



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

Concept Stage | Date Prepared/Updated: 25-Jan-2019 | Report No: PIDISDSC24140

**BASIC INFORMATION****A. Basic Project Data**

Country Cameroon	Project ID P166072	Parent Project ID (if any)	Project Name Valorization of Investments in the Valley of the Benue (P166072)
Region AFRICA	Estimated Appraisal Date Sep 16, 2019	Estimated Board Date Dec 20, 2019	Practice Area (Lead) Agriculture
Financing Instrument Investment Project Financing	Borrower(s) MINEPAT	Implementing Agency MEADEN	

Proposed Development Objective(s)

To contribute to the Regional Climate Resilience Investment Plan by improving irrigation services and sustaining climate resilient agricultural productivity in the Benue River Valley.

PROJECT FINANCING DATA (US\$, Millions)**SUMMARY**

Total Project Cost	200.00
Total Financing	200.00
of which IBRD/IDA	200.00
Financing Gap	0.00

DETAILS**World Bank Group Financing**

International Development Association (IDA)	200.00
IDA Credit	200.00

Environmental Assessment Category

Concept Review Decision



B. Introduction and Context

Regional Context

The Niger Basin, located in West and Central Africa, is one of the major transboundary basins in Africa. Its 1.5 million km² active hydrographic basin spans over the territory of nine countries: Benin, Burkina Faso, Cameroon, Chad, Guinea, Ivory Coast, Mali, Niger, and Nigeria. Its population of 130 million inhabitants is growing rapidly, expected to reach 180 million people by 2025. Except for Nigeria, most of the population in the basin is rural and depends on agriculture, animal husbandry or fishing for its livelihood.

The value of the Niger River System resides in its contribution to water, food, energy, and job security, to transport and to biodiversity. For thousands of years, the river, its tributaries and connected lakes and wetlands have supported local populations with diverse water-dependent livelihoods such as flood-recession agriculture, cattle grazing and drinking, fishing and hunting. In the Niger Basin Countries, agriculture (including farming, livestock husbandry and fisheries) contributes 20 to 50 per cent of GDP and roughly two-third of the population depends on it for its livelihood. Moreover, those mostly family fishing and agro-pastoral systems are labor intensive and generate significant indirect employments (processing, trade and crafts). In a region with a structural deficit in food production and increasing temperature and rainfall variability and uncertainty, the river, its tributaries and connected groundwater resources are key to increase agricultural productivity and resilience to climate change. In addition, the river system is important for the energy security of the region, with an installed, partially integrated, hydro-power capacity of 2,000MW¹. Finally, the Niger hydro-system sustains some of the most significant biodiversity areas in the World, notably the Inner² and Maritime Deltas in Mali and Nigeria respectively, both Ramsar sites.

Yet the Niger hydro-system and the population, economies and biodiversity relying on it are vulnerable to several climate and water-related shocks and stresses, many of them transboundary in nature. Managing competing water demands, notably between upstream and downstream users and between different sectoral will be one of the basin's main development challenges in the coming decades as intensifying water use, while necessary, will not be without impacts. Notably, it will be important to strike a balance between the regulation of river flows (i.e. reservoirs) and increased water withdrawals for irrigation, hydropower and navigation, as is the case of the Upper Niger, Medium Niger and the Benue (i.e. Chad, Cameroon and Nigeria) and the preservation of the Maritime Delta ecosystem (i.e. biodiversity and ecological services: fishing) in Nigeria.

¹ World Bank, 2006: Water Resources Management & Development Opportunities in the Niger River Basin. Policy Note. Economic and Sector Work. Washington, DC: World Bank. Nigeria is exporting electricity to Niger and Benin in the Niger Basin.

² During the rainy season, the Inner Delta forms a large flood plain of 20,000 to 30,000 km², facilitating the cultivation of rice, cotton and wheat as well as cattle herding and fishing. The size of the flooded area is subject to strong annual variations, depending on the discharge in the Upper Basin.



Priority should therefore be given to increasing the performance of existing infrastructure; reducing/postponing the need to build new dams; as well as strengthening the Niger Basin authority (NBA)'s capacity in its water allocation, planning and coordination of transboundary projects function.

In this context, the Government of Cameroon has made a request to the Niger Basin Authority to incorporate the Lagdo dam into the Niger Basin Master Plan. The WB is currently supporting the master plan through a Niger Basin regional program using the Series of Project (SOP) instrument. Phase 1 (Building Climate Resilience in the Niger Basin, P161262) objective is to strengthen the Niger Basin Authority's capacity for integrated, transboundary water resources management, while subsequent phases/projects, including the proposed operation, would be for country-level investments. Within the master plan integration, the development of irrigation from the Lagdo dam is indicated for Cameroun.

Summary of regional potential water issues, per section of the Niger basin and country

Section of the Niger Basin / countries	Main transboundary issues
Cameroon, Lower Niger and Benue (Chad, Nigeria)	<ul style="list-style-type: none"> - Flood risk in Cameroon and Nigeria - Land degradation in Cameroon and Chad, contributing to sedimentation in Cameroon and Nigeria - Sub-optimal power generation from existing dams in Nigeria (i.e. Kainji and Jebba) and Cameroon (i.e. Lagdo) -
Inner Delta (Mali): Wetland of international significance (RAMSAR), providing fish, pasture land and flood-recession agriculture for more than 2 million people	<ul style="list-style-type: none"> - Vulnerable to a reduction of annual flood and overall yearly inflows, that could result from an increase in water withdrawals from irrigation (i.e. "offices"); river flow regulation from future dams (i.e. Fomi) or/and climate change
Middle Niger (Mali, Niger, Benin, Burkina Faso)	<ul style="list-style-type: none"> - Flooding particularly in Niger and Benin - Erosion and Sedimentation in all countries - Invasive Species (Water Jacinth)
Upper Niger (Guinea, Ivory Coast, Mali)	<ul style="list-style-type: none"> - Moderate degradation of land and forest cover (Guinea and Ivory Coast) - Contamination from informal mining (Guinea, Mali and Ivory Coast) - Low water productivity in the "Offices" of Mali, largest water user in the basin - Sub-optimal power generation from existing dams in Mali
Maritime Delta (Nigeria): wetland of international significance, source of livelihood to about 1 million fishermen	<ul style="list-style-type: none"> - Vulnerability to increase water withdrawals and regulation from upstream countries - Invasive Species (Typha, Water Jacinth)



The proposed project is therefore proposed as the second of a Series of Projects under the Regional Program. Through in country investments it will contribute to the implementation of targeted, interventions for transboundary, integrated water resource management.

Country Context

A lower middle income country of about 24 million people, Cameroon is strategically located on the gulf of Guinea. It is naturally well placed to play the role of a regional hub. With its 600 kilometer coastline, Cameroon borders with six Central Africa countries³ which, with the exception of Nigeria, are members of the Economic and Monetary Community of Central Africa (CEMAC by its French acronym). Its regional port of Douala serves as an entry point to two strategic road corridors to Bangui and Ndjamen. Cameroon's Far North region shares with Chad, Niger and Nigeria access to Lake Chad, a basin traditionally important for livelihood in the region, but also an area of competition for scarce resources including between farmers and pastoralists. Cameroon is endowed with ample arable land, water, energy, and oil and mineral resources.

With a per capita Gross Domestic Product of US\$1,374 (current prices) in 2017, the economy is largely driven by its primary sector, agriculture and mineral resources, and benefits from its location in the Congo Basin, the world's second largest tropical forest zone, which provides an exceptional ecological diversity. The country's mineral wealth includes deposits of oil, natural gas, gold, iron, manganese and uranium. Crude petroleum is an important resource accounting for 10 percent of GDP and being the main export product by value. Timber is the second largest export product. Imports are dominated by manufactured goods and come mainly from Europe.

Despite having one of the most diversified economies in the CEMAC region, Cameroon's economic activity slowed in 2016. Growth has dipped to 3.7 percent by the end of 2017, compared to 4.4 percent in 2016. This outcome is due to slower growth in oil production (+3 percent in 2016 against 37 percent in 2015) resulting from the maturity of the main oil fields, and to the avian flu epidemic that has damaged the local poultry industry, particularly in the West, which accounts for 80 percent of production. However, continued implementation of the Government's ambitious infrastructure plan and interventions to boost the agriculture and forestry sectors have significantly contributed to sustained strong growth in public works and construction and services. Inflation rose to 1.6 percent at the end of June 2016, largely based on the increased tax rate on alcohol (7.4 percent) and tobacco in the 2015 budget law, and the 4.9 percent increase in prices for services, restaurants, and hotels.

Cameroon's ruling party, the Cameroon People's Democratic Movement (CPDM), has long dominated the country's political landscape and currently occupies 148 of the 180 seats in the National Assembly and 81 of the 100 seats in the Senate, which was created in 2013. Presidential elections are scheduled for 2018. While Cameroon has enjoyed peace for many decades in spite of its highly diverse population, it now faces an increasingly challenging situation in its northern regions, where Boko Haram is waging a low intensity war. This has resulted in high levels of insecurity and violence, involving 2,276 fatalities in 2014-2015 alone, loss of livestock, and risks associated with normal economic activities such as farming. Cameroon's northern regions are facing a humanitarian and economic challenge: The Office for the Coordination of Humanitarian Affairs (OCHA) estimated the number of food insecure people in the northern regions to have increased from one

³ Nigeria, Gabon, Equatorial Guinea, Republic of Congo, and landlocked Chad and Central African Republic (CAR).



million in 2014 to 2.4 million in August 2016, including 253,000 children suffering from severe or moderate acute malnutrition. The year 2017 has also been marked by high tensions in the northwest and southwest Anglophone regions, which feel marginalized by the rest of the country.

The Government of Cameroon (GoC) long-term vision, *Cameroon Vision 2035*, is of an emerging, democratic and united country in diversity. To operationalize this Vision, the Government adopted a Growth and Employment Strategy (DSCE –*Document de Stratégie pour la Croissance et l’Emploi*) in 2009 and defined specific objectives to be achieved by 2020, like to reduce poverty by less than 29 percent and by 10 percent in 2035. The GoC has further adopted the United Nations 2030 Agenda for Sustainable Development. It also endorsed the Paris Agreement under the United Nations Framework Convention on Climate Change and published Cameroon’s Nationally Determined Contributions (NDC) setting out its contribution to climate change mitigation and priorities for adaptation.

The DSCE identifies inadequate infrastructure and an unfavorable business environment as the main factors impeding economic growth and employment creation. The agriculture sector, which currently employs about 70 percent of the active population in Cameroon (primarily in the informal sector), is regarded as the engine for economic growth and job creation if it can be transformed from traditional farming to diversified and commercially viable farming (see below). The DSCE recognizes the need for agricultural diversification, increased productivity, and large-scale public investment projects in the sector. In fact, notwithstanding Cameroon’s abundance of natural assets and tremendous climatic and land potential, the primary sector’s contribution to growth is very limited, about one percentage point of GDP p.a., and is dominated by food crops grown by smallholder farmers.

As population growth outpaces poverty reduction, the number of poor increased between 2007 and 2014 by 12 percent to 8.1 million people, with important regional disparities. The northern regions exhibit by far the highest poverty rates in Cameroon, with an estimated 56 percent of the poor living in the North and Far North regions alone. In these two northern regions poverty and inequality levels have steadily increased over time relative to the rest of the country where poverty and inequality have declined. They are subject to multiple poverty traps, which are documented extensively in the World Bank Systematic Country Diagnostic (SCD, Report 103098-CM)⁴, including low agriculture productivity, increasing vulnerability to climate change, poor infrastructure, and limited access to health and education services.

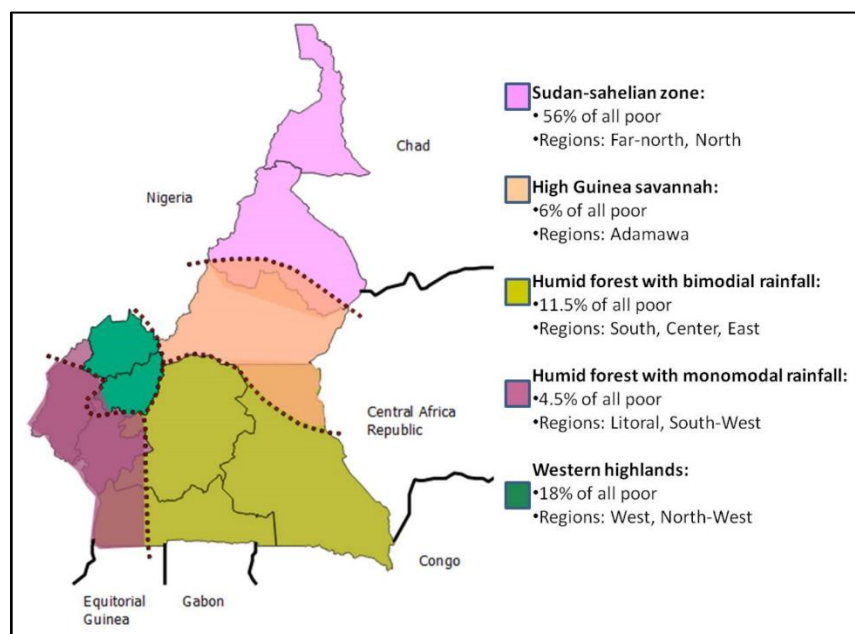
Poverty incidence is correlated with agro-ecological zones. The northern regions of Cameroon, i.e., the four poorest regions (the Far-North, the North, the North-West and the Adamawa), belong to three agro-ecological zones – the Sudano-Sahelian, the Western Highlands, and the Guinea Savannah zones which together account for 80 percent of all poor (see figure below). In the largely arid Sudano-Sahelian zone, comprising the Far North and North regions, agricultural output (millet, maize, peanuts, and cotton) depends heavily on rainfall. Animal production is also vulnerable to drought. In this zone 72 percent of the population or 56 percent of all poor live below the poverty threshold. In the Western Highlands, comprising the North-West and West regions, there is a cattle and coffee based system with corn, (coco) yams, potatoes, and peanuts as the main food crops. Thirty-nine percent of the population in this agro-ecological zone (but as much as 55 percent in the North-West region)

⁴ Republic of Cameroon : Priorities for Ending Poverty and Boosting Shared Prosperity, June 20, 2016



live below the poverty threshold representing 18 percent of all poor. Twenty percent of the poor live in the remaining two agro-ecological zones.

Figure 1: Cameroon: incidence of poverty by agro-ecological zone



Social and economic gaps between regions are likely to worsen as a result of climate change. The Sudano-Sahelian area (North and Extreme North) is the most environmentally fragile zone in Cameroon. It is particularly exposed to drought and increased temperatures with serious implications for the majority of inhabitants who depend on agriculture and livestock for their livelihoods. Regional climate change projections suggest that an overall decrease in the quantity of the water available could exacerbate water shortages in many rural areas of northern Cameroon. The quality of water will also be affected. An increase in temperatures and greater dryness are likely to result in net

capillary movement and the salinization of both water and soils. Rice, one of Cameroon's main food imports, grown in the north by both traditional and modern methods, will particularly be affected, but also other food crops such as millet, sorghum and maize.

Sectoral and Institutional Context

Agriculture remains the backbone of Cameroon's economy, employing 70 percent of its workforce, while providing 42 percent of its GDP and 30 percent of its export revenue. Blessed with fertile land and regularly abundant rainfall in most regions, Cameroon produces a variety of agricultural commodities both for export and for domestic consumption. Coffee and cocoa are grown in central and southern regions, bananas in southwestern areas, and cotton in several northern provinces. In addition to export commodities, Cameroonian farmers produce numerous subsistence crops for family consumption. Principal food crops include millet, sorghum, peanuts, plantains, sweet potatoes, and manioc. Animal husbandry is practiced throughout the country and is particularly important in northern provinces. The great majority of Cameroonian farmers are small-holders, generally obtaining low yields from small plots of land using traditional methods: handheld hoes and animals for draught power. Cash crop production is also done by small holders. Food crops contribute 64 percent to agricultural GDP, followed by livestock (13 percent), forestry (9 percent), industrial and export crops (8 percent), and fisheries (6 percent). About 54 percent of all households have at least one member who owns a crop field of about 2.4 hectares (ha) as documented in the DSCE.



Yet, a series of constraints have led Cameroon's agriculture sector to be characterized by low productivity and low-production subsistence farming. Declining soil fertility, limited use of fertilizer, low adoption of high yielding varieties and improved farming techniques are among the core reasons for constrained yields. Techniques and approaches to address these constraints exist, and Cameroon is blessed with a multitude of high quality agricultural research institutions. Nevertheless, the adoption of improved practices remains limited, as no functional extension system is in place, as evidenced by the size of the yield gaps. The main constraints are: (i) Limited access to inputs (less than 7 kg/ha of fertilizers are used; the use of improved seeds is lower than 30 percent); (ii) Very limited mechanization: Cameroon has a ratio of 0.1 tractor/1,000 ha and a mechanization ratio of only 0.1; (iii) Weak institutional capacity of Producer Organizations (POs) associated with limited storage/processing capacity and marketing infrastructure; (iv) Lack of storage and marketing infrastructure, aggravated by the isolation of agricultural production areas because of the poor quality of rural roads, which comprise 80 percent of the national network (only 5.2 percent or 4,200 out of 81,000 km are in good condition); (vi) Limited access to credit/rural finance: POs and SMAEs have limited access to credit/ rural finance because of their inability to present viable projects for financing, the (perceived) high cost of financing, and the absence of specific financial services/instruments for their segment; and (vii) The size of traditional family farm enterprises, of which 63 percent are too small (less than 2 ha) to profit from non intensive agriculture.

Meanwhile costly and poorly targeted subsidies do not benefit the poorest, distort the market and increase food dependency. In an effort to mitigate the negative effects of the 2008 rise in food and fuel prices, the Government launched a universal subsidy program (food and fuel), which by 2011 was costing the Government around 2.7 percent of GDP. In 2013 more than US\$100 million was spent to subsidize fish, wheat and rice alone. These subsidies benefit the urban middle and upper class and only very small amounts (between 2 percent and 27 percent depending on the food item) benefit the poorest 40 percent. These persistent subsidies and the attempts to stabilize the market through interventions act as a disincentive for local food production and not only aggravate rural poverty, they also sustain the country's dependency on food imports. In addition, as Cameroon is well placed to serve a sub-region that has high purchasing power and is structurally deficient in food, distortionary policies impact negatively on trade competitiveness.

Agriculture, livestock management and agro-forestry are not only sectors in which the majority of the poor are engaged, they are also sectors of competitive advantage. This is based on three observations. The first is that Cameroon has factor endowments rich in unskilled and semi-skilled labor and natural resources. Cameroon has a unique bio-diversity and is the custodian of global public goods such as the rainforest in the Congo Basin. Only 29 percent of arable land is cultivated, and below 3 percent of irrigable land is irrigated. It thus has a comparative advantage in primary products, agriculture, environment and mining. The second is that high indirect costs on doing business are less limiting on agriculture, pastoralism and agro-industry than they are on more sophisticated manufacturing or high-tech, tradeable services. The third is that Cameroon does not meet the internal nor regional demand for cereals, meat and animal products and the agricultural trade balance is negative.

Improving the functioning of value chains for staple food crops is particularly important for poverty reduction. Poor households spend a larger share of their budget on food than non-poor households do. Moreover households in the two poorest wealth quintiles 'specialize' in the cultivation of food crops like maize, millet,



sorghum, yams, banana, cassava, and beans. These crops are also the staple foods for the poorest households, implying that improvements in production and commercialization for these crops would have the double benefit of increasing farm incomes and reducing food prices for the urban poor who rely on food purchases. Many rural poor will benefit from lower food prices as many are net food purchasers. Good results are already being achieved by linking farmer cooperatives producing millet and sorghum with large industrial enterprises like Guinness. The value chain for milk similarly offers great opportunities, as does the value chain for poultry, meat, eggs or chickenfeed.

The presence of significant yield gaps for the most popular crops suggests scope for productivity increases.

Assessing actual crop yields against maximum attainable levels offers important insights into the performance of agriculture and the potential for yield growth and expected productivity gains from agricultural investments and policies, including land and water resources management. The yield gap for Cameroon is substantial. The largest differences are for sweet potato, rice and cassava, with yield gaps of 78, 75 and 73 percent. Sorghum, maize and potatoes also have sizeable yield gaps of respectively 63, 67 and 64 percent.⁵

In a context of improved yields, there is significant potential for the (domestic and regional) markets to absorb increased food production.

Already the demand for food in Cameroon exceeds supply as evidenced by the large amount of food that is imported. Also the high levels of chronic malnutrition –particularly in the north of the country, point in the direction of an unmet demand for food. Moreover, there is a large demand for food in the region. Nigeria is a huge market and rice, maize and onions already find their way to markets in Nigeria, but also in Gabon and the Democratic Republic of Congo. But even domestically the demand for food will rise rapidly due to an annual population growth rate of 2.8 percent and increased urbanization. However, the formation of a middle class will be accompanied by the demand for food products with a high income elasticity such as rice, milk and milk products, eggs and meat.

On land issues, a main principle is lands belong to the State. The Government of Cameroon (GoC) has initiated a land reform process over 10 years ago and a draft land law is currently being reviewed at the presidency level.

While the proposed law is not yet being shared outside the Government, preliminary analyses suggest that it does not contain any major innovations likely to address the dysfunctions of the land sector. It does not seem to be based on the definition of a fundamental land policy addressing issues across the various sectors (agricultural, pastoral, forestry, environmental, industrial, urban). Moreover, the proposed law barely seems to address the issue of recognition of customary land rights but rather there seems to be a desire to strengthen the role of the State in land ownership and the constitution of public land reserves. It is, however, questionable when the new land law would be adopted given the political sensitivity of land issues in a context of upcoming presidential elections in 2018 and increasing tensions and fragile situations in several regions of the country.

Despite the many challenges it faces, the GoC is committed to increase investment in the agriculture sector for poverty reduction and economic growth.

A growth strategy that focuses on products cultivated by the poorest has a greater likelihood of successful poverty reduction, and as the majority of the poor can be found in the rural areas of northern Cameroon, a poverty reducing growth strategy would focus on the value chain development of coarse grains (rice, maize, millet, and sorghum) but also livestock, beans and cotton, which is

⁵ Cameroon Systematic Country Diagnostic, page 83

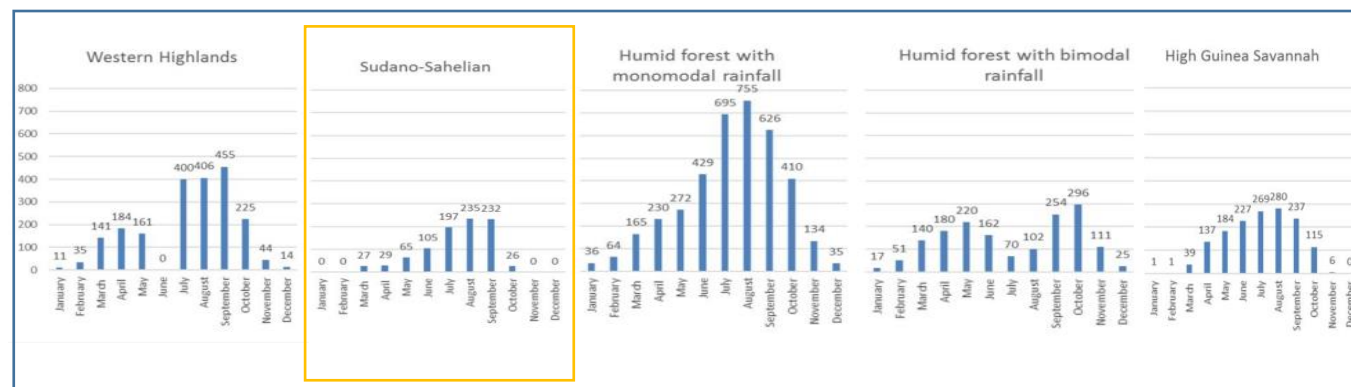


the main cash crop grown in the Northern regions. In this context, the GOC's agriculture strategy is expressed in three key national strategy and planning documents: (i) «Vision 2035» envisages agricultural growth beyond 5 percent by 20209; the DSCE foresees significant productivity increases in agriculture and livestock farming; (ii) the 2005 - 2009 Rural Development Strategy and its 2013 update ("Document de Stratégie de Développement du Secteur Rural," - DSDSR) commit to a modernization of rural infrastructure and agricultural production and sustainable management of natural resources; and (iii) Cameroon has engaged in the African Union's Comprehensive Africa Agriculture Development Program (CAADP), and with CAADP support, Cameroon is currently finalizing its 2014-2020 National Agriculture Investment Program ("Plan National d'Investissement Agricole," - PNIA11).

Cameroon aims to articulate and implement a more robust public expenditure program to improve sector performance. This would necessitate an examination of the national budget level benefiting the sector, which currently remains below 5 percent of the total budget (compared with the CAADP target of 10 percent), as well as a review of the quality of expenditure planning, allocation, and implementation. To this effect, the agriculture sector ministries (MINADER and the Ministry of Livestock, Fisheries, and Animal Production) with support from the Bank are currently finalizing an agriculture sector public expenditure review to identify bottlenecks, inefficiencies, and deviations from the policy goals. The review, which is expected to be completed by the effectiveness of the proposed project, will analyze growth of agriculture on a macroeconomic scale within the framework of a computable general equilibrium model. This model will analyze the role of relative prices, public expenditure, and exchange rates on the growth in the sector. This tool will also development partners to help decide how to increase the financial resources dedicated to agricultural development.

Within this framework, the Government of Cameroon asked support from the World Bank to improve irrigation services and sustain climate resilient agricultural productivity in the Benue River Valley, in the North of Cameroon. One of the poorest regions in the country, highly populated, and with a history of immigration pressure from the extreme North, the North region is within the Sudano-Sahelian Savanah agroecological zone. Of the five agroecological zones of Cameroon, the Sudano-Sahelian (North and Extreme North) is the one with the shortest rain-fed season (March to September, Figure 2 below).

Figure 2: Rainfall patterns in different Agro-ecological Zones. The Sudano-Sahelian zone (in the yellow frame) is the one with the shortest season, and with the least amount of precipitation.

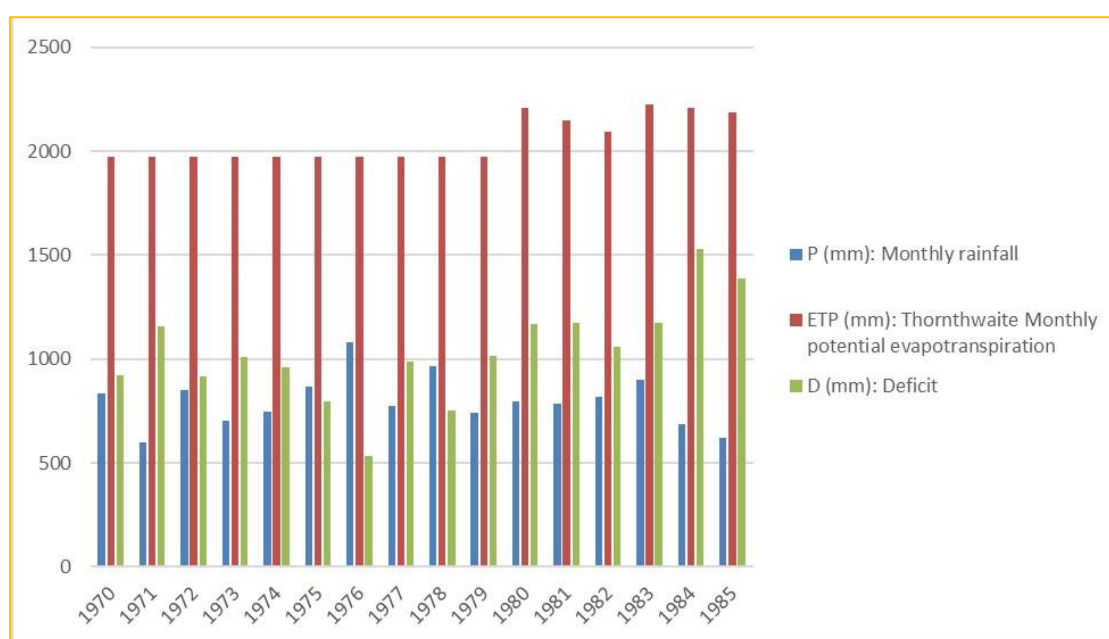


Source: <http://www.cameroon.climateemps.com>



In this zone, the potential Evapotranspiration (ETP) is never fully satisfied by the amount of monthly rainfall, inducing a permanent deficit (figure 3 below). This translates into water stress and reduced photosynthesis and therefore yields. In this zone improved water storage, water harvesting, and irrigation are critical to improving farm production. Improved water management also enhances the ability to withstand climatic shocks and is commensurate with a strategy whereby the production of staples is promoted in rain-fed systems and production of high value cereals (e.g. rice), horticultural crops, and industrial crops in irrigated systems. With an enormous untapped potential for irrigation (a 5,900 million m^3 Lagdo reservoir) the Benué Valley if correctly developed will have a significant impact in improving the life of hundreds of thousands of people through economic growth, poverty reduction, social stabilization, and reduced vulnerability.

Figure 3 Thornthwaite water budget: annual data at Maroua-Salack, (1970-1985)



Different groups of poor people can be expected to benefit from increases in agricultural productivity in the Benué Valley. Poor farmers will benefit from higher incomes brought about by productivity gains while non-farmers in rural areas benefit from spill-over gains. When increased agricultural productivity leads to increases in food production, lower food prices will benefit the urban poor and net food buyers in rural areas, often the poorest. This is not inconsequential. High transportation costs make food an imperfectly tradeable commodity. An important transmission mechanism from agricultural productivity to aggregate growth is through the price of food, as it allows sustaining lower labor costs in the rest of the economy.

The proposed project may qualify for a high adaptation and mitigation co-benefits in the form of adoption of Climate Smart practices, reduction in irrigation energy use, reducing emissions from deforestation and forest degradation and agricultural management activities that improve carbon pools. Project activities proposed under components 1, 2 and 3 are included on the “List of activities eligible for classification as climate mitigation finance” in the 2016 Joint Report on Multilateral Development Banks’ Climate Finance under category 4, sub-



category 4.1 and 4.2. In compliance to the corporate mandate included in the Environment Strategy endorsed by the board in 2012, a preliminary GHG assessment using conservative boundary values has been performed for this project using the Ex-Ante Carbon Balance Tool (EX-ACT). Preliminary results show that the project creates a total net carbon sequestration of 337,558 tCO₂-eq. Watershed management provided the largest potential for mitigation co-benefits. An updated GHG assessment will be performed during the appraisal stage.

Relationship to CPF

The project objective is fully consistent with the Cameroon Country Partnership Framework (CPF) for 2017-2021 to support poverty reduction and shared prosperity in Cameroon. The FY17-FY21 CPF succeeded the Cameroon Country Partnership Strategy (FY10-FY13, report number - 52997), which was extended until FY14 by the Progress and Learning Report considered by the Executive Directors in October 2012. The CPF draws on a comprehensive Systematic Country Diagnostic (SCD, report 103098-CM), completed during FY16, which identified constraints to achieving the World Bank's Twin Goals of eliminating poverty and fostering shared prosperity in a socially and environmentally sustainable way. Despite more than a decade of economic growth, national poverty incidence has remained almost unchanged. Poverty decreased slowly as a percentage of population, from 40.2 percent in 2001 to 37.5 percent in 2014, and its incidence declined in urban areas from 17.9 percent to an estimated 8.9 percent during the same period. In rural areas, on the other hand, the percentage of poor increased from 52.1 percent to 56.8 percent. Even though urban poverty declined significantly in relative terms, the absolute number of urban poor declined only slightly, by 300,000, because the urban population increased by approximately 4.1 million since 2001. In rural areas, higher poverty incidence resulted in 1.1 million additional poor people. Overall, the absolute number of poor in Cameroon increased by approximately 800,000 since 2001.

The CPF has concluded that in the short-term, the largest opportunity for increasing shared prosperity and reducing acute poverty in Cameroon is an improvement in rural livelihoods, largely based on agriculture. Eighty-five percent of all poor people live in the countryside. Of these a majority live in the Sudano-Sahelian areas of the North and the Far North regions. Cameroon has a strong potential to increase agriculture productivity. It has a comparative advantage in primary products based on a relative abundance of natural resources and unskilled and semi-skilled labor. There is also significant unmet internal demand for cereals, meat and animal products. The development of labor-intensive agro-industry could offer a path towards more diversified, complex and higher value forms of manufacturing. Key issues include low agricultural yields, limited infrastructure for transportation, delivery, and storage, as well as the need for improved irrigation and water harvesting to improve farm production in some areas.

The proposed project addresses the key issues identified in the CPF and promotes natural resources and water management, irrigation, and agriculture under a participatory landscapes approach, with a specific focus on land tenure rights security. Irrigation (as major investment component) will be expanded from reservoirs already developed on the Benue River which would provide safeguard against climate change impacts and increased occurrence of droughts. The supporting project components are aligned to development and dissemination of new agricultural technologies, climate-resilient rainfed agriculture, enhanced market linkages for small and marginal farmers, and improved natural resource management in the upper catchment areas of



the Benue River. Further the project will have positive impact in terms of environmental protection, and reduced greenhouse emissions by disseminating high efficiency irrigation systems, particularly for high value crops, which significantly reduce water consumption. The proposed project would also improve the sustainability and reliability of rainfed agriculture and small-scale irrigated agriculture in the Benue River Valley downstream of the Lagdo dam with better flood protection features. Thus the proposed project will be closely aligned to the findings and recommendations contained in the CPF.

Link with other existing projects. The proposed Project builds on previous work and results of the Flood Emergency Project (PULCI - P143940) for component 2 and 4, and will closely coordinate with the Agriculture Investment and Market Development Project (PIDMA - P143417) for component 3. PULCI, following previous work from PACA (P112635), is working to improve irrigation and flood protection in a sustainable manner for the riverine population of the Far-North. Furthermore, the Bank is currently undertaking a AAA for increasing climate smart agriculture in Northern Cameroon. In addition, the project will collaborate with the regional initiative Building Climate Resilience in the Niger Basin (P161262) whose objective is to strengthen the Niger Basin Authority's capacity for integrated, transboundary water resources management, being the Benue valley part of the Niger basin."

C. Proposed Development Objective(s)

I. The Overall Series of Project Program

The **Program Development Objective** is to strengthen NBA's capacity for integrated, transboundary water resources management and support the implementation of the Regional Climate Resilience Investment Plan (CRIP).

The program activities focus on two broad areas:

Strengthening of ABN's capacity for transboundary, integrated water resource management (WRM) investing in Planning and feasibility studies, Environmental Information System and associated decision making tools, Operationalization of the Water Charter, and Strengthening NBA's operational capacity, dissemination of good practices and project implementation support; and

Support of the implementation of the CRIP focusing on transboundary activities. Among the numerous activities planned in the CRIP two types of activities have been selected: activities aimed at improving the performance and safety of large, existing transboundary infrastructure (mostly for hydropower and irrigation) in order to postpone the need to develop further large dams and their potential damages on riparian countries and measures to manage transboundary contributions to flood and sedimentation.

Among the potential activities are the following: (i) Improving the performance and safety of key existing hydropower dams, such as, for example, the Kainji and Jebba dams in Nigeria, the Sotuba and Selinge dam in Mali, and the Lagdo hydropower dam in Cameroon, with its interconnection to Chad; (ii) Improving water-use efficiency of the "Office du Niger" in Mali; and (iii) Addressing Niger River sedimentation and recurrent flooding in the "Moyen Niger" and "Benoué tributary" through water conservation measures in Burkina Faso, Cameroun



and Benin among others.

II. Proposed Development Objective(s)

The Project Development Objective (PDO) is to improve irrigation services and sustain climate resilient agricultural productivity in the Benue River Valley located within the administrative region of North, in Cameroon.

This would be achieved through sustainable management of the water resources generated in the Benué River catchment area and flowing to the reservoir impounded behind the Lagdo dam, as well as of the regulated river flows downstream of the dam for irrigated agriculture. In addition, flood mitigation and protection measures on the Benue River system downstream of the Lagdo dam will enable sustainable rain-fed agriculture in the river valley. Support to livelihoods in the Lagdo reservoir and improved feed availability for livestock due to increased production of crops would improve off farm rural incomes resulting in shared prosperity.

Key Results (From PCN)

The Key Project Indicators (KPI) will be:

- a) Area provided with new/improved irrigation and drainage services (in Has, Core Indicator);
- b) Increase in irrigated area (hectares) under vegetables as well as cereal crops;
- c) Increase in climate resilient agricultural productivity (yield/ha) of various crops grown in the project areas;
- d) Number of farmers reached with agricultural assets or services.

D. Concept Description

1. Description

Introduction/Background: The project area covers the Benue river valley located in North Cameroon Administrative Region, one of the poorest regions of the country. The Lagdo multipurpose dam was constructed on the Benue River over the years 1978-1982. At completion, the storage volume in the reservoir impounded behind the dam was about 7,700 million cubic meters. A hydropower plant was established with 72 MW installed capacity and allowance was made for provision of water for irrigation of about 11,000 ha (about 6,000 ha along the right bank of the river and about 5,000 ha along the left bank of the river). The hydropower station has been operating since 1982 but the irrigation development did not take place as originally envisaged. About 800 ha were developed on the right bank in 1992. The reservoir storage volume has been impacted over the last 30 years by sedimentation and currently the storage volume available is



estimated to be about 5900 million cubic meters based on bathymetric surveys completed in 2005. The project would support the sustainable management of the Benue watershed, the development of irrigated agriculture on both banks of the river immediately downstream of the river as well as in the river valley below, and the improvement of agriculture practices in the valley, including land tenure right management. In accordance with World Bank OP 4.37, project financing would include aspects related to safe operation of the dam and appurtenances. The total project cost is expected to be about US\$ 200 million for a duration of seven years. The project will have the following components.

Component 1: Watershed Management (US\$ 5M IDA, US\$ 10M regional IDA, US\$ 15M Total)

The primary goal of this component is to reverse the process of degradation of the natural resource base and improve the productive potential of natural resources and incomes of the rural households in the watershed sustaining the Lagdo reservoir while improving the operation and safety of the dam. The secondary goal is to maintain the quality and quantity of water of the reservoir through sustainable operation and maintenance. It will finance watershed interventions, consulting services, technical assistance and equipment along the following.

Watershed management: Prior to the construction of the dam and impoundment of the reservoir at Lagdo, the population farmed the reservoir area after the recession of flood flows each year. After the impoundment some of these farmers have moved to the periphery of the reservoir and have been cultivating there. Tillage of lands and cultivation induces soil erosion in these areas resulting in sediment deposition in the reservoir. In addition, the reservoir is an important source for fisheries development. Cutting of firewood to smoke the fish, a common practice in Cameroon, resulted in deforestation further contributing to erosion and sedimentation in the reservoir. This subcomponent will introduce sustainable practices to manage the watershed. It will mobilize community participation in watershed development and management aimed at integrating land-water use to reduce soil erosion, retain moisture and produce biomass, while enhancing incomes and livelihood options.

Non-arable land development: interventions will be aimed at (i) ecological rehabilitation of the catchment by carrying out soil and water conservation measures through site specific treatment plans, and (ii) narrowing the gap between biomass production and consumption in degraded areas. **Arable land development:** This subcomponent will improve cropping systems through promoting adoption of new agronomic practices, and fisheries, crop diversification, water harvesting technologies and optimal use of natural sources. Effort for improving land tenure security as an incentive to use these new agronomic practices and technology will be included in this subcomponent. Funds would be provided to secure appropriate expertise in this regard and to implement the measures described above as appropriate. Funds would be provided to secure appropriate expertise in this regard and to implement the measures described above as appropriate. This subcomponent can be assigned Mitigation co-benefits as financed activities will lead to net reduction in GHG emissions.

Component 2: Water Infrastructure rehabilitation, development and maintenance (US\$ 45M IDA, US\$ 90M regional IDA, US\$ 135M Total)

The goal of this component is to rehabilitate and develop water infrastructure that will ensure dam operation and safety downstream of Lagdo and allow irrigated agriculture in 11,000 ha, a potentially game changer for the rural economy of the North of Cameroon. It will finance studies, consulting services, works and equipment along



the following three subcomponents. This component may qualify for both climate change adaptation and mitigation co-benefits .

Subcomponent 2a: Sustainable operation and maintenance of Lagdo Dam and Reservoir Complex: The Lagdo Reservoir impounded behind the Lagdo Dam provides water for power generation and irrigation of lands located immediately below the dam on both banks of the river, and is designed to provide flood modulation as well. The lake is also a resource for fisheries. Funds would be provided to improve the water inflow forecasts through provision of updated electronic meteorological equipment in the catchment and to improve the modeling capabilities of Eneo, the operator of the dam. (Eneo, the Energy Company of Cameroon, is responsible for power generation and distribution in the country but has also been given the overall responsibility of Lagdo dam operation – power generation, irrigation releases, flood releases, and safety of the dam). The dam is owned by the Government of Cameroon (MEADEN) with Eneo operating under an umbrella contract for energy generation and distribution throughout the country with other assets as well. Currently the dam is being inspected periodically by a national expert panel. Funds would be provided to set up an independent dam safety panel with specific Terms of Reference in accordance with Dam Safety Guidelines of the World Bank. The Dam was built in early eighties. The international standards for design floods and flood evacuating mechanisms have changed substantially during the last four decades. The Hydrologic computations for the dam/reservoir complex would be revisited and if required the design floods would be revised on the basis of today's standards. Hydraulic computations would also be revised to ensure flood handling mechanisms are adequate to meet current standards. Funds would be provided to carry out the required studies and analysis using reputed firms. Funds would be provided to make any structural modifications required to the dam and spillway arising out of these studies. Improved emergency preparedness plans would be prepared using up to date maps and technology for a flooding early warning system. This sub-component may qualify for climate change adaptation co-benefits.

Subcomponent 2b: Irrigation infrastructure to utilize direct water releases available from the Reservoir (11,000ha) – Provision was made in the original design of the Lagdo Dam Complex to provide irrigation water to irrigate lands situated on both banks of the river immediately downstream of the river. Original designs allowed for gravity irrigation of about 6,000 ha on the right bank and about 5,000 ha on the left bank. However, only limited irrigation infrastructure was built along the right bank covering about 1,000 ha and no infrastructure including release offtake was built on the left bank. In order to utilize the water resource asset already provided for in the reservoir for agriculture development, funds would be provided to update the feasibility studies carried out earlier covering the irrigation areas on both banks and to prepare detailed designs, cost estimates and bid documents for the left bank infrastructure in its entirety. Notional cropping patterns will be developed during project preparation on the basis of soil suitability, climate factors and irrigability. Funds would be provided for the construction of all requisite infrastructure for the development of the 5,000 ha on the left bank including the offtake at the dam.

On the right bank, infrastructure developed for the 1,000 ha requires rehabilitation and modernization. Funds would be provided to update the feasibility studies carried out earlier for the right bank as well as detailed designs and cost estimates covering the total gravity command of 6,000 ha. Funds would be provided for rehabilitation/modernization of irrigation infrastructure covering 1,000 ha. On the left bank the GoC intends to have private-sector led commercial investors. Options of IFC supporting this investment are being considered



and will be further developed at preparation. The project will propose some legal mechanism to improve land tenure right security for all the stakeholders involved in the irrigation schemes. Funds would be provided for the construction of primary irrigation infrastructure covering the remaining 5,000 ha on the right bank.

Subcomponent 2c: Technical Assistance for Irrigation Management. This Subcomponent will address the daunting challenge of ensuring the long-term viability of the irrigation and drainage services delivered on the irrigation schemes. The approach will be to implement a progressive management transfer to users' regulated bodies in the form of WUAs and to autonomous professional operators, either public or private. The approach will be first piloted in the right bank, which is the 'first mover', starting with the areas to be rehabilitated. The investments under this Subcomponent would support the development of a detailed training strategy with associated learning materials to re-align existing WUAs and establish new ones to achieve a transformed institutional structure for effective water management.

Component 3: Agriculture Production (US\$ 40M, IDA)

The fundamental needs of Cameroon to increase production and enhance productivity in the North (especially with irrigation and particularly of smallholders), reduce vulnerability, boost rural employment, and provide environmental services come in a context where agriculture is challenged by extreme weather, increased market risk, too-slow progress in raising rural incomes in some regions, and too-slow progress in improving nutrition, especially for women and infants. Agriculture is the main activity of the households (88%) of the area. Globally it is extensive agriculture with low production dominated by cereals (maize and sorgho), groundnut and cowpea as food-crops and cotton as cash-crop. Within the riverbanks, small plots of onions, tomatoes and other vegetables can be found. Social studies show an abundance of labor force. The markets are in Lagdo and Ngong, being also intermediaries that re-sell the primary products in Garoua and Ngaoundere. This component will focus on production, linking farmers to markets, and support services. It will finance grants, training, works, equipment, workshops and studies along the following sub-components.

Subcomponent 3a: Climate Smart Agriculture – Climate-Smart Agriculture (CSA) is an approach for reorienting agricultural systems under the new realities of climate change: (i) sustainably increasing agricultural productivity to support equitable increases in incomes, food security and development; (ii) adapting and building resilience to climate change; and (iii) developing opportunities to reduce GHG emissions from agriculture compared with past trends. Activities will focus essentially on enhancing climate proofing while improving water and agriculture productivity. Examples of these activities are the dissemination of Systems of Rice Intensification (SRI) techniques, water saving technologies such as low pressure irrigation, mechanization services, improved soil management, urea-deep placement, drought-resistant and hybrid seed varieties, Integrated Nutrient Management (INM), Integrated Pest Management (IPM), organic farming techniques, and diversification into high value crops such as pulses and millets, vegetables and other horticulture crops. The project will provide farmers with training and technical assistance. A grant facility will finance small equipment, inputs, services and/or activities to: (i) promote the adoption of priority technologies, (ii) strengthen producer-based organizations, transfer knowledge and technologies; (iii) improve food safety and quality standards, and (iv) improve handling, packaging and post-harvest management at the farm level. This sub-component may qualify for climate change adaptation co-benefits.



Subcomponent 3b: Agribusiness and linking farmers to market – This subcomponent will focus on value addition and forward linking farmers to markets under a productive alliance approach. Productive alliances are collaborative arrangement between groups or producer organizations (POs) and an agribusiness within particular value-chains for provision in a specified quantity, quality and time. Four elements define the nature of a Productive Alliance (PA), namely: a group of organized producers, a buyer, an investment in production and marketing, and technical assistance. The project will finance outreach and promotional activities to identify POs, commercial partners and private financing entities to form alliances, and formulate business proposals and business plans. In order to become eligible for financing under the project, a business plan will have to be financially feasible, and support one or more productive alliances. Grants would be that portion of the alliance's business plan that would be: (i) financed with proceeds from the proposed project; (ii) implemented by POs; (iii) governed by agreements signed between the PO and the project; and (iv) include fixed capital (e.g., plant and equipment, minor infrastructure), working capital and technical assistance expenditures. Examples of business plans to be financed could be the following: the establishment of PO managed collection, dehulling and processing center for rice or cereals, a sorting, grading and packaging facility for fresh vegetables, a grading and processing center for cashew nuts.

Subcomponent 3c: Farm Service Centers – The project will finance a TA to promote a local network of private, retail supply and farm service businesses Farm Service Centers (FSCs) throughout the project area. An enterprise-based delivery of farm supplies and services, FSCs will be one-stop-shops that provide smallholder farmers with agricultural and veterinary inputs, services and technologies that will help production and linkages to markets. This highly adaptable model, has already been proven successful in several countries worldwide and in the region, notably in Senegal and Ethiopia. Grants will be provided and applications reviewed and ranked on a competitive basis to evaluate technical capacity, proposed business plan, and potential impacts. FSCs can be privately owned or owned by cooperatives or other types of producers associations. In addition, this subcomponent will promote mechanization providing on-demand tractor services for smallholder farmers who are relying on expensive and often unavailable manual labor through low-cost "Smart Tractor owners" that pairs better off local tractors owners with labor-constrained farmers willing to pay for tractor services (tractor "Uberization"). A booking system will allow farmers to request, schedule and prepay for tractor services, from nearby Smart Tractor owners, through SMS messaging and mobile money. The subcomponent will provide grants, studies and consultant services. Technical inputs and knowledge sharing for this component will be provided (tentatively) by the Syngenta Foundation.

Component 4. Implementation (US\$ 10M IDA)

Subcomponent 4a: Institutional Strengthening – The primary institution responsible for water resources development and management in the North of Cameroon is MEADEN reporting to MINEPAT. The Government has constituted a multi-disciplinary team to formulate this project. In order to formulate this project well and implement it, MEADEN staff structure has to be modified and modernized. The current organogram of MEADEN is being studied in detail to identify gaps and areas for strengthening in order to develop over the coming years a modern up to international standards MEADEN, similar to the SAED (Société Nationale d'Aménagement et d'Exploitation des Terres) approach in Senegal. MEADEN presently is a state-owned enterprise in charge of



irrigation service delivery as well as land allocation to farmers and land preparation TORs are being prepared and positions will be filled based on Job Descriptions acceptable to the Bank after the approval of the PCN. Funds would be provided to support the training required to strengthen the skills of MEADEN staff both in the country, and abroad.

The operation and maintenance of the new and rehabilitated/modernized irrigation systems would be carried out jointly by MEADEN and the Water Users Associations to be set up under the project. MEADEN would be responsible for the operation and maintenance of the primary canals and drains while the WUAs would be responsible for the secondary and tertiary systems. For irrigation services to be effectively delivered, WUAs will have to rely on a participatory design and the cooperation of all member farms, which entails paying irrigation and WUA membership fees, signing water contracts with WUAs and attending WUA planning meetings.

As several farms are headed by women, a study will be carried out during preparation to find the social implications for female irrigators to honor their farm's financial obligations to WUAs, attend WUA planning meetings, and sign an annual contract for water delivery with the WUAs. The study will provide analyses and recommendations to improve land tenure rights as well for both female and male irrigators. In addition, the concept of WUAs is new to Cameroon. Funds would be provided to train the WUAs as well as to develop appropriate legislation for the creation of the WUAs (this is already on-going with the PULCI project).

Government of Cameroon authorities undertook a study visit in January 2018 to visit the SAED operations in the Senegal river's delta, where such WUAs are operating efficiently. Following the same model, funds would be provided to develop similar arrangements between MEADEN and the WUAs. Irrigation infrastructure would be provided with required instrumentation to enable MEADEN to monitor the performance of the WUAs on a regular basis to ensure irrigation water is supplied to the farmers on a timely basis and agreed quantities are delivered.

Subcomponent 4b: Project Implementation and M&E support – This subcomponent will set up a Project Management Unit (PMU) to assist MEADEN in the day-to-day implementation of the project. Proposed structure of the PMU with job descriptions will be developed and agreed with MEADEN before appraisal. The core PMU will be set up in MEADEN soon after the PCN approval. Funds would be provided to meet salaries and allowances of PMU staff and to cover operation expenses. The GoC expressed interest in requesting a Project Advance. These funds will be used among other things to make progress in setting up and strengthen the PMU accordingly. In addition, baseline information will be collected before the start of the management of the watershed and before the starting of the production activities in the area to allow an impact evaluation at the end of the project life.

SAFEGUARDS

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

The project is located in the Sudano-sahelian zone of Cameroon, it is presumably the driest zone of the country. Rainfall in this zone is highly variable with its onset very erratic and last for about 5 months (May-September). This zone is mostly affected by land degradation. Land disputes and agropastoral conflicts are of a major concern because there are no



defined routes for cattle migration, and thus animals. Land degradation is due to pressures such as deforestation due to expanding agriculture, fuel wood harvesting, bush fires, semi-intensive and extensive cattle rearing and farming. National Park belongs to this zone and it is home to elephants, black rhinos, cheetahs, hyenas, population of hippos and other wildlife. Porous borders and poor park protection make Faro extremely vulnerable to poachers, livestock, and habitat destruction.

B. Borrower's Institutional Capacity for Safeguard Policies

Cameroon has a comprehensive Environmental and Social Impact Assessment (ESIA) law and regulations as well as occupational safety regulations. The framework law No 96/12 of 5 August 1996 on environmental management highlights in its article 17 the principle of environmental impact assessment. Two forms of public participation-stakeholder engagement are required for ESIA by law: public consultations during the assessment stage and public hearings during the review stage. Legal and administrative appeals are possible at all stages and for all decisions relating to ESIA. A relatively mature central (Ministry of environment, interministerial Committee on the Environment, CIE decentralized (municipalities, Divisional Committees for technical and administrative supervision of ESMP and ministry of environment decentralized units) ESIA authorities are in place but they are understaffed. The CIE gives an opinion on the quality of reports prior to their approval by the Minister. The decentralized units don't have adequate financial provision. They lack adequate equipment for fieldwork, and Senior staff lack personal vehicles. In 2017, the ESIA sub-directorate and Environmental & Social Management Plan (ESMP) sub-directorate in the Ministry of Environment consist of six full-time staff and 2-4-part time staff, of whom many are knowledgeable about the national ESIA system and the World Bank Safeguards for which they received a substantial training. MAEDEN is not familiar with the World Bank operational policies as this is its first Bank financed projects. It has an institutionalized GIS unit but does not have the necessary technical knowledge and expertise in environmental and social issues in the region and as such has the technical capacity to identify and flag any safeguards related concerns to the implementation of the safeguards instruments for national-level investments, should any arise during project implementation. To bridge this gap, the project will set up a Project Management Unit (PMU) to assist MEADEN in the day-to-day implementation of the project. At the early stage of preparation, two safeguards specialists (Social and Environmental) will be hired for the PMU. They will oversee the preparation of the safeguard documents, liaise with local consultants, and coordinate the organization of the necessary consultations with key concerned stakeholders and the in-country disclosure of the safeguards instruments.

C. Environmental and Social Safeguards Specialists on the Team

FNU Owono Owono, Social Specialist

Cyrille Valence Ngouana Kengne, Environmental Specialist

D. Policies that might apply

Safeguard Policies	Triggered?	Explanation (Optional)
Environmental Assessment OP/BP 4.01	Yes	The Project is proposed to be classified as Category OP/BP 4.01 "A" due to potential downstream impacts and negative potential environmental and social impacts associated with development and/or rehabilitation of irrigation infrastructure. A basin level ESIA report that will include Cumulative Impact Assessment (CIA) will be prepared during implementation. However, a specific ESIA for the



		known irrigation scheme (11,000 ha) will be prepared and disclosed before the decision meeting. The specific ESIA will include a Gender Based Violence assessment and occupational safety. These ESIA's will inform the notification to Nigeria Government by the GoC; ToRs of these studies are consulted upon in-country and cleared by the Bank. For the subprojects to be implemented under the small grants of component 3, which are not identified before appraisal, an ESMF will be prepared and it shall describe the roadmap for preparing sites specific. Finally, a GRM will be prepared, consulted upon and disclosed before project effectiveness.
Performance Standards for Private Sector Activities OP/BP 4.03	No	
Natural Habitats OP/BP 4.04	Yes	Although the project is not expected to intervene in any critically important natural habitats, downstream impacts, development of irrigation infrastructure may affect areas requiring specific management considerations such wildlife migration corridors. In addition, this policy is triggered due to the presence of three cynegetic zones (Campement des éléphants, 97 920 ha; ZIC 8 : Mayo Boulel, 35 040 ha ; ZIC 8 bis: Louga, 8 320 ha) in the project area of influence. Specific guidance will be provided to avoid significant conversion or degradation of rivers and the EA will identify and delineate areas of critical habitat and ensured application of the mitigation hierarchy in accordance with this policy for all project works.
Forests OP/BP 4.36	Yes	The project does not support commercial forest exploitation. However, the Massif Forest of Ouro-Doukoudje may be affected due to the presence in the project area of influence. Mitigation measures are thus proposed as part of the ESMP.
Pest Management OP 4.09	Yes	Major interventions are planned to enhance agricultural productivity and this may lead to an increased use of pesticides and other agrochemicals. An Integrated Pest Management Plan (IPMP) will be prepared, consulted upon and disclosed before appraisal.
Physical Cultural Resources OP/BP 4.11	Yes	Previous studies in the Region revealed local significant heritage places such as graveyards. Mitigation measures will be incorporated into the disclosed ESMP including provisions for a detailed Cultural Heritage Management Plan. A comprehensive



		chance find procedure will be prepared as part of the ESIA reports, embedded in the overall ESMPs, to that end.
Indigenous Peoples OP/BP 4.10	No	There are no Indigenous Peoples in the project areas, as defined by OP/BP 4.10.
Involuntary Resettlement OP/BP 4.12	Yes	<p>The client will prepare a Resettlement Policy Framework (RPF) for all the entire project. The project through its component 2 is likely to involve land acquisition / involuntary resettlement and/or possible restrictions of access to resources and livelihoods. There are 3 clear distinct irrigation areas: (i) right bank rehabilitation (1,000 ha), (ii) right bank new area (5,000 ha) and (iii) left bank new area (5,000 ha). Therefore:</p> <p>(i) a RAP will be prepared for the rehabilitation area prior to appraisal.</p> <p>(ii) for the rest eventual new irrigation areas, the resettlement process is at an advanced stage. The list of people affected by the project (PAPs) already exists, PAPs have received pecuniary compensation, a PAP resettlement site is being developed and a Declaration of Public Utility (DUP) exists for the eventual new perimeters. The Government of Cameroon elaborated the list of PAPs in 2010, a total of 1442 household affected were recorded for 3093 properties (fields and boxes) as provided in the decree n°2010/3445/PM of December 15, 2010 relating to the compensation of the victims by incorporating to the private domain of the state lands downstream from the Lagdo perimeters. All this documentation is being reviewed and updated by a social audit that the client will present to the World Bank team for review and clearance prior to appraisal. In case, there will be new households settled after 2010 (after the DUP), PAPs will be compensated for those new assets (except land) prior to resettlement. In case there will be new constructions (houses, community infrastructures, etc.) different from those already compensated in 2010 in the DUP area, PAPs will also be compensated for these assets prior to resettlement. It is highly expected social audit's recommendations will propose specific measures related to assistance for resettlement (transportation costs coverage and livelihoods assistance) to all PAPs to be resettled.</p>



Upon approval, the final RAPs of these two new zones (right bank new area (5,000 ha) and (iii) left bank new area (5,000 ha)) in Lagdo will be prepared during project implementation and cleared by the WB prior to any works commence.

In addition, a GRM document for the project will be prepared and disclosed before project effectiveness. Finally, all subprojects under component 3 will be submitted to an environmental and social screening during the implementation stage and based on results this would lead to Environmental and Social Impacts assessments (ESIAs) or Environmental and Social Impacts Notice (ESIN).

Safety of Dams OP/BP 4.37

Yes

This policy is triggered because funds would be provided to make any structural modifications required to the dam and spillway arising out of these studies. In addition, the project infrastructure investments, including irrigation, will rely on the performance of this existing dam. An independent Panel of Experts with Dam Safety and Environmental and Social expertise will be hired by MEADEN in accordance with Dam Safety Guidelines of the World Bank. The panel will comprise five specialists (geotechnical, Hydrological, hydro-electro-mechanics, environmental and social). Improved Emergency Response Preparedness plans (ERP) would be prepared using up to date maps and technology. (i) The draft TORs for the ERP will be ready before appraisal; (ii) GoC will notify Nigeria and (iii) the Bank will review existing dam auscultation reports, and any other dam safety documents including the accessible sections of the OM before the decision meeting. ENEO established in 2010 a structured CSR including Hygiene, safety and Environment Central Unit. It also has an environmental and social policy (ESP #42 Rev 2 09/14) and has developed Safety and Environmental and social performances for its operations. However, the ERP and ESIA processes will assess the technical capacity of ENEO at Lagdo Dam and Regional levels to identify, flag and manage any safety, environmental and social related concerns to the Lagdo dam operation – power generation, irrigation releases, flood releases, and safety of the dam.



Projects on International Waterways OP/BP 7.50	Yes	This policy is triggered because the Benue river flows over the Nigeria–Cameroon border, and the Government of Cameroon (GoC) will notify Nigeria before negotiations. There is a memorandum of understanding on the need to maintain water in the Benue Basin was signed between Cameroon and Nigeria in 2016.
Projects in Disputed Areas OP/BP 7.60	No	There are no disputed areas in the project areas.

E. Safeguard Preparation Plan

Tentative target date for preparing the Appraisal Stage PID/ISDS

Mar 28, 2018

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

In the previous stages PID/ISDS, the documents to be presented will be: 1) Resettlement Policy Framework for the whole project and 2) Resettlement Action Plan and list of PAPs of the area to be rehabilitated(1000ha). The other RAPs will be prepared under project implementation.

GRM document for the project need to be prepared and disclosed before project approval.

Consultants in charge of safeguard should be on board prior project appraisal, for insuring consultation and validation of safeguards instruments.

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