA)	120,000	CQ	Prior	1 st contract by CQ/December 2013

23. Prior review thresholds for consultant services. Consultant services estimated to cost above US\$200,000 for firms and US\$100,000 for individuals per contract, and Single Source

selection of consultants (firms and individuals) will be subject to prior review by IDA. Similarly, all audit contracts will be subject to prior review, as will be the first contracts to be awarded in accordance with each selection method of consulting firms and individual consultants, regardless of contract amount. Short Lists of Consultants for Assignments of Engineering Designs & Contract Supervisions estimated to cost less than US\$300,000 and all other Consultancy Assignments whose estimated cost don't exceed US\$100,000 per contract may be composed entirely of national consultants in accordance with the provisions of paragraph 2.7 of the Consultant Guidelines.

Republic of Cameroon
Cameroon Flood Emergency Project

Annex 7: Implementation and Monitoring Arrangements

Project Oversight and General Supervision

1. The Borrower is represented by MINEPAT. The *Caisse Autonome d'Amortissement* (CAA) will manage the Designated Account (DA) and will sign withdrawal applications to IDA on behalf of the project. Overall responsibility for project implementation will be delegated to SEMRY. SEMRY is therefore the Project Implementation Entity (PIE). The project implementation mechanisms will comprise of a Project Steering Committee (PSC), a Regional Technical Monitoring Team (RTMT) and a Project Coordination Unit (PCU) hosted by SEMRY.
2. The Project Steering Committee (PSC) would be responsible for, inter alia: (i) approving the Project's Annual Work Plan and Budget prepared by the PCU; (ii) overseeing overall performance of the project and providing policy guidance; and (iii) identifying necessary Project adjustments based on the implementation status and results. It shall be chaired by a representative at the director level, of MINEPAT, with the Project Coordinator as secretary. The PSC will be comprised, inter alia, of (i) representatives of MINEPAT, MINADER, MINTP, MINEFI, MINEPDED, MINEE, CAA, Governor of the Far North Region, SEMRY and PACA; and (ii) one representative of each apex producer organization in the SEMRY zone (FUGRIMA and FUGRIYA). The PSC will meet at least twice a year.
3. The PSC will be supported by a RTMT (*Groupe Régional de Suivi Technique*), comprising the regional representatives of the main entities involved: MINEPAT, MINADER, MINTP, MINEPDED, MINEE, SEMRY, PACA; one representative of FUGRIMA and one representative of FUGRIYA. The RTMT will be chaired by the Governor of the Far North region of Cameroon. On behalf of the PSC, it will provide just-in-time project oversight and guidance, including inter alia: reviewing all documents and reports produced for submission to the Project Steering Committee through the PACA PCU or SEMRY PCU, as applicable; ensuring implementation of the recommendations of the Project Steering Committee; and monitoring annual work plans. The RTMT will meet quarterly or when the need deemed necessary.
4. The submission of a signed decree of MINEPAT formally establishing the Project Steering Committee and of a signed decree formally establishing the Regional Technical Monitoring Committee are effectiveness conditions for the proposed project.

Project Coordination and Management

5. The concession agreement (No 72/488, dated September 26 1972) confirmed the mandate of SEMRY includes the operation and maintenance of the hydraulic infrastructure. This concession agreement also confirmed that the Maga area belongs to the Logone River valley and is thus covered by the said concession agreement.
6. SEMRY will therefore be the PIE for the project and host the PCU, who will be in charge of project implementation. The submission of a signed subsidiary agreement between MINEPAT

and SEMRY formally designating SEMRY the responsibility for implementation of the project and hosting of the PCU is an effectiveness condition for the proposed project.

7. Project Coordination Unit (PCU): After a competitive selection agreeable to IDA and validated by the PSC, SEMRY on behalf of the Steering Committee will contract technical staff for the PCU. Composition of this team is as follows and will be maintained for the duration of the proposed project: (i) a Project Coordinator; (ii) an Agricultural Specialist / Assistant Project Coordinator; (iii) an Agronomist, who will be also responsible for the Monitoring and Evaluation (M&E); (iv) a Water Resources Management Specialist; (v) a Civil Engineer, (vi) a Health, Safety and Environmental Specialist, who will be responsible for emergency management, environmental, and social safeguards; (vii) three technicians (an Agricultural Machinery Technician, a Water Management Technician; an Agricultural Technician, (viii) a Procurement Specialist, (ix) a Financial Management Specialist, (x) a Senior Accountant (if needed); and (xi) Support staff (a secretary, three drivers). PCU staff will be initially contracted for duration of one year, renewable based on positive performance evaluation.

8. The PCU will facilitate implementation of the project, monitoring and evaluation, financial management, and procurement. The PCU will have the following responsibilities: (i) consolidating annual work programs and budgets; (ii) facilitating the implementation of project activities; (iii) ensuring that project implementation is carried out in conformity with the project implementing manuals: technical, M&E, financial, procurement, and disbursement procedures agreed between the PCU and the World Bank; (iv) monitoring and evaluation; and (v) preparing and transmitting technical, financial, environmental, and M&E reports to the PSC, RTMT, the World Bank, and other key stakeholders.

9. In a transition period, until a fully operational PCU has been established at SEMRY, the PCU of PACA will implement the proposed project. In this transition period the PACA PCU will ensure that procurement, financial management, social and environmental safeguards are implemented according to standards acceptable to The World Bank. MINEPAT shall issue a decree to formally assign the PACA PCU the responsibility for implementation of the project for the transition period. This decree is an effectiveness condition for the proposed project.

Project Implementation Manual

10. The Project Implementation Manual (PIM) details the organizational and technical procedures of the proposed project, including financial management and procurement. Two volumes of the PIM: one for technical, M&E, environmental, social, and institutional aspects and another for administration, procurement and financial management were submitted prior to negotiations and reviewed during negotiations.

Republic of Cameroon
Cameroon Flood Emergency Project

Annex 8: Project Preparation and Appraisal Team Members

Table 8.1: Project Preparation and Appraisal Team Members

Team Composition				
Bank Staff				
Name	Title	Specialization	Unit	UPI
Shelley McMillan	Sr. Water Resources Specialist	Task Team Leader (TTL)	AFTN3	243087
Manievel Sene	Sr. Rural Development Specialist	Rural Development (Co-TTL)	AFTA2	288470
Enagnon Ernest Eric Adda	Financial Management Specialist	Financial Management	AFTMW	278206
David Casanova	Sr. Irrigation Specialist	Irrigation	AFTA1	369611
Aissatou Diallo	Sr. Finance Officer	Financial Management	CTRLA	241610
Carl Christian Dingel	DRM Specialist	Disaster Risk Management	AFTN2	360813
Emeran Serge Evouna	Sr. Environmental Specialist	Environmental Safeguards	AFTN3	275867
Jeanne d'Arc Edima	Team Assistant	Program Assistant	AFCF1	303009
Claire Grisaffi	Water Engineer	Hydraulic Infrastructure	AFTN2	410919
Koffi Hounkpe	DRM Specialist	Disaster Risk Management	AFTN2	364229
Nevena Ilieva	Sr. Operations Officer	Operations Quality	AFTDE	86877
Richard James	Sr. Operations Officer	Operations Quality	AFTN2	20630
Kouami Messan	Sr. Procurement Specialist	Procurement	AFTPW	256789
Lucienne M. M'Baipor	Sr. Social Development Specialist	Social Safeguards	AFTCS	99989
Leoncie Niyonahabonye	Office Manager	Program Assistant	AFTN3	87519
Nneoma Veronica Nwogu	Counsel	Legal	LEGAM	374240
Satoru Ueda	Lead Water Resources Specialist	Dam Safety and Hydraulic Infrastructure	AFTN3	181034
Non-Bank Staff				
	Title	Office Phone	City	
Lazare Hoton	Economist (FAO)	+39 0657055 664	Rome	Italy

Republic of Cameroon
Cameroon Flood Emergency Project

Annex 9: Environmental and Social Safeguards Framework

I. Objectives

1. The Environmental and Social Screening and Assessment Framework (ESSAF) is consistent with Bank operational policies and procedures, investment operations subject to OP/BP 8.00, Rapid Response to Crises and Emergencies, and the guidance note for crises and emergency operations for application of Bank safeguard and disclosure policies. This ESSAF provides general policies, guidelines, codes of practice and procedures to be integrated into the implementation of World Bank- Cameroon Flood Emergency Project. The ESSAF describes the approach and principles to be followed to ensure due diligence in managing the potential adverse environmental and social impacts and risks associated with the project. More specifically, the ESSAF addresses the following issues: (i) minimization of environmental degradation; (ii) protection of human health; (iii) prevention or compensation of any loss of livelihood; and (iv) enhancement of positive environmental and social outcomes. This Framework has been developed to ensure compliance with the World Bank's safeguard policies during the implementation of the emergency project.

II. Project Description

2. The proposed IDA US\$ 108.00 million credit to the Republic of Cameroon would help finance the costs associated with the rehabilitation of key hydraulic infrastructure and improve disaster-preparedness in the Far North Region of Cameroon in accordance with OP8.00 following the emergency appeal issued by the Government on September 11, 2012.
3. The Project Development Objective (PDO) is to rehabilitate key hydraulic infrastructure and improve disaster-preparedness in target areas the Far North Region of Cameroon.
4. The project is designed around three major components (i) rehabilitation of key hydraulic infrastructure for flood protection and rice production; (ii) disaster risk and emergency management; and (iii) infrastructure operation and maintenance, project management.
5. **Component A – Rehabilitation of key hydraulic infrastructure for flood protection and rice production (US\$ 99.2 million - IDA):** This component will finance the rehabilitation of flood affected infrastructure, notably the rehabilitation of Maga dam, 70km of the Logone dyke and related infrastructure for flood protection, as well as the rehabilitation of the irrigation infrastructure for SEMRY rice schemes (7,500ha). Thereby the 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.
6. These major physical infrastructure works are based on the feasibility and detailed design studies conducted under PACA. The detailed design for the rehabilitation of the irrigation areas has already been completed, while the feasibility / detailed design preparation for the hydraulic infrastructure, i.e. Maga dam and Logone embankment, is currently ongoing, including

additional surveys and geological tests to inform the design. The design of the dam is to be reviewed by an independent Panel of Experts.

7. Subcomponent A.1 Rehabilitation of the Logone embankment (US\$ 18.2 million - IDA): Rehabilitation of the Logone embankment is expected to include the following activities:

- (i) Strengthening the embankment along the entire 70km length, from Pouss to Yagoua by restoring the embankment profile.
- (ii) Slope protection, including vegetation along upstream and downstream slopes to protect against surface erosion and rip rap/gabion protection at critical points.

8. Subcomponent A.2 Rehabilitation of Maga dam and related hydraulic infrastructure (US\$ 41 million - IDA): Rehabilitation of Maga dam is expected to include the following activities:

- (i) Strengthening the embankment structure by rehabilitating damaged sections, fixing internal erosion / piping, and restoring and amending the embankment profile, including possible upstream blanket, for critical areas along the entire 27km length in accordance with the improved design.
- (ii) Installation of adequate drainage in the dam structure to reduce the pore water pressure in the body and foundations of the dam, including downstream shell drainage /channels along the toe of the embankment.
- (iii) Installation of slope protection, where necessary, including vegetation along upstream and downstream slopes and gabion walls on the downstream slope and in the toe area to protect against wave impact and surface erosion and enhance overtopping resistance.
- (iv) Rehabilitation of spillway including gates and concrete structures and widening and deepening the Mayo Vrick channel to its original design.
- (v) Construction of additional emergency spillway to enhance its capacity if needed as recommended by the feasibility/detailed design. This may also suggest additional work at the Pouss weir along the Logone River, including installing gate structures to manage flows between the Logone River and Maga dam, as a future option.
- (vi) Complementary works (seepage control, drainage, protection works) as required in high risk sections, for example in lengths of the embankment at high risk of piping failures.

9. Subcomponent A.3 Rehabilitation of Irrigation Areas (US\$ 40 million - IDA): This activity will finance the rehabilitation of approximately 7,500 hectares of existing irrigation schemes (out of a total 11,500 ha), which are connected to the Logone embankment and Maga dam. The 7,500 hectares comprise of approximately 3200 hectares of the SEMRY I scheme at Yagoua and 4300 hectares of the SEMRY II scheme at Maga. The rehabilitation works focus on the sites, which are particularly degraded and play an important role for the drainage and rapid evacuation of water in this hydraulic system. Rehabilitation works consist of rehabilitating channels, access routes and other related infrastructure as well as re-leveling irrigation fields.

10. Component B - Disaster risk and emergency management (US\$ 2.6 million - IDA): The flood events of August / September 2012 in the 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 implement a contingency plan for the hydraulic

infrastructure and 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. The component will consist of two sub-components:

11. *Subcomponent B.1 Strengthening Hydro-meteorological Data Management (US\$ 0.6 million - IDA)* will support the design and installation of a hydro-meteorological monitoring system in the three main tributaries to Lake Maga, and rehabilitation of existing weather stations in the project area to better plan, operate the hydraulic infrastructure and be prepared for potential emergencies.

12. *Subcomponent B.2 Strengthening Emergency Management (US\$ 2.0 million - IDA)* will support SEMRY and local authorities to develop an operational contingency plan and ensure its full implementation and dissemination to population.

13. Component C – Infrastructure Operation and Maintenance, Project Management (US\$ 2.9 million - IDA): This component would provide institutional support for strengthening the capacity of SEMRY to sustainably manage, maintain and operate the hydraulic infrastructure. This will support the development of an operation and maintenance plan for the hydraulic infrastructure, including recommendations to ensure operation and maintenance beyond the project lifetime. This plan would include among others (i) a systematic review of current practices and systems; (ii) definition of the requirements for the new systems; and (iii) extended on the job training and support so that maintenance systems and techniques are embedded in the institution. Involving local people in basic surveillance will be considered, assuming instrumentation is appropriate and observation methods are well described. Furthermore this component will 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. The activities will be divided into two sub-components: *Subcomponent C.1 Institutional Strengthening (US\$ 0.25 million - IDA)* and *Subcomponent C.2 Project Implementation Support (US\$ 2.65 million - IDA)*.

14. Project Financing Plan – Summary Table

Components Sub-Component	Total (IDA)	
	<i>Sum of Total Cost (US\$ '000)</i>	<i>%</i>
A Rehabilitation of key hydraulic infrastructure for flood protection and rice production	99,210	91.9%
A.1) Rehabilitation of the Logone River Embankment	18,285	16.9%
A.2) Rehabilitation of Maga dam and related hydraulic infrastructure	41,020	38.0%
A.3) Rehabilitation of Irrigated Areas	39,905	36.9%
B Disaster Risk and Emergency Management	2,580	2.4%
B.1) Strengthening Hydro-meteorological Data Management	550	0.5%
B.2) Strengthening Emergency Management	2,030	1.9%
C Infrastructure Operation and Maintenance, Project Management	2,861	2.6%
C.1) Institutional Strengthening	250	0.2%
C.2) Project Implementation Support	2,611	2.4%
Sub Total	104,651	96.9%
Contingencies		
Contingencies	3,349	3.1%
Grand Total	108,000	100.00%

III. General Principles

15. Recognizing the emergency nature of the proposed emergency operation and the related need for providing immediate assistance, while at the same time ensuring due diligence in managing potential environmental and social risks, the ESSAF is based on the following principles:
16. The proposed operation will support several activities on which the detailed designs are not known during the combined preparation and appraisal mission. To ensure effective application of the World Bank's safeguard policies, the ESSAF provides guidance on the approach to be taken during Project implementation for the design of main activities and the planning of mitigation measures;
17. The on-going Agricultural Competitiveness Project i.e. PACA (P112635) will finance the feasibility and detailed design studies for the rehabilitation of the Maga Dam, the 70km of the Logone dyke and the irrigation schemes and the appropriate environmental and social assessments as required by World Bank safeguard policies;
18. An interim relocation will be done by the Government to avoid that the population should be harmed during the 2013 floods. A Resettlement Action Plan (RAP), for the specific activities will be prepared following the guidelines of OP/BP 4.12 if any land acquisition, involuntary resettlement or restriction of access to assets for project affected people is to occur and will included new PAPs and those who were relocated previously by the Government;

19. Employment opportunities arising from the project activities within the project areas will be targeted to the extent possible at the affected communities and households that lost their livelihoods as a result of the floods. In all activities which require consultations with local communities or beneficiaries, consultations will be conducted to elicit the views of the male and female population;

20. Consultation and disclosure requirements will be simplified to meet the special needs of this operation. This ESSAF will be disclosed in SEMRY, concerned sector ministries and other public places in Cameroon and in the World Bank InfoShop.

IV. Environmental and Social Screening and Assessment Framework

21. Considering the nature and magnitude of potential environmental and social impacts related to the rehabilitation and improvement works of the Maga dam and Logone embankment are expected to be **substantial**, but limited in scale and magnitude, as long as the rehabilitation scope is not extended to the foreseen buffer area of the infrastructure. The social risk related to the buffer area is huge as it can potentially involve several thousands of people. Therefore the project has been classified as Category A. The project is being prepared under OP 8.00 as an emergency operation so project preparation was expedited. Nevertheless appropriate environmental and social mitigation measures are taken into consideration for the design of the project activities.

22. The ESSAF is developed specifically for this proposed project, to ensure due diligence to avoid causing harm or exacerbating social tension and to ensure consistent treatment of social and environmental issues by the GoC and the service providers. The purpose of the ESSAF is also to assist the Project Implementation Unit (the main implementing agency) and all concerned public agencies in screening project-supported activities for their likely social and environmental issues, identifying documentation and preparation requirements and piloting the investments. The detailed descriptions of project-supported activities and their exact locations will be made available to facilitate the monitoring and evaluation of project implementation. In addition, the ESSAF is providing a framework for the establishment of guidelines for land acquisition and eventual compensation, codes of practice for the prevention and mitigation of potential environmental and social impacts, and safeguards procedures for inclusion in the Technical Specifications of Contracts.

23. Activities to be supported by the project are expected to have some adverse environmental and social impacts, so the following safeguards policies are triggered: Environmental Assessment (OP 4.01), Natural Habitats (OP 4.04), Pest Management (OP/BP 4.09), Physical Cultural Resources (OP/BP 4.11), Involuntary Resettlement (OP 4.12), Safety of Dams (OP 4.37) and Projects on International Waterways (OP 7.50).

A. Applicable World Bank Safeguards Policies

OP 4.12 - Involuntary Resettlement

24. The OP 4.12 policy is triggered to assist in management of involuntary resettlement, land acquisition or restriction of access to assets in the project areas, particularly during establishment of buffer zones for the Maga dam and the Logone dyke.

25. In 2012 floods in the Maga district affected 1,222 families. In the Logone-Chari district in the Far North Region 9,025 families were affected. To ensure the safety of people living in critical flood-prone areas in the vicinity of the Maga dam and the Logone dyke, the GoC intends to relocate these people before the commencement of the next rainy season from July-September 2013. Resettlement areas for this population are currently being prepared.

26. Given the immediate urgency to ensure the safety of these people the Government will need to relocate them before the preparation of a RAP. In view of this, an interim resettlement process will be defined in line with the policy principles of OP 4.12. This process will be documented in an Interim Resettlement Plan consisting of the following key elements: (i) identification of suitable temporary relocation areas, including an assessment of resettlement areas currently being prepared and housing arrangements; (ii) identification of the exact number of people and their assets who need to be temporarily relocated; (iii) consultations with families temporarily being resettled to inform them about the interim resettlement arrangements; (iv) moving allowance as well as other entitlements for assistance and; (v) timetable for resettlement with preference for this population to be the first group to be resettled in permanent resettlement locations.

27. The ongoing feasibility studies for the rehabilitation of the Maga dam and the Logone dyke will set limits for the protection zones of these 2 structures – during the construction period and for afterwards. The studies are expected to be completed in July 2013. Then, a RAP or RAPs acceptable to the Bank will be prepared taking into consideration the proposed protection areas defined by the feasibility studies. The RAP(s) may be done in phases, based on the appropriate technical approach for repairs/rehabilitation of the infrastructure as well as the number of PAPs, which could be in the range of several thousand persons. The exact number of PAPs will be determined in the detailed design studies. Such phasing will take account of the most urgent security and safety aspects. The RAP(s) will include procedures for identifying eligible PAPs, calculating and delivering compensation, and mechanisms for redress of dispute grievances. A social assessment and implement measures to minimize and mitigate adverse social impacts, particularly on poor and vulnerable groups. Well documented consultation mechanisms will be required to establish eligibility for compensation. The RAP(s) will be implemented prior to beginning of works on the project site. These people relocated will be covered under the RAP and entitled to the same benefits and assistance as all other people affected by the project.

OP 4.01 - Environmental Assessment

28. The project supports the rehabilitation of flood affected hydraulic infrastructure, notably the rehabilitation of Maga dam, the rehabilitation of 70km of the Logone dyke for flood protection and the rehabilitation of irrigation schemes. All these activities may have environmental and

social impacts that need to be correctly managed. Environmental impacts could include changes to river hydrology and ecology (see below), construction, waste, migration and/or influx of local populations. An Environmental and Social Impact Assessment (ESIA), including the appropriate environmental and social mitigation and management measures (ESMP), will be developed in project areas.

29. The requirement to carry out an in-depth environmental analysis as part of project preparation was waived as per OP8.0, but this will be needed prior the beginning of any civil works for rehabilitation. Due to the fact that the scope of rehabilitation works will be the same as the initial designs and is known, an ESIA (with ESMP) will be prepared, which will include appropriate institutional arrangements for effective implementation and monitoring of the mitigation measures, adequate budget, public consultations and disclosure arrangements. During the ESIA/ESMP preparation process, at least two main consultations will be organized: one during the finalization of the TORs and the second when the draft ESIA/ESMP is prepared.

OP 4.04 - Natural Habitats

30. This policy was triggered, as the sites to be rehabilitated host an important population of hippopotamus. This population might be threatened during the civil works. All measures will be taken to ensure that the hippopotamus population will not be subject to poaching activities nor will there be any major disruption to their natural habitat. Other impacts on biodiversity/ecology will also be monitored and appropriately addressed. Early in the process of ESIA preparation, the project team will engage environmental expertise to ensure the ESIA offers appropriate recommendations for design and mitigation to minimize disruption to natural habitats.

OP 4.09 - Pest Management

31. The rehabilitation of the irrigation schemes in Maga and Yagoua will likely increase the use of chemical pesticides, which could have negative environmental and health impacts (it should be noted that river and lake water is used for drinking purposes throughout the project area). The Project beneficiaries are likely to adopt integrated pest management practices. The project will address the requirements of OP 4.09 by updating and disclosing again, the Pest and Pesticide Management Plan (PPMP) of the ongoing Agricultural Competitiveness Project (P112635) four months after project effectiveness. The PPMP will include a number of actions which will reduce the exposure of the farming community to pesticides use in the agricultural and livestock production systems, as well as pesticides used for malaria control in the project areas. This ESSAF is providing the short term measures on handling pesticides (Annex 7), which will be used until the PPMP is re-disclosed.

OP 4.11 - Physical Cultural Resources

32. The proposed operation will involve significant excavations and movement of earth for the planned rehabilitation. During the development of the Environmental and Social Impact Assessment (ESIA), physical cultural resources will be taken into consideration and baselines defined. The ESMP which forms part of the ESIA will include clear procedures that will be required for identification, protection of cultural property from theft, and treatment of discovered

artifacts, and will be included in standard bidding documents. The ESSAF provides procedures for handling with “chance finds” during implementation project activities (Annex 4).

OP 4.37 – Safety of Dams

33. The Maga Dam is around 5 m in height, but 27 km in crest length and 620 million m³ in reservoir capacity. The dam has shown major defects in the embankment structure and deficiency in spillway capacity: the current spillway capacity is only 100 m³/s, whilst the incoming flow is more than 2,000 m³/s for 100 years return period floods. The potential overtopping and downstream flooding risk should therefore be considered high. Because of these reasons, despite the low height of the dam, the World Bank OP 4.37 – Safety of Dams - has been triggered to ensure sound technical design and rehabilitation works.

34. Appropriate quality and safety measures will be adopted for the design and rehabilitation works. A Panel of Experts comprising national and international dam safety experts shall review design, construction and emergency measures for the Maga Dam. Dam safety plans, including (i) a plan for construction supervision and quality assurance; (ii) an instrumentation plan; (iii) an operation and maintenance plan; and (iv) an emergency preparedness plan (EPP), which will be reviewed by IDA shall be prepared. While these plans are under preparation, a preliminary operation and maintenance plan and an interim contingency plan (the broad framework plan of the EPP) covering the period of rehabilitation works will be prepared and implemented. During rehabilitation works, the detailed EPP will be developed and shared with responsible offices. Suitable warning and communication measures will be established and the affected population will be trained in disaster preparedness and emergency management as per the emergency procedures. The Panel of Experts shall be in place within six months after effectiveness.

OP 7.50 – Projects on International Waterways

35. This policy is triggered because the rehabilitation of Maga dam and the Logone dyke in addition to rehabilitation of the irrigation schemes to be financed under the project are located on tributaries of the Lake Chad Basin, which are international waterways. The Riparian Notification process will be launched through the Lake Chad Basin Commission and the Government of Chad during project preparation before the negotiations. The two authorities will be requested to respond before the project effectiveness.

B. Management of Safeguards for Cameroon Flood Emergency Project

Year 1	ESSAF	<ul style="list-style-type: none">- Subproject screening- Ensure compliance- Provide guidance for implementation and monitoring of activities
	Dam Safety plans and an interim contingency/ emergency management plan	Panel of Experts - dam safety report (review of rehabilitation design and construction method)
	Short term resettlement solution	An official note confirming the details of compensatory measures to be undertaken:

		<p>(i) identification of suitable temporary relocation areas, including an assessment of resettlement areas currently being prepared and housing arrangements;</p> <p>(ii) identification of the exact number of people and their assets who need to be temporarily relocated;</p> <p>(iii) consultations with families temporarily being resettled to inform them about the interim resettlement arrangements;</p> <p>(iv) moving allowance as well as other entitlements for assistance, and</p> <p>(v) timetable for resettlement with preference for this population to be the first group to be resettled in permanent resettlement locations.</p> <p>A first draft of the note has been sent to the World Bank and the safeguards specialists will review and oversee the process to ensure compliance with OP 4.12.</p>
Year 2	ESIA/ESMP	<ul style="list-style-type: none"> - Subproject screening - Guide the ongoing implementation of safeguards procedures - Monitoring and reporting on environmental and social safeguards
	RAP	<ul style="list-style-type: none"> - Describe procedures for identifying eligible project-affected people, calculating and delivering compensation, and mechanisms for consultations and redress of dispute grievances - The RAP will also take into consideration all relevant information agreed in the interim arrangements
	Social Assessment	<ul style="list-style-type: none"> - Identify risks and appropriate mitigation measures to minimize and mitigate adverse social impacts, particularly on poor and vulnerable groups.
	Dam Safety	<ul style="list-style-type: none"> - Operation and Maintenance Plan - Contingency Plan

C. Other World Bank Safeguards Policies

36. OP 4.10 – Indigenous People: The Policy is not triggered because there are no indigenous people present in the project areas.

37. OP 4.36 – Forests: The policy is not triggered as the project does not anticipate any impacts on the health and quality of forests or the rights and welfare of people and their level of dependence upon or interaction with forests. The project areas are located in the dry savannah ecological region.

38. OP 7.60 – Projects in Disputed Areas: The project activities will not be located in a disputed area. The policy is not triggered.

V. Responsibilities for environmental and social safeguards screening, implementation and mitigation

39. SEMRY will be the main agency responsible for safeguards implementation. In addition, several Ministries and other public agencies will be indirectly involved in the implementation of the project, including the Ministry of Agriculture and Rural Development; the Ministry of Public Works; the Ministry of Land Management, etc. The Project Implementation Unit reporting to Agriculture and Rural Development Ministry will engage appropriate environmental and social expertise to ensure that environmental and safeguards are correctly handled. The PCU will oversee implementation and monitoring of the ESMP for the project. The Ministry of Environment, Nature Protection and Sustainable Development (MINEPDED) will also undertake regular monitoring field visit to ensure full compliance with the ESMP.

40. The selection, design, contracting, monitoring and evaluation of subprojects will be consistent with the following guidelines, codes of practice and requirements:

- (a) Attachment 1: A list of negative characteristics rendering a proposed subproject ineligible for selection;
- (b) Attachment 2: Guidelines for preparation of the Environmental and Social Management Plan (ESMP);
- (c) Attachment 3: Guidelines for Land and Asset Acquisition, Entitlements and Compensation; with additional tools:
 - i. Land Acquisition Assessment Data Sheet,
 - ii. Schedule of Compensation of Asset Requisition;
- (d) Attachment 4: Procedures for the protection of physical cultural resources, including the procedures for chance discovery of archaeological artifacts, unrecorded graveyards and burial sites;
- (e) Attachment 5: Relevant elements of the codes of practice for the prevention and mitigation of potential environmental impacts;
- (f) Attachment 6: A sample Environmental Safeguards procedures for Inclusion in the Technical Specifications of Contracts.

VI. Capacity building and monitoring of safeguard framework implementation

41. SEMRY has very limited experience with World Bank safeguards policies even though there are World Bank-funded projects in the agriculture and rural development sector and SEMRY is one of the beneficiaries of the Agriculture Competitiveness Project. The project will therefore draw on the experience and expertise of the ongoing Agriculture Competitiveness Project during an interim period. The PCU will also be reinforced with an Environmental and Social specialist (ESS) who will be responsible for handling on the daily basis the implementation safeguards aspects of the project. He/She will work closely with MINADER and MINEPDED, local

communities and local NGOs. If needed, further support will be provided through the recruitment of consultants. As part of the capacity building program to be financed through the proposed credit, the relevant staff of the concerned Ministries, and contracted service providers will receive training in the application of the ESSAF. The capacity building program also includes training on longer-term environmental and social due-diligence for the project, focusing on ESIA and implementation of ESMP. When supervising the project, the World Bank task team will assess the implementation of the ESSAF and recommend additional strengthening measures, if required. Information sharing with the public will be part of the capacity building plan, to be accomplished with the help of local media.

VII. Consultation and disclosure

42. The implementing agency (SEMRY) will consult project-affected people and local non-governmental organizations on a regular basis regarding the project's likely environmental and social aspects, and will take their views into account during the design and implementation of the project. At least two public consultations will be organized for ESIA/ESMP. The first consultation will take place during the preparation of the ToRs and the other one during the preparation of the report.

43. The implementing agency will initiate these consultations as early as possible, and to ensure that the consultations are meaningful, it will provide relevant material in a timely manner prior to consultation, in a form and in language(s) that are understandable and accessible to the group being consulted. As required for all Category A projects, when the studies are completed, the implementing agency will provide these groups with a summary of the ESIA/ESMP.

44. The Government will also ensure that the interim arrangements on resettlement will be defined after consultation with affected peoples and relevant consultation evidence produced (see detail on interim arrangement note).

45. The elaboration and implementation of the ESSAF will require participation of relevant stakeholders in (i) the preparation of the ESIA and ESMP; (ii) the preparation of the social assessment; (iii) the preparation of the RAP(s). The project stakeholders will also be engaged throughout the implementation of mitigation and resettlement plans. The PCU will make all reasonable efforts to consult with the affected people and communities, as well as with relevant NGOs, to ensure that local community needs have been incorporated and potential conflicts resolved. During the implementation, the project will use the grievance redress mechanism to support project risk management, information dissemination, enable early warning, and increase accountability.

46. The ESSAF will be shared with all relevant stakeholders, including public agencies and parastatals involved in project implementation, development partners, NGOs, and the affected communities. The ESSAF will be disclosed within the country by SEMRY in French and English. It will also be made available at the World Bank Infoshop prior to project approval. Specific safeguards documents including mitigation plans that are prepared subsequently will also be disclosed within six months from project effectiveness. Finally, the PCU will make the draft reports publicly available to project-affected groups, local non-governmental organizations, involved communities and government agencies at the local and national level (Ministries),

Regional Delegates of Ministries and local authorities (Mayo Danay and Logone), and relevant Communities.

VIII. Implementation support

47. Regular Bank reviews to assess progress on environment and social due-diligence, achievement of overall objectives, as well as the role of the different partners will be done and if needed measures will be proposed to adjust or reorient the project, if needed. Guidelines on the type of information needed and the presentation of feedback will also be highlighted during this review process.

Attachment 1
List of Negative Subproject Attributes

1. Subprojects with any of the attributes listed below will be ineligible for support under the proposed Cameroon Flood Emergency Project.

Attributes of Ineligible Subprojects: General Characteristics
-
Pesticides <ul style="list-style-type: none">- Requiring pesticides that fall in WHO classes IA, IB, or II.
Solid Waste <ul style="list-style-type: none">- New disposal site or significant expansion of an existing disposal site.
Irrigation <ul style="list-style-type: none">- New irrigation and drainage schemes.- Significant expansion of existing irrigation and drainage schemes.
Dams <ul style="list-style-type: none">- Construction and rehabilitation of dams more than 5 meters high.
Forests <ul style="list-style-type: none">- Activities that have the potential to have impacts on the health and quality of forests or the rights and welfare of people and their level of dependence upon or interaction with forests.
Income Generating Activities <ul style="list-style-type: none">- Activities involving the use of fuel wood, including trees and bush.- Activities involving the use of hazardous substances.
Roads <ul style="list-style-type: none">- Construction of new road out of existing road networks

Attachment 2

Guidelines for preparation of the Environmental and Social Management Plan (ESMP)

1. Under the ESIA process, once the potential impacts of the relevant activities have been identified, the next step of the ESIA process involves the identification and development of measures aimed at eliminating, offsetting, and/or reducing impacts to levels that are environmentally acceptable during implementation and operation of the Project. The ESMP should describe the identified negative environmental and social impacts, proposed mitigation measures, responsibilities for implementation of these measures, timeline for implementation and indicative budget for each item. Annex C of OP 4.01 on Environmental Assessment¹⁴ provides generic guidelines for development of an ESMP.

Description of mitigation measures

2. Feasible and cost effective measures to minimize adverse impacts to acceptable levels should be specified with reference to each identified impact. The plan includes compensatory measures if mitigation measures are not feasible, cost-effective, or sufficient. Specifically, the ESIA/ESMP should:

- Identify and summarize all anticipated significant adverse environmental impacts, including those involving involuntary resettlement;
- Describe each mitigation measure, including the type of impact to which it relates and the conditions under which it is required;
- Estimate any potential environmental impacts of these measures; and
- Provide linkage with any other mitigation plan (e.g. for involuntary resettlement) required for the Project.

Monitoring program

3. In order to ensure that the proposed mitigation measures have the intended results and comply with national standards and donor requirements, an environmental performance monitoring section should be included in the ESMP. The ESMP identifies monitoring objectives and specifies the type of monitoring, with linkages to the impacts assessed and the mitigation measures described in the ESMP. The monitoring program should give details of the following:

- Monitoring indicators to be measured for evaluating the performance of each mitigation measure (for example national standards, engineering structures, extent of area replanted, etc.);
- Monitoring mechanisms and methodologies;
- Monitoring frequency; and
- Monitoring locations.

Capacity development and training

4. The ESMP will draw on the existence, role and capability of environmental units on site or at the implementing agency and ministry levels. If necessary the ESMP will include actions to

¹⁴ OP 4.01, Annex C, World Bank, available from:

<http://web.worldbank.org/WBSITE/EXTERNAL/PROJECTS/EXTPOLICIES/EXTOPMANUAL/0,,contentMDK:20065218~menuPK:64701637~pagePK:64709096~piPK:64709108~theSitePK:502184,00.html>

strengthen environmental and social capability in the agencies responsible for its implementation.

Institutional arrangements

5. Institutions/entities responsible for implementing mitigation measures and for monitoring their performance should be clearly identified. Where necessary, mechanisms for institutional coordination should be identified, as monitoring often involves more than one institution.

Implementing schedules and cost estimates

6. The ESMP provides timing, frequency, and duration of mitigation, monitoring and capacity development measures with links to overall implementation schedule of the Project, as well as related capital and recurrent cost and sources of funding. The RAP will include an evaluation of population's assets to be compensated and a budget for the compensation, training needs, monitoring and evaluation. The plan for the ESMP should be specific in its description of the individual mitigation and monitoring measures and its assignment of institutional responsibilities. The Project's overall planning, design, budget and implementation must integrate the cost of the plan and the budget of the RAP to ensure that funds will be secured for the implementation of the ESMP's plan, the payment of the RAP's activities, supervision, monitoring and evaluation of these activities.

Attachment 3
Guidelines for Land and Asset Acquisition, Entitlements and Compensation

I. Objectives

1. Resettlement and land acquisition will be kept to a minimum, and will be carried out in accordance with these guidelines. Activities that would require demolishing houses or acquiring productive land should be carefully reviewed to minimize or avoid their impacts through alternative alignments. No land or asset acquisition may take place outside of these guidelines. A format for Land Acquisition Assessment Data Sheet is attached as Attachment 3(i).
2. These guidelines provide principles and instructions to compensate negatively affected persons to ensure that they will be assisted to improve, or at least to restore, their living standards, income earning or production capacity to pre-project levels regardless of their land tenure status.

II. Categorization

3. A full Resettlement Action Plan (RAP) must be produced even if only one person is affected due to land acquisition and/or physical relocation. As the RAP cannot be prepared prior to project appraisal as the project is under OP/BP 8.0, it was agreed that it will be prepared once the technical design and the rehabilitation scope of the works are known.

III. Eligibility

4. PAPs are identified as persons whose livelihood is directly affected by the project due to acquisition of the land owned or used by them. PAPs deemed eligible for compensation are:
 - (i) those who have formal legal rights to land, including recognized customary and traditional rights;
 - (ii) those who do not have such formal legal rights to land at the time the census begins, but have a claim to such land or assets – provided such claims are recognized under the laws of the country or become recognized through a process identified in the resettlement plan; and
 - (iii) those who have no recognizable legal right or claim to land they are occupying.

5. Persons covered under (i) and (ii) are provided compensation for the land they lose, and other assistance (e.g. moving allowance; residential housing or housing sites; agricultural sites, as required; and, other support and development assistance). Persons covered under (iii) are provided resettlement assistance (which may consist of land, other assets, cash, employment, etc. as appropriate) in lieu of compensation for the land they occupy, and other assistance, as necessary, to achieve the objectives set out in this policy, if they occupy the project area prior to a cut-off date established by the Borrower and acceptable to the Bank. Persons who encroach on the area after the cut-off date are not entitled to compensation or any other form of resettlement assistance. All persons included in (i), (ii), or (iii) are provided compensation for loss of assets other than land.

IV. Compensation Principles

6. Involuntary resettlement should be avoided where feasible, or minimized, exploring all viable alternative project designs. Where it is not feasible to avoid resettlement, resettlement activities should be conceived and executed as sustainable development programs, providing sufficient investment resources to enable the persons displaced by the project to share in project benefits. Displaced persons should be meaningfully consulted and should have opportunities to

participate in planning and implementing resettlement programs. Displaced persons should be assisted in their efforts to improve their livelihoods and standards of living or at least to restore them, in real terms, to pre-displacement levels or to levels prevailing prior to the beginning of project implementation, whichever is higher.⁴

7. The involuntary resettlement policy covers direct economic and social impacts that both result from Bank-assisted investment projects, and are caused by

- (i) the involuntary taking of land resulting in
 - (a) relocation or loss of shelter;
 - (b) loss of assets or access to assets; or
 - (c) loss of income sources or means of livelihood, whether or not the affected persons must move to another location; or
- (ii) the involuntary restriction of access to legally designated parks and protected areas resulting in adverse impacts on the livelihoods of the displaced persons.

8. This policy applies to all components of the project that result in involuntary resettlement, regardless of the source of financing. It also applies to other activities resulting in involuntary resettlement, that in the judgment of the Bank, are

- (i) directly and significantly related to the Bank-assisted project,
- (ii) necessary to achieve its objectives as set forth in the project documents; and
- (iii) carried out, or planned to be carried out, contemporaneously with the project.

9. The project implementation agencies will ensure timely provision of the following means of compensation to affected peoples:

- (i) Project affected peoples losing access to a portion of their land or other productive assets with the remaining assets being economically viable are entitled to compensation at a replacement cost for that portion of land or assets lost to them. Compensation for the lost assets will be made according to the following principles:
 - (a) replacement land with an equally productive plot, cash or other equivalent productive assets;
 - (b) materials and assistance to fully replace solid structures that will be demolished;
 - (c) replacement of damaged or lost crops and trees, at market value;
 - (d) other acceptable in-kind compensation;
 - (e) in case of cash compensation, the delivery of compensation should be made in public, i.e., at the Community Meeting; and
 - (f) in case of physical relocation, provision of civic infrastructure at the resettlement sites.
- (ii) Project affected peoples losing access to a portion of their land or other economic assets rendering the remainder economically non-viable will have the options of compensation for the entire asset by provision of alternative land, cash or equivalent productive asset, according to the principles in (i) a-d above.

10. In projects involving involuntary restriction of access to legally designated parks and protected areas, the nature of restrictions, as well as the type of measures necessary to mitigate adverse impacts, is determined with the participation of the displaced persons during the design and implementation of the project. In such cases, the borrower prepares a process framework acceptable to the Bank, describing the participatory process by which

- (i) specific components of the project will be prepared and implemented;
- (ii) the criteria for eligibility of displaced persons will be determined;
- (iii) measures to assist the displaced persons in their efforts to improve their livelihoods, or at least to restore them, in real terms, while maintaining the sustainability of the park or protected area, will be identified; and
- (iv) potential conflicts involving displaced persons will be resolved.

V. Consultation Process

11. The PCU will ensure that all occupants of land and owners of assets located in a proposed subproject area are consulted. Community meetings will be held in each affected district and village to inform the local population of their rights to compensation and options available in accordance with these Guidelines. The Minutes of the community meetings shall reflect the discussions held; agreements reached, and include details of the agreement, based on the format provided in Attachment 3(ii).

12. The PMU shall provide a copy of the Minutes to affected people and confirm in discussions with each of them, their requests and preferences for compensation, agreements reached, and any eventual complaint. Copies will be recorded in the posted project documentation and be available for inspection during supervision.

VI. Complaints and Grievances

13. Initially, all complaints should be registered by the PCU, which shall establish a register of resettlement/compensation related grievances and disputes mechanism. The existence and conditions of access to this register (where, when, how) shall be widely disseminated within the community/town as part of the consultation undertaken for the sub-project in general. A committee of knowledgeable persons, experienced in the subject area, shall be constituted at a local level as a Committee to handle first instance dispute/grievances. This group of mediators attempting amicable mediation/litigation in first instance will consist of the following members: (i) Head of District; (ii) Legal advisor; (iii) Local Representative within the elected Council; (iv) Head of Community Based Organization; and (v) Community leaders. This mediation committee will be set up at local level by the implementation agency on an “as-needed” (i.e. it will be established when a dispute arises in a given community).

14. When a grievance/dispute is recorded as per above-mentioned registration procedures, the mediation committee will be established, and mediation meetings will be organized with interested parties. Minutes of meetings will be recorded. The existence of this first instance mechanism will be widely disseminated to the affected people as part of the consultation undertaken for the sub-project in general. It is important that these mediation committees be set up as soon as RAP preparation starts. Disputes documented e.g. through socio-economic surveys should be dealt with by appropriate mediation mechanisms which must be available to cater for

claims, disputes and grievances at this early stage. A template form for claims should be developed and these forms be collated on a quarterly basis into a database held at project level.

VII. Verification

15. The Mediation Meeting Minutes, including agreements of compensation and evidence of compensation made shall be provided to the Municipality/district, to the supervising engineers, who will maintain a record hereof, and to auditors and socio-economic monitors when they undertake reviews and post-project assessment. This process shall be specified in all relevant project documents, including details of the relevant authority for complaints at the municipal/district or implementing agency level.

Attachment 3(i)
Land Acquisition Assessment Data Sheet
(To be used to record information on all land to be acquired)

1. Quantities of land/structures/other assets required:
2. Date to be acquired:
3. Locations:
4. Owners:
5. Current uses:
6. Users:
 - Number of Customary Claimants:
 - Number of Squatters:
 - Number of Encroachers:
 - Number of Owners:
 - Number of Tenants:
 - Others (specify): _____ Number: _____
7. How land/structures/other assets will be acquired (identify one):
 - Donation
 - Purchase
8. Transfer of Title:
 - Ensure these lands/structures/other assets are free of claims or encumbrances.
 - Written proof must be obtained (notarized or witnessed statements) for the voluntary donation, or acceptance of the prices paid from those affected, together with proof of title being vested in the community, or guarantee of public access, by the title-holder.
9. Describe grievance mechanisms available:

Attachment 3(ii)
Schedule of Compensation of Asset Requisition

Summary of Affected Unit/Item	Units to be Compensated	Agreed Compensation
a. Urban/agricultural land (m ²):	_____	_____
b. Houses/structures to be demolished (units/m ²):	_____	_____
c. Type of structure to be demolished (e.g. mud, brick, cement block, etc.):	_____	Not Applicable.
d. Trees or crops affected:	_____	_____
e. Water sources affected:	_____	_____

Signatures of local community representatives, Sheikh/Head of Tribe:

Include record of any complaints raised by affected persons:

Map attached (showing affected areas and replacement areas):

Attachment 4
Protection of Physical Cultural Resources

1. Physical cultural resources include monuments, structures, works of art, or sites of significance points of view, and are defined as sites and structures having archaeological, historical, architectural, or religious significance, and natural sites with cultural values. This includes cemeteries, graveyards and graves.
2. The proposed emergency operation will consist of the rehabilitation of Maga dam and Logone dyke. Provision of flood protection and erosion prevention of embankments near populated and agricultural areas will also be supported by the project. The following procedures for identification, protection from theft, and treatment of discovered artifacts should be followed and included in standard bidding documents as provided in Attachment 6.

Chance Find Procedures

3. Chance find procedures will be used as follows:
 - (a) Stop the construction activities in the area of the chance find;
 - (b) Delineate the discovered site or area;
 - (c) Secure the site to prevent any damage or loss of removable objects. In cases of removable antiquities or sensitive remains, a night guard shall be present until the responsible local authorities and the Ministry of Culture take over;
 - (d) Notify the supervisory Engineer who in turn will notify the responsible local authorities and the Ministry of Culture and Arts immediately (within 48 hours or less);
 - (e) Responsible local authorities and the Ministry of Culture and Arts would be in charge of protecting and preserving the site before deciding on subsequent appropriate procedures. This would require a preliminary evaluation of the findings to be performed by the archeologists of the Ministry of Culture and Arts (within 4 days). The significance and importance of the findings should be assessed according to the various criteria relevant to cultural heritage; those include the aesthetic, historic, scientific or research, social and economic values;
 - (f) Decisions on how to handle the finding shall be taken by the responsible authorities and the Ministry of Culture and Arts. This could include changes in the layout (such as when finding an irremovable remain of cultural or archeological importance) conservation, preservation, restoration and salvage;
 - (g) Implementation for the authority decision concerning the management of the finding shall be communicated in writing by the Ministry of Culture and Arts; and
 - (h) Construction work could resume only after permission is given from the responsible local authorities and the Ministry of Culture and Arts concerning safeguard of the heritage.
4. These procedures must be referred to as standard provisions in construction contracts, when applicable. During project supervision, the Site Engineer shall monitor the above regulations relating to the treatment of any chance find encountered are observed.
5. Relevant findings will be recorded in World Bank Implementation Status Reports (ISRs), and Implementation Completion Reports (ICRs) will assess the overall effectiveness of the project's cultural property mitigation, management, and activities, as appropriate.

Attachment 5
Codes of Practice for Prevention and Mitigation of Environmental Impacts

Potential Impacts	Prevention and Mitigation Measures
Dam rehabilitation work Limit of water flow downstream Increase of accidents Increase of number workers in the project areas Increase of noise and pollution	Prohibition of any disruption of the water flow Individual safety protection and emergency management /contingency plan to be prepared The non-specialized workforce will in priority be recruited in the project areas ESMP offers appropriate mitigation measure
Borrow sites Erosion of land Involuntary resettlement	Design to prevent soil erosion and maintain slope stability Avoid to have a borrow area close of the settlements
Roads	
<ul style="list-style-type: none"> • Rehabilitation of access road. 	
Disruption of drainage: <ul style="list-style-type: none"> • Hampers free drainage, causes stagnant pools of water. • Increased sediments into ponds, streams and rivers due to erosion from road tops and sides. • Increased run-off and flooding. 	<ul style="list-style-type: none"> • Design to provide adequate drainage and to minimize changes in flows, not limited to the road reserve. • Provision of energy dissipaters, cascades, steps, and checks dams. • Provision of sufficient number of cross drains. • Balancing of cut and fill. • Revegetation to protect susceptible soil surfaces. • Rehabilitation of borrow areas.
Erosion: <ul style="list-style-type: none"> • Erosion of land downhill from the road bed, or in borrow areas. • Landslides, slips or slumps. • Bank failure of the borrow pit. 	<ul style="list-style-type: none"> • Design to prevent soil erosion and maintain slope stability. • Construction in the dry season. • Protection of soil surfaces during construction. • Physical stabilization of erodible surfaces through turfing, planting a wide range of vegetation, and creating slope breaks. • Rehabilitation and re-grading of borrow pits and material collection sites.

Potential Impacts	Prevention and Mitigation Measures
Loss of vegetation.	<ul style="list-style-type: none"> • Balancing of cut and fill. • Revegetation to protect susceptible soil surfaces. • Minimize loss of natural vegetation during construction. • Revegetation and replanting to compensate any loss of plant cover or tree felling.
Loss of access.	<ul style="list-style-type: none"> • Design to include accessibility to road sides in case roadbed is raised. • Alternative alignments to avoid bisecting villages by road widening.
Impacts during construction: <ul style="list-style-type: none"> • Fuelwood collection. • Disease due to lack of sanitation. • Introduction of hazardous wastes. • Groundwater contamination (oil, grease). • Accidents during construction. • Potential impacts to cultural property. 	<ul style="list-style-type: none"> • Provision of fuel at work camps to prevent cutting of firewood. • Provision of sanitation at work camps. • Removal of work camp waste, proper disposal of oil, bitumen and other hazardous wastes. • Management of construction period worker health and safety. • Use archaeological chance find procedures and coordinate with appropriate agencies.
• Increased migration from nearby cities.	<ul style="list-style-type: none"> • Provide comprehensive community participation in planning, and Migration issue to be resolved through local conflict resolution system.

Attachment 6

Safeguards Procedures for Inclusion in the Technical Specifications of Contracts

I. General

1. The Contractor and his employees shall adhere to the mitigation measures set down and take all other measures required by the Engineer to prevent harm, and to minimize the impact of his operations on the environment.
2. The Contractor shall not be permitted to unnecessarily strip clear the right of way. The Contractor shall only clear the minimum width for construction and diversion roads should not be constructed alongside the existing road.
3. Remedial actions which cannot be effectively carried out during construction should be carried out on completion of each Section of the road (earthworks, pavement and drainage) and before issuance of the Taking Over Certificate:
 - (a) these sections should be landscaped and any necessary remedial works should be undertaken without delay, including grassing and reforestation;
 - (b) water courses should be cleared of debris and drains and culverts checked for clear flow paths; and
 - (c) borrow pits should be dressed as fish ponds, or drained and made safe, as agreed with the land owner.
4. The Contractor shall limit construction works to between 6 am and 7 pm if it is to be carried out in or near residential areas.
5. The Contractor shall avoid the use of heavy or noisy equipment in specified areas at night, or in sensitive areas such as near a hospital.
6. To prevent dust pollution during dry periods, the Contractor shall carry out regular watering of earth and gravel haul roads and shall cover material haulage trucks with tarpaulins to prevent spillage.

II. Transport

7. The Contractor shall use selected routes to the project site, as agreed with the Engineer, and appropriately sized vehicles suitable to the class of road, and shall restrict loads to prevent damage to roads and bridges used for transportation purposes. The Contractor shall be held responsible for any damage caused to the roads and bridges due to the transportation of excessive loads, and shall be required to repair such damage to the approval of the Engineer.
8. The Contractor shall not use any vehicles, either on or off road with grossly excessive, exhaust or noise emissions. In any built up areas, noise mufflers shall be installed and maintained in good condition on all motorized equipment under the control of the Contractor.
9. Adequate traffic control measures shall be maintained by the Contractor throughout the duration of the Contract and such measures shall be subject to prior approval of the Engineer.

III. Workforce

10. The Contractor should whenever possible locally recruit the majority of the workforce and shall provide appropriate training as necessary.
11. The Contractor shall install and maintain a temporary septic tank system for any residential labor camp and without causing pollution of nearby watercourses.
12. The Contractor shall establish a method and system for storing and disposing of all solid wastes generated by the labor camp and/or base camp.
13. The Contractor shall not allow the use of fuel wood for cooking or heating in any labor camp or base camp and provide alternate facilities using other fuels.
14. The Contractor shall ensure that site offices, depots, asphalt plants and workshops are located in appropriate areas as approved by the Engineer and not within 500 meters of existing residential settlements and not within 1,000 meters for asphalt plants.
15. The Contractor shall ensure that site offices, depots and particularly storage areas for diesel fuel and bitumen and asphalt plants are not located within 500 meters of watercourses, and are operated so that no pollutants enter watercourses, either overland or through groundwater seepage, especially during periods of rain. This will require lubricants to be recycled and a ditch to be constructed around the area with an approved settling pond/oil trap at the outlet.
16. The contractor shall not use fuel wood as a means of heating during the processing or preparation of any materials forming part of the Works.

IV. Quarries and Borrow Pits

17. Operation of a new borrow area, on land, in a river, or in an existing area, shall be subject to prior approval of the Engineer, and the operation shall cease if so instructed by the Engineer. Borrow pits shall be prohibited where they might interfere with the natural or designed drainage patterns. River locations shall be prohibited if they might undermine or damage the river banks, or carry too much fine material downstream.
18. The Contractor shall ensure that all borrow pits used are left in a trim and tidy condition with stable side slopes, and are drained ensuring that no stagnant water bodies are created which could breed mosquitoes.
19. Rock or gravel taken from a river shall be far enough removed to limit the depth of material removed to one-tenth of the width of the river at any one location, and not to disrupt the river flow, or damage or undermine the river banks.
20. The location of crushing plants shall be subject to the approval of the Engineer, and not be close to environmentally sensitive areas or to existing residential settlements, and shall be operated with approved fitted dust control devices.

V. Earthworks

21. Earthworks shall be properly controlled, especially during the rainy season.
22. The Contractor shall maintain stable cut and fill slopes at all times and cause the least possible disturbance to areas outside the prescribed limits of the work.
23. The Contractor shall complete cut and fill operations to final cross-sections at any one location as soon as possible and preferably in one continuous operation to avoid partially completed earthworks, especially during the rainy season.

24. In order to protect any cut or fill slopes from erosion, in accordance with the drawings, cut off drains and toe-drains shall be provided at the top and bottom of slopes and be planted with grass or other plant cover. Cut off drains should be provided above high cuts to minimize water runoff and slope erosion.

25. Any excavated cut or unsuitable material shall be disposed of in designated tipping areas as agreed to by the Engineer.

26. Tips should not be located where they can cause future slides, interfere with agricultural land or any other properties, or cause soil from the dump to be washed into any watercourse. Drains may need to be dug within and around the tips, as directed by the Engineer.

VI. Historical and Archeological Sites

27. If the Contractor discovers archeological sites, historical sites, remains and objects, including graveyards and/or individual graves during excavation or construction, the Contractor shall:

(a) Stop the construction activities in the area of the chance find.

(b) Delineate the discovered site or area.

(c) Secure the site to prevent any damage or loss of removable objects. In cases of removable antiquities or sensitive remains, a night guard shall be present until the responsible local authorities and the Ministry of Culture take over.

(d) Notify the supervisory Engineer who in turn will notify the responsible local authorities and the Ministry of Culture immediately (less than 24 hours).

(e) Contact the responsible local authorities and the Ministry of Culture who would be in charge of protecting and preserving the site before deciding on the proper procedures to be carried out. This would require a preliminary evaluation of the findings to be performed by the archeologists of the Ministry of Culture (within 72 hours). The significance and importance of the findings should be assessed according to the various criteria relevant to cultural heritage, including the aesthetic, historic, scientific or research, social and economic values.

(f) Ensure that decisions on how to handle the finding be taken by the responsible authorities and the Ministry of Culture. This could include changes in the layout (such as when the finding is an irremovable remain of cultural or archeological importance) conservation, preservation, restoration and salvage.

(g) Implementation for the authority decision concerning the management of the finding shall be communicated in writing by the Ministry of Culture; and

(h) Construction work will resume only after authorization is given by the responsible local authorities and the Ministry of Culture concerning the safeguard of the heritage.

VII. Disposal of Construction and Vehicle Waste

28. Debris generated due to the dismantling of the existing structures shall be suitably reused, to the extent feasible, in the proposed construction (e.g. as fill materials for embankments). The disposal of remaining debris shall be carried out only at sites identified and approved by the project engineer. The contractor should ensure that these sites (a) are not located within designated forest areas; (b) do not impact natural drainage courses; and (c) do not impact

endangered/rare flora. Under no circumstances shall the contractor dispose of any material in environmentally sensitive areas.

29. In the event any debris or silt from the sites is deposited on adjacent land, the Contractor shall immediately remove such, debris or silt and restore the affected area to its original state to the satisfaction of the Supervisor/Engineer.

30. Bentonite slurry or similar debris generated from pile driving or other construction activities shall be disposed of to avoid overflow into the surface water bodies or form mud puddles in the area.

31. All arrangements for transportation during construction including provision, maintenance, dismantling and clearing debris, where necessary, will be considered incidental to the work and should be planned and implemented by the contractor as approved and directed by the Engineer.

32. Vehicle/machinery and equipment operations, maintenance and refueling shall be carried out to avoid spillage of fuels and lubricants and ground contamination. An oil interceptor will be provided for wash down and refueling areas. Fuel storage shall be located in proper bounded areas.

33. All spills and collected petroleum products shall be disposed of in accordance with standard environmental procedures/guidelines. Fuel storage and refilling areas shall be located at least 300m from all cross drainage structures and important water bodies or as directed by the Engineer.

Attachment 7

Guidelines for handling pesticides

1. The use of any pesticide should be based on an assessment of the nature and degree of associated risks, taking into account the intended users. With respect to the classification of pesticides and their specific formulations, the project will refer to the World Health Organization's recommended classification of Pesticides by Hazard and Guidelines to Classification. In the case of this project pesticides will not fall in WHO classes IA and IB, or formulations of products in Class II.

2. The following is providing practical guidelines on handling pesticides:

STORE PESTICIDES PROPERLY

(a) Pesticides should be stored in a properly labeled container with the label clearly visible. Never store pesticides in old bottles or food containers where they could be mistaken for food or drink for people or animals.

(b) Pesticides must never be stored near food, feed or seed.

(c) Store pesticides in containers that can be tightly sealed. Check the containers regularly to make sure they have no leaks, breaks, tears or defects.

(d) Store pesticides in a location away from freezing temperatures or extreme heat.

(e) All pesticides are to be stored under lock and key at all times. The building, room or structure where they are stored should be clearly marked with pesticide warning signs.

MIX AND LOAD PESTICIDES PROPERLY

3. Many injuries occur when chemicals are being mixed. The most dangerous pesticide job is pouring and mixing the concentrated chemicals.

(a) Before you begin to mix the chemical, READ THE LABEL.

(b) Before handling a pesticide, put on protective clothing (coveralls, gloves, boots, goggles or face shield, hat, and respirator if the label indicates one must be worn.)

(c) Mix the pesticides outdoors where there is good ventilation and light.

(d) Stand upwind of the pesticide to avoid contaminating yourself.

(e) Use a specifically designated sharp knife to open pesticide bags. Do not use scissors or a personal knife; do not tear bags open.

(f) Measure accurately and use only the amount specified on the label. It's against the law to use more than label directions indicate.

(g) When removing concentrated material from the container, keep the container below eye level to avoid splashing or spilling the pesticide into your face and eyes.

(h) If you splash or spill a pesticide, STOP IMMEDIATELY! Remove your contaminated clothing and wash it thoroughly with soap and water. Speed is essential when you or your clothing are contaminated. Remember also to clean up the spill.

3-APPLY PESTICIDES PROPERLY

- (i) Before you begin to apply a pesticide, READ THE LABEL and put on the required protective clothing.
- (j) Check the equipment for leaking hoses or connections and plugged or worn nozzles, and examine the filter to see that it's clean and free of debris.
- (k) Clear all livestock, pets and people from the area to be treated and calibrate your equipment before you begin to use it to ensure the proper amount is coming out.
- (l) Mix the pesticide at the recommended rate and apply it at the specified dosage. Make sure the measurement device you use is a proper, commercially designed device for applying pesticides. Do not guess at the measurement. Apply pesticides only at the correct time and under favorable weather conditions. Never apply a pesticide if the wind will cause the pesticide to drift out of the area to be treated.
- (m) Use extreme care to prevent the pesticide from contaminating streams, ponds, lakes or other bodies of water.
- (n) As with any safe handling training, it is important to know what you can do to prevent becoming exposed to a toxic substance.

DON'T EAT, DRINK OR SMOKE AROUND PESTICIDES

- 4. Do not carry cigarettes in your pockets, nor eat or drink while working with pesticides. Your cigarettes can absorb pesticide film or residue that could make you sick. Also, be careful not to wipe your face with your shirt sleeves. This could put the pesticide directly onto your bare skin.

AVOID PESTICIDE EXPOSURE

- 5. There are four ways that pesticides can enter the body: through the skin, the mouth, the nose and the eyes. Pesticides can enter your body in solid, liquid or gaseous form. It's particularly important to remember that highly concentrated and highly toxic chemicals, especially liquids and gases, present the greatest danger. If they are not washed off immediately, the liquid concentrates can penetrate your unbroken skin. The longer a pesticide remains on your skin or in your eyes, or the longer you inhale it, the greater the damage that is likely to occur. Protective clothing, such as coveralls, aprons, boots, gloves, goggles and face shields, and respirators provide protection against exposure to these chemicals.

- 6. Absorption through the skin is the most common form of poisoning. Absorption may occur from a splash, spill or drift when mixing, loading, applying, or disposing of pesticides. It may also result from exposure to large amounts of residue while cleaning out clogged nozzles and filter screens. Generally, wettable powders, dusts and granular pesticides are not as easily absorbed through the skin and other body tissues as are the liquid forms. Again, consistent use of proper protective clothing will greatly reduce the potential risk of pesticide absorption.

- 7. If a pesticide is taken into the mouth in sufficient amounts, it may cause either serious illness, severe injury, or even death. The most frequent cases of accidental oral exposure are those when pesticides have been taken out of their original labeled container and illegally put into an unlabeled bottle or food container. For this reason, always store a pesticide in a properly labeled container. If you get a clogged spray line or nozzle, never use your mouth to clear it. And never

eat or smoke until you have left the spray area and have washed off thoroughly with soap and water.

8. Pesticides that are inhaled in large enough amounts can cause serious damage to nose, throat, and lung tissues. Vapors and extremely fine particles are the most serious contributors to respiratory exposure. Wear your respirator while working with powder and liquid pesticides. If you are unsure if a respirator is needed, ask your supervisor.
9. The tissues of the eye are particularly sensitive and absorbent, which means getting pesticides in the eyes brings an immediate threat of loss of sight, illness, or even death.

Republic of Cameroon
Cameroon Flood Emergency Project

Annex 10: Economic and Financial Analysis

1. Although the project aims at resolving the flood emergency situation in the Far-North Region, the investment inputs foreseen are expected to generate added values beyond the designed 4-year period, with medium and long terms economic impacts at regional level, including commercial exchanges with the neighboring countries. The floods of August/September 2012 not only caused damages to the hydraulic infrastructure, they also affected the irrigation potential and caused direct damages to the rice production amounting to approximately US\$ 300,000.

Project benefits

2. **In the short term**, the rehabilitation of dams and irrigation schemes, as well as the institutional support to SEMRY, will contribute to: (i) restoring the productive potential through the recovery of abandoned perimeters, (ii) resettling the level of production of rice at a minimum threshold of 100 000 tons for the dry season campaign; (iii) stabilizing the minimum level of income to rice farmers at FCFA 172,000; and (iv) reducing the financial gap in the revenue generated by the services fees collected by SEMRY.

3. **In the medium term**, the rehabilitation will help to: (i) increase the production of rice by optimizing the cultivation on the plots through double cropping. (ii) Increase farmers' incomes through the practice of double cropping and the adoption of innovative techniques and practices of yield efficiency promoted by SEMRY; (iii) increase financial products from the services delivery revenue, allowing SEMRY to strengthen its capabilities in the plots maintenance.

4. **In the long term**, the rehabilitation will help farmers and their families to sustainably increase their income, and SEMRY to achieve financial sustainability. At the regional level, the rehabilitation of the irrigation schemes will facilitate the introduction of new producers to the rice production areas and the integration of rural youth in agricultural activities through crop diversification opportunities. The rehabilitation of dams will reduce the flooding risk and secure the rice production areas for at least 25 years. It can be assumed that the local economy will be boosted by improving the availability of food products on the local and regional markets, further boosting the private agricultural sector.

Project areas and rationale of the emergency support

5. The Project intervention area comprises two sites: (i) SEMRY I in Yagoua with its 4 pumping stations along the Logone dyke (capacity 43,200 m³/h) irrigating 5,300 ha for rice production benefiting to 10,600 households; and (ii) SEMRY II at Maga dam with 4 spillways (capacity 101,862 m³/h) serving 6,200 ha distributed to more than 12,500 households mainly for rice production.

6. Table 10.1 anticipates the advantages of the project and confirms the necessity of urgent action, in order to prevent the productive areas from economic losses increase over the upcoming years.

Table 10.1: Overview of the present and future situations related to risk of flooding in the Project areas

Flood damages in terms of:	Yagoua			Maga		
	Present With floods	Future without Project	Future with Project	Present with floods	Future without Project	Future with Project
Damaged farmland	40%	60%	0%	60%	80%	0%
Net cultivated area affected	40%	60%	0%	55%	80%	0%
Average yield/ha	55%	40%	100%	50%	30%	100%
Rice post-harvest loss	60%	75%	10%	70%	90%	10%

7. According to the figures above a scenario without the project “future without project” would even be worse than the situation before 2012, since farmland may critically erode on both sites and the net cultivated areas would face a significant reduction especially in Maga. Consequently, the expected average yield per hectare is subjected to fall under 50% in Yagoua as well as in Maga, while the post-harvest losses would increase (75% in Yagoua and 90% in Maga) compared to the expected level of 10% with the project.

8. However, as a result of double cropping the cropping intensity would significantly increase.

Table 10.2: Overview of cropping improvement

	Yagoua			Maga		
	Present	Future Without Project	Future With Project	Present	Future Without Project	Future With Project
Net cultivated area (ha)						
• Dry Season (DS)	1,850	1,500	2,500	3,688	3,688	4,000
• Rainy Season (RS)	2,035	1,850	2,500	382	120	4,000
Average of cropping intensity	0.73	0.63	1.32	0.65	0.61	1.88
Double cropping areas cultivated (ha)	300	250	2500	700	450	4,000
Average yield (tons/ha)						
• DS	3.5	3.5	5.9	3.5	3.5	5.9
• RS	3	3	5	3	3	5

9. Increased rice productivity will principally arise from improved irrigation management and the adoption of better agronomic practices with the support of PACA, such as more balanced fertilizer application, improved weed control and the adoption of integrated pest management techniques.

Economic and financial analysis

10. As the rehabilitation will lead to an increase in the cropping intensity of the rice production sites, it is subsequently assumed that the harvest also increases through the double cropping. The model assumptions are based on the current farm-gate price of rice (125 FCFA/kg), the average gross margin for dry and rainy seasons (FCFA 127,500) and the cropping intensity expected further to the rehabilitation. In the future with project situation, the improvement in the gross

margin mainly reflects the advantage of the practice of double cropping facilitated by the project investments.

Table 10.3: Summary of financial result for rice crop model

Sites	Gross margin (USD/ha)				
	Without Project	With Project	Incremental		%
			Margin		
Rice DS + RS					
Yagoua	160	367	207		129
Maga	155	479	324		209
Total	315	846	531		168

11. The farm-gate price of rice used for this analysis is about 20% lower than the purchase price offered by SEMRY. The lower price is justified on the grounds that SEMRY cannot purchase all the harvested rice; conceding a certain part of the production to the market prices, which average FCFA 125.

12. The double cropping would increase the rice production p to almost 11 tons/ha on both sites: 5.9 tons for the dry season (October to May) and 5 tons for the rainy season (June to October). The average gross margin would rise by 129% in Yagoua, from US\$ 167 to US\$ 367 and by 209% in Maga, from currently US\$155 to US\$479 with the project. Such an increase would improve the financial capacity and livelihoods of the rice producers, while enabling them to easily pay the irrigation fees to SEMRY. In the absence of a direct subsidy, the maintenance capacity of SEMRY is closely linked to the revenue from the fees collected in the irrigated areas. The current level of the revenue doesn't meet the maintenance costs. Hence SEMRY is not able to ensure a relevant maintenance of the irrigated areas.

13. Based on the improvement expected from the rehabilitation of irrigation schemes and the institutional support to SEMRY, it is assumed that SEMRY and rice producers would agree on an increase of the fees by 20%, from US\$ 202 to US\$ 246 per ha. The financial result simulated in table 10.4 assumes that the recovery rate of the fees would increase by 5 points, with the project compared to its current level: 90%.

Table 10.4: Summary of financial result for irrigation schemes maintenance

	Without Project	With Project	Increment	%
Net cultivated area (ha DS+RS)				
• Yagoua	3,350	5,000	1,650	49
• Maga	3,808	8,000	4,192	110
Irrigation fees (USD)				
• Yagoua	683,400	1,230,000	546,600	80
• Maga	776,832	1,968,000	1,191,168	153
Recovery rate (%)	90	95		
Gross revenue (USD)				
• Yagoua	615,060	1,168,500	553,440	90
• Maga	699,149	1,869,600	1,170,451	167
Total	1,314,209	3,038,100	1,723,891	131

14. With the implementation of new fee, SEMRY would be in a position to increase its services delivery revenue by 90% in Yagoua and 167% in Maga, amounting US\$ 3,038,100 in a double cropping campaign. This gross revenue is subject to deductions in terms of maintenance costs including canal maintenance, pumping stations maintenance, etc. By increasing its overall gross margin by 131%, SEMRY could move toward the financial self-sufficiency. For the moment, there is no business plan with sustainability assumptions of SEMRY; however, the model shows substantial financial results likely to confirm the feasibility of SEMRY viability.

15. For the economic analysis, the financial project costs have been converted to economic costs, which exclude taxes and custom duties and price contingencies. A standard conversion factor (SCF) of 0.90 was applied. All prices are expressed in constant prices from 2013 and foreign exchange rate is fixed at US\$ 1.00 = FCFA 505. The project life is assumed to be 25 years starting from 2013, the proposed year for the commencement of the project implementation. The economic capital costs (including physical contingencies) were estimated at US\$ 81,493.6. The analysis was carried out for a 25-year period including the four-year project implementation period.

16. Quantified economic benefits are mainly derived from: (i) the increased value added of rice production through the rehabilitation of irrigated schemes (55% of total benefits); and (ii) economic cash-flows from SEMRY services (45%) on the rice perimeters.

17. An Economic Rate of Return (ERR) of 16% and a Net Present Value (NPV) of US\$ 14.6 million have been calculated for the base case. The sensitivity analysis has been carried out to assess the impact of changes in costs or benefits. Table 10.5 summarizes the results. From an investor's point of view the project, is acceptable, since a reduction of benefits or an increase of costs by 20% would still yield ERR of around 13%.

Table 10.5: Summary of sensitivity analysis

	Base case	Change of benefits				Change of Costs	
		+10%	+20%	-10%	-20%	+10	+20
ERR	16	17	19	14	12	14	13
NPV (KUSD)	14,680	21,785	28,891	7,574	469	9,042	3,405
NPV (KFCFA)	7,340,000	10,892,500	14,445,500	3,787,000	234,500	4,521,000	1,702,500

18. These results can be considered satisfactory in the context of an emergency operation. At the same time, it is expected that the project would generate additional benefits in terms spill-over effects on the rural economy and increased rural income opportunities and incomes.

Republic of Cameroon
Cameroon Flood Emergency Project

Annex 11: Documents in Project Files

Document Name	Date	Author	Document Type
RE: FOR CLEARANCE - CAMEROON Flood Emergency Project (P143940): Board Package	21-May-2013	AFTN3 Management Clearance	Legal Documents
Fw: FOR CONCURRENCE - CAMEROON Flood Emergency Project (P143940): Board Package	21-May-2013	Cia Sjetnan	Legal Documents
Re: Urgent_Projet d'Urgence_Documents requis avant le Conseil d'Administration: SIGNED DOCUMENTS	17-May-2013	Sene,Manievel	Legal Documents
Flood Project - arretes protocole d'accord, approbation documents juridiques, note de service, approbation Semry	17-May-2013	Edima,Jeanne D'Arc	General Lending Documents
Note d'engagement du Gouvernement du Cameroun	14-May-2013	Edima,Jeanne D'Arc	Legal Documents
SUMMARY OF NEGOTIATIONS: Cameroon Flood Emergency Project (P143940)	13-May-2013	Niyonahabonye,L eoncie	Legal Documents
ERL Project Information Document - Cameroon Flood Emergency Project - P143940	09-May-2013	Dingel,Carl Christian	Reports and Studies,General Lending Documents
MINMAP - Arrangement Institutionnel- Arrete portant cration des Commissions Spciales de passation des marchs.	08-May-2013	Edima,Jeanne D'Arc	Procurement Documents
MINMAP - Proposition d'arrangement Institutionnel concernant le Projet d'urgence de lutte contre les inondations	08-May-2013	Edima,Jeanne D'Arc	Procurement Documents
Lettre d'invitation et documents pour les negociations - du 08 au 11 mai 2013	07-May-2013	Edima,Jeanne D'Arc	Legal Documents
CAMEROON Flood Emergency Project (P143940): Invitation to Negotiate	07-May-2013	Edima,Jeanne D'Arc	Legal Documents
SMO: CAMEROON - Flood Emergency Project (P143940) - Negotiations from May 6 - 14, 2013	07-May-2013	Mcmillan,Shelley	Legal Documents
RE: Cameroon Flood Emergency - French versions of the documents	04-May-2013	Diallo,Aissatou	Legal Documents
Fw: IMPORTANT - Version projet du manuel de procedures du Projet d'Urgence de Lutte contre les Inondations au Cameroun	03-May-2013	Niyonahabonye,L eoncie	Procurement Documents
Re: Cameroon Emergency Floods Project. Draft ESIA TORs	03-May-2013	Niyonahabonye,L eoncie	Procurement Documents
RE: CAMEROON Flood Emergency Operation - draft procurement plan	02-May-2013	Niyonahabonye,L eoncie	Procurement Documents
RE: IMPORTANT - TDRs pour audit externe et	02-May-2013	Niyonahabonye,L eoncie	Procurement

Document Name	Date	Author	Document Type
specialiste en gestion financiere		eoncie	Documents
Version projet du manuel de procedures du Projet d'Urgence de Lutte contre les Inondations au Cameroun	30-Apr-2013	Keou Ngassa,Marc	Legal Documents
Negotiations relatives au financement du Programme d'Interventions d'Urgence dans la Region de l'Extreme-Nord.Du 08-10 mai 2013, Paris /France.	30-Apr-2013	Edima,Jeanne D'Arc	Legal Documents
Lettre de transmission de l'AM de la mission de prparation du Projet d'Urgence de Lutte Contre les Inondations au Cameroun, du 13 mars au 05 avril, 2013	09-Apr-2013	Edima,Jeanne D'Arc	
MINEPAT - Note de service instituant une Task Force charge de superviser les interventions d'urgenc de protection des berges du Logone et de la digue de Maga	14-Mar-2013	Edima,Jeanne D'Arc	
Project Information Document for P143940 Submitted on 3/8/2013	08-Mar-2013	Simbananiye,Aur ore	General Lending Documents
SMO - Cameroon Flood Emergency Project (P143940) Preparation Mission - March 13 - April 12, 2013	07-Mar-2013	Mcmillan,Shelley	General Lending Documents
-Cameroon Flood Emergency Project - P143940 RVP Approval: Cameroon: Processing under OP/BP 8.00 Rapid Response to Crises and Emergencies of the proposed Floods Emergency Project (P143940)	30-Jan-2013	Mcmillan,Shelley	Safeguards
Resending - RVP Approval: Cameroon: Processing under OP/BP 8.00 Rapid Response to Crises and Emergencies of the proposed Floods Emergency Project (P143940)	07-Dec-2012	AFRVP Clearance	General Lending Documents
RE: Aide Memoire and Management Letter - Cameroon Emergency Floods Scoping Mission (P143940) - Sept 24 - Oct 5, 2012	16-Nov-2012	Binkert,Gregor Mcmillan,Shelley	General Lending Documents,Mission Documents

Republic of Cameroon
Cameroon Flood Emergency Project

Annex 12: Statement of Loans and Credits

<u>Active Projects</u>		Fiscal Year	<u>Original Amount in US\$ Millions</u>				<u>Difference Between Expected and Actual Disbursements^{a/}</u>		
Project ID	Project Name		IBRD	IDA	Grants	Cancel.	Undisb.	Orig.	Frm Rev'd
P114077	CM - Lom Pangar Hydropower Proj. (FY12)	2012	132				127.8111		
P122153	Cameroon Mining Sector TA	2012	30				27.41124		
P118018	Cameroon:NGOYLA MINTOM PROJECT	2012	3.5						
P112975	CM - Competitive Value Chains	2010	30				24.0987		
P128534	CM Social Safety Nets	2013	50				48.94793		
P112635	CM-Agricultural Competitiveness Project	2009	60				40.11942		
P113027	CM-Com Dev Prog Sup APL-II	2009	40				3.472067		
P104456	CM-Energy Sector Development SIL (FY08)	2008	65				47.80272		
P109588	CM-Env. Capacity Energy SIL (FY08)	2008	20				11.85302		
P104525	CM-Health Sector Supp. SWAP SIL (FY08)	2008	25				13.16366		
P117102	CM-Sanitation APL	2011	30				26.95457		
P084002	CM-Urban and Water D. SIL (FY07)	2007	108.7				64.42836		
Overall Result			590.7				436.0628		
			3.5				142.84783		
							35.02521		

CAMEROON
STATEMENT OF IFC's

Committed and Disbursed Outstanding Investment Portfolio

As of 2/28/2013

(In USD Millions)

FY Approval	Company	Committed				Disbursed Outstanding			
		Loan	Equity	**Quasi Equity	*GT/RM	Partici pant	Loan	Equity	**Quasi Equity
2006	Aef 3t cameroun	0.14	0	0	0	0	0.14	0	0
2005/10	Aef nosa iii	1.59	0	0	0	0	1.59	0	0
2006	Aes sonel	70.22	0	0	0	0	70.22	0	0
2007/09	Cmf	1	0.9	0	0	0	1	0.9	0
2010	Dibamba	25.56	0	0	0	0	25.56	0	0
0	Eb-accion cmr	0	0.82	0	0	0	0	0.46	0
2010	Ecobank cameroon	4	0	0	0	0	4	0	0
2008	Fme-gaz	0.75	0	0	0	0	0.75	0	0
2012	Kpdc	52.47	0	0	0	0	43.32	0	0
2012	Sci signs	12.33	0	3.02	0	0	0	0	0
Total Portfolio:		168.06	1.72	3.02	0	0	146.58	1.36	0
									0

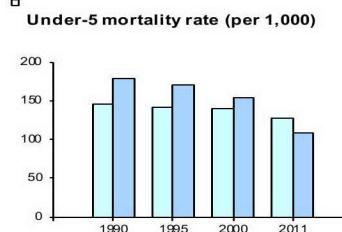
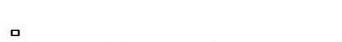
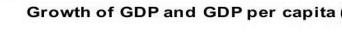
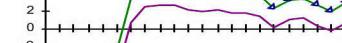
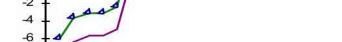
* Denotes Guarantee and Risk Management Products.

** Quasi Equity includes both loan and equity types.

Republic of Cameroon

Cameroon Flood Emergency Project

Annex 13: Country at a Glance

Key Development Indicators	Cameroon	Sub-Saharan Africa	Lower middle income	Age distribution, 2011	
				Male	Female
(2011)					
Population, mid-year (millions)	20.0	875	2,533	75-79	
Surface area (thousand sq. km)	475	24,244	20,842	60-64	
Population growth (%)	2.2	2.5	1.6	45-49	
Urban population (% of total population)	52	36	39	30-34	
GNI (Atlas method, US\$ billions)	24.1	1,101	4,488	15-19	
GNI per capita (Atlas method, US\$)	1,210	1,258	1,772	0-4	
GNI per capita (PPP, international \$)	2,330	2,225	3,837		
GDP growth (%)	4.2	4.7	5.5		
GDP per capita growth (%)	2.0	2.1	3.9		
(most recent estimate, 2005–2011)					
Poverty headcount ratio at \$1.25 a day (PPP, %)	10	48	30.2	Under-5 mortality rate (per 1,000)	
Poverty headcount ratio at \$2.00 a day (PPP, %)	30	69	59.5		
Life expectancy at birth (years)	52	55	66		
Infant mortality (per 1,000 live births)	79	69	46		
Child malnutrition (% of children under 5)	17	21	24		
Adult literacy, male (% of ages 15 and older)	79	71	80		
Adult literacy, female (% of ages 15 and older)	63	54	62		
Gross primary enrollment, male (% of age group)	128	103	106		
Gross primary enrollment, female (% of age group)	111	96	102		
Access to an improved water source (% of population)	77	61	87		
Access to improved sanitation facilities (% of population)	49	31	47		
Net Aid Flows					
	1980	1990	2000	2011	
<i>(US\$ millions)</i>					
Net ODA and official aid	265	444	377	541	
<i>Top 3 donors (in 2010):</i>					
Germany	25	44	47	91	
France	95	172	86	82	
European Union Institutions	14	95	39	74	
Aid (% of GNI)	4.7	4.2	4.3	2.4	
Aid per capita (US\$)	29	36	24	28	
Long-Term Economic Trends					
Consumer prices (annual % change)	9.5	1.1	0.8	2.9	
GDP implicit deflator (annual % change)	14.2	1.6	2.8	2.9	
Exchange rate (annual average, local per US\$)	209.2	300.7	712.0	471.9	
Terms of trade index (2000 = 100)	113	99	100	103	
Population, mid-year (millions)	9.1	12.2	15.7	20.0	
GDP (US\$ millions)	6,741	11,152	9,287	25,236	
<i>(% of GDP)</i>					
Agriculture	31.3	24.6	22.1	19.7	
Industry	25.6	29.5	36.0	31.0	
Manufacturing	9.6	14.5	20.8	16.7	
Services	43.1	46.0	41.8	49.3	
Household final consumption expenditure	68.6	66.6	68.5	69.5	
General govt final consumption expenditure	9.7	12.8	10.1	15.0	
Gross capital formation	21.0	17.8	17.0	19.8	
Exports of goods and services	27.9	20.2	29.2	30.7	
Imports of goods and services	27.1	17.3	24.8	35.0	
Gross savings	6.3	16.1	16.0	15.7	
<i>1980–90 1990–2000 2000–11</i>					
<i>(average annual growth %)</i>					
	2.9	2.5	2.2		
	3.4	1.7	3.2		
	2.2	5.4	3.4		
	5.9	-0.9	-0.4		
	5.0	1.4	..		
	2.1	0.2	6.4		
	3.6	3.1	3.2		
	6.8	0.7	5.5		
	-2.6	0.4	6.8		
	5.7	3.2	1.3		
	3.6	5.1	6.1		

Note: Figures in italics are for years other than those specified. .. indicates data are not available.

Development Economics. Development Data Group (DECDG).

Balance of Payments and Trade	2000	2011	Governance indicators, 2000 and 2011	
(US\$ millions)				
Total merchandise exports (fob)	2,123	4,976	Voice and accountability	19
Total merchandise imports (cif)	1,542	5,083	Political stability	25
Net trade in goods and services	353	-1,099	Regulatory quality	25
Current account balance as a % of GDP	-143	-1,053	Rule of law	13
Personal transfers and compensation of employees (receipts)	30	115	Control of corruption	19
Reserves, including gold	8	2,727	2011	Country's percentile rank (0-100) <i>higher values imply better ratings</i>
Central Government Finance			2000	
(% of GDP)				
Current revenue (including grants)	16.5	18.4		
Tax revenue	15.6	18.1		
Current expenditure	9.3	14.4		
Overall surplus/deficit	4.9	-1.3		
Highest marginal tax rate (%)				
Individual	60	..	Paved roads (% of total)	8.1
Corporate	39	..	Fixed line and mobile phone subscribers (per 100 people)	1
External Debt and Resource Flows			High technology exports (% of manufactured exports)	1.4
(US\$ millions)				4.9
Total debt outstanding and disbursed	10,561	3,074		
Total debt service	560	321		
Debt relief (HIPC, MDRI)	1,856	885		
Total debt (% of GDP)	113.7	12.2		
Total debt service (% of exports)	20.4	4.0		
Foreign direct investment (net inflows)	159	360		
Portfolio equity (net inflows)	0	0		
Composition of total external debt, 2011				
US\$ millions				
Private Sector Development	2000	2011		
Time required to start a business (days)	—	15	World Bank Group portfolio	2000
Cost to start a business (% of GNI per capita)	—	40.2		2011
Time required to register property (days)	—	93	(US\$ millions)	
Ranked as a major constraint to business (% of managers surveyed who agreed)	2000	2011	IBRD	
Tax rates	..	32.6	Total debt outstanding and disbursed	218
Electricity	..	15.1	Disbursements	0
Stock market capitalization (% of GDP)	..	..	Principal repayments	53
Bank capital to asset ratio (%)	..	..	Interest payments	22
			IDA	
			Total debt outstanding and disbursed	769
			Disbursements	55
			Total debt service	12
			IFC (fiscal year)	
			Total disbursed and outstanding portfolio	65
			of which IFC own account	18
			Disbursements for IFC own account	3
			Portfolio sales, prepayments and repayments for IFC own account	11
			MIGA	
			Gross exposure	—
			New guarantees	0

Note: Figures in italics are for years other than those specified.
.. indicates data are not available. — indicates observation is not applicable.

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Development Economics, Development Data Group (DECDG).

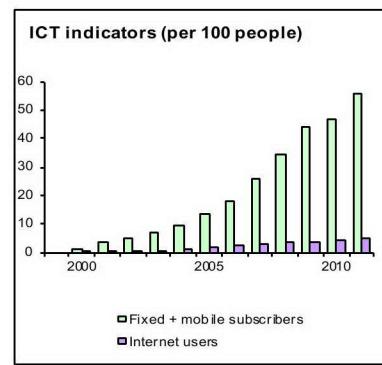
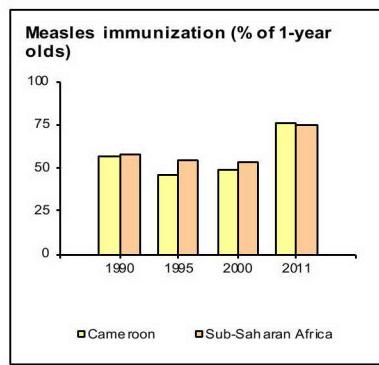
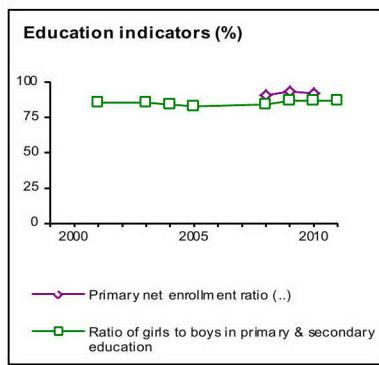
Millennium Development Goals

Cameroon

With selected targets to achieve between 1990 and 2015

(estimate closest to date shown, +/- 2 years)

	Cameroon			
	1990	1995	2000	2011
Goal 1: halve the rates for extreme poverty and malnutrition				
Poverty headcount ratio at \$1.25 a day (PPP, % of population)	..	24.9	10.8	9.6
Poverty headcount ratio at national poverty line (% of population)	..	53.3	40.2	39.9
Share of income or consumption to the poorest quintile (%)	..	6.6	6.5	6.7
Prevalence of malnutrition (% of children under 5)	10.0	..	17.8	16.6
Goal 2: ensure that children are able to complete primary schooling				
Primary school enrollment (net, %)	72	..	..	92
Primary completion rate (% of relevant age group)	54	..	51	78
Secondary school enrollment (gross, %)	25	25	28	51
Youth literacy rate (% of people ages 15-24)	..	..	83	83
Goal 3: eliminate gender disparity in education and empower women				
Ratio of girls to boys in primary and secondary education (%)	82	85	85	86
Women employed in the nonagricultural sector (% of nonagricultural employment)	..	19	22	26
Proportion of seats held by women in national parliament (%)	14	6	6	14
Goal 4: reduce under-5 mortality by two-thirds				
Under-5 mortality rate (per 1,000)	145	141	140	127
Infant mortality rate (per 1,000 live births)	90	88	86	79
Measles immunization (proportion of one-year olds immunized, %)	56	46	49	76
Goal 5: reduce maternal mortality by three-fourths				
Maternal mortality ratio (modeled estimate, per 100,000 live births)	670	720	730	690
Births attended by skilled health staff (% of total)	64	..	60	64
Contraceptive prevalence (% of women ages 15-49)	16	..	26	23
Goal 6: halt and begin to reverse the spread of HIV/AIDS and other major diseases				
Prevalence of HIV (% of population ages 15-49)	1.0	3.2	5.0	4.6
Incidence of tuberculosis (per 100,000 people)	112	206	310	243
Tuberculosis case detection rate (%), all forms	43	11	11	50
Goal 7: halve the proportion of people without sustainable access to basic needs				
Access to an improved water source (% of population)	49	57	64	77
Access to improved sanitation facilities (% of population)	48	48	49	49
Forest area (% of total land area)	51.4	..	46.8	41.7
Terrestrial protected areas (% of land area)	7.0	7.6	8.7	9.2
CO2 emissions (metric tons per capita)	0.1	0.3	0.2	0.3
GDP per unit of energy use (constant 2005 PPP \$ per kg of oil equivalent)	5.1	4.2	4.6	5.6
Goal 8: develop a global partnership for development				
Telephone mainlines (per 100 people)	0.3	0.5	0.6	3.3
Mobile phone subscribers (per 100 people)	0.0	0.0	0.7	52.4
Internet users (per 100 people)	0.0	0.0	0.3	5.0
Households with a computer (%)	..	..	..	5.4



Note: Figures in italics are for years other than those specified. .. indicates data are not available.

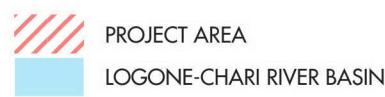
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CAMEROON

- CITIES AND TOWNS
- ◎ PROVINCE CAPITALS
- ★ NATIONAL CAPITAL
- RIVERS
- MAIN ROADS
- RAILROADS
- PROVINCE BOUNDARIES
- - - INTERNATIONAL BOUNDARIES



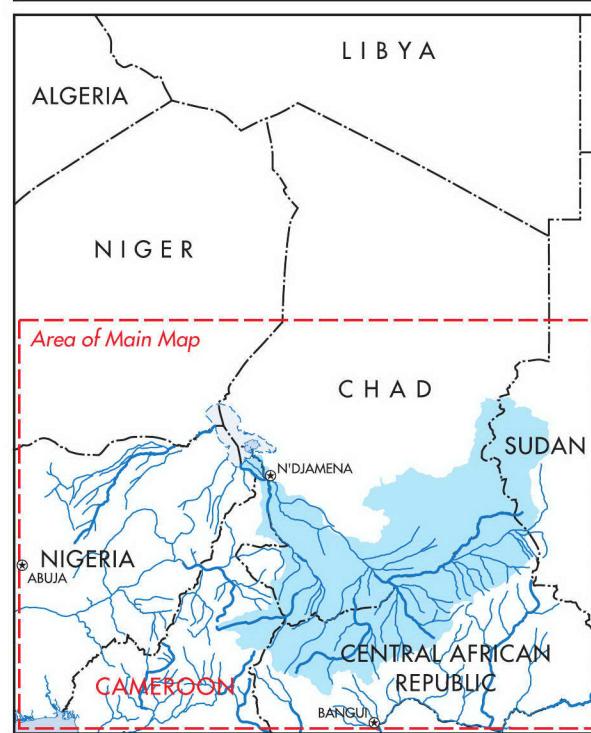
CAMEROON FLOOD EMERGENCY PROJECT



- TOWNS AND CITIES
 - ★ NATIONAL CAPITALS
 -  RIVERS
 -  REGION BOUNDARY
 -  INTERNATIONAL BOUNDARIES



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