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ЭКОНОМИЧЕСКОГО РАЗВИТИЯ
РОССИЙСКОЙ ФЕДЕРАЦИИ
(МИНЭКОНОМРАЗВИТИЯ РОССИИ)**

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На № _____ от _____

Федеральные органы
исполнительной власти,
организации

(по списку рассылки)

**О встрече сопредседателей
российско-конголезской МПК**

Сообщаем, что с конголезской стороны достигнута договоренность о проведении 19 марта с.г. в Браззавиле встречи сопредседателей Межправительственной Российско-Конголезской смешанной комиссии по экономическому, научно-техническому сотрудничеству и торговле (далее – Комиссия), которая приурочена к круглому столу технических и финансовых партнеров по проектам региональной интеграции, финансируемых Африканским банком развития и реализуемых в рамках Экономического сообщества государств Центральной Африки (информация прилагается).

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В настоящий момент программа круглого стола и встречи сопредседателей уточняются. В случае участия российского бизнеса Посольством Российской Федерации при участии Торгово-промышленной палаты Республики Конго планируется организация ряда мероприятий для представителей российского бизнеса.

В связи с этим приглашаем присоединиться к российской делегации и просим в срок **до 3 марта 2020 года** оповестить заинтересованные российские компании и направить в секретариат Российской части Комиссии в электронном виде следующие материалы:

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- предложения в тезисы выступления председателя Российской части Комиссии на встрече, а также справочные материалы по сотрудничеству с Республикой Конго и потенциальным сферам взаимодействия;
- актуализированную информацию о выполнении поручения Правительства Российской Федерации от 13 января 2020 года № КЧ-П2-104 по итогам 5-го заседания Комиссии в части, касающейся вашего ведомства/организации;
- кандидатуру полномочного представителя вашего ведомства/организации (Ф.И.О., должность и контакты), который примет участие в экспертных консультациях, встрече сопредседателей и/или круглом столе.

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СВЕДЕНИЯ О СЕРТИФИКАТЕ ЭП

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Действителен: с 13.02.2020 до 13.02.2021

А.Ю. Дианов

СПРАВОЧНАЯ ИНФОРМАЦИЯ О МЕРОПРИЯТИИ

Круглый стол для финансирования инфраструктурных проектов в Центральной Африке: ЦАР, Республике Конго, Демократической Республике Конго и Чаде

Дата проведения: 19 марта 2020 года

Место проведения: Международный конференц-центр Кинтеле, г. Браззавиль, Республика Конго

Организаторы и гости: Президент Республики Конго (Д.Сассу Нгессо), представители правительств ЦАР, Республики Конго, ДРК, Чада, Экономического сообщества стран Центральной Африки, Африканского Банка развития.

Цель: презентовать 12 инфраструктурных проектов и мобилизовать 20 миллиардов евро в ходе двух периодов: 2,5 миллиарда евро до 2024 и остальную сумму до 2030 года

Проекты:

3 приоритетных проекта со сроком реализации до 2024 г.:

- строительство и ввод в эксплуатацию дороги Уэссо-Банги-Нджамена

(1,5 млрд. евро)

- модернизация речной инфраструктуры и портов на реке Конго и притоках Убанги и Санга: модернизация портов Киншаса (столица ДРК), Банги (столица ЦАР), Браззавиль и Ампфондо (Конго); строительство порта Бету (Конго), Малуку и Монгумба (ДРК); модернизация причалов Зонго, Квамут и Болобо (ДРК), порога Зинга, канала порта Банги.

(571 миллион евро)

- строительство автомобильного и железнодорожного моста 4 км между Киншасой и Браззавилем (столицами Конго и ДРК).

(413 миллионов евро)

Рабочий язык мероприятия: французский





**ROUND TABLE
FOR THE FINANCING OF
INFRASTRUCTURE PROJECTS
IN CENTRAL AFRICA**

*Central African Republic, Democratic Republic of Congo,
Republic of Chad, Republic of Congo*

19 March 2020 • BRAZZAVILLE



**ECONOMIC COMMUNITY
OF CENTRAL AFRICAN STATES
GENERAL SECRETARIAT**

PARTICIPANT NOTEBOOK

INVESTMENT PROGRAM PRIORITY OF TRANSPORT

Construction and upgrade project for the ouesso Bangui N'djamena road
Fluvial and port development project on the Congo River and its tributaries Oubangui
and Sangha
Construction project of the road-rail-bridge between the cities of Kinshasa and
Brazzaville
Extension project of the Kinshasa-Ilebo Railway

**ROUND TABLE FOR THE FINANCING
OF INFRASTRUCTURES IN CENTRAL AFRICA**
BRAZZAVILLE, On June 20, 2019

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TOGETHER TOWARDS THE EMERGENCE

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EXECUTIVE SUMMARY

For several years, the countries of Central Africa have embarked on the realization of a vast network of infrastructures following the adoption in January 2004 by the Heads of State and Government, of the Consensus Master Plan of Transport in Central Africa (PDCT-AC).

The PDCT-AC aims at the densification of infrastructures and the improvement of interconnections to put the Central African Region on the path of growth and emergence while preserving the forests of the Congo Basin which are key elements in the fight against global warming.

The Heads of State of the ECCAS member countries have mandated the General Secretariat of the ECCAS to initiate, within the framework of the PDCT-AC, a Program of Priority Investments in the Transport Sector (PIP) and organize a Round Table of Technical Partners and Financiers to be held on Thursday March 19, 2020 at the Kintélé International Conference Center in Brazzaville.

Priority needs for transport infrastructure have been identified through several technical, economic, environmental and social studies, notably those completed in 2018 by the CIMA International - Lasalle - Techniplan Group with funding from the African Development Bank Group (AfDB).

In this context, it is planned to build an infrastructure network to connect the capitals of DR Congo (Kinshasa), Congo (Brazzaville), CAR (Bangui) and Chad (N'djamena) through development of the Ouesso-Bangui-N'Djamena road, improved navigation on the Congo River and its tributaries Oubangui and Sangha, the Pont-Route-Rail construction project and the extension of the Kinshasa-Ilebo railway.

The mobilization of funding will be done in two phases, i.e. almost 2.5 billion euros (3 billion dollars, 1600 billion FCFA) for the priority investment program (PIP 2020-2024), for a cost envelope increased to 20 billion euros on all 12 projects by 2030.



This cost (PIP 2020-2024) is distributed by country, by component and by type of financing sought as follows:

Designation	Amount in euros					Financing research
	RDC	Congo	RCA	Tchad	Total	
Road section	0	587 814 142	741 647 599	127 110 586	1 456 572 327	grants and concessional loans
Port section	154 205 864	84 748 991	54 047 369	0	293 002 224	PPP
River section	66 866 314	86 319 853	124 534 724	0	277 720 891	
Bridge - Road - Rail between Brazzaville and Kinshasa	206 547 274	206 547 274	0	0	413 094 548	
Total	427 619 452	965 430 260	920 229 693	127 110 586	2 440 389 990	
in %	17,52%	39,56%	37,71%	5,21%	100,00%	

The funding scheme selected will consist in mobilizing

- from institutional **donors of loans on concessional terms or loan / grant mixes (blended finance)** in strict compliance with the sustainability and sustainability ratios of public debts in the 4 countries;
- to mobilize the **private sector for the implementation of PPP projects.**

The projects are implemented at member state level by the competent technical structures with the coordination of the ECCAS General Secretariat which also works in synergy and in complementarity with the various regional organizations and development partners.

The implementation of the PIP 2020-2024 will allow a reduction of the generalized costs of transport, the reinforcement of the integration of the community space of the ECCAS and the significant improvement of the standard of living of the populations, particularly for those of the basin of the Congo, remote and / or isolated areas and landlocked countries



**ROUND TABLE
FOR THE FINANCING OF
INFRASTRUCTURE PROJECTS
IN CENTRAL AFRICA**

Central African Republic, Democratic Republic of Congo,
Republic of Chad, Republic of Congo
19 March 2020 • BRAZZAVILLE

Fluvial and port development project on the Congo River and
Construction project of the ROAD-RAIL BRIDGE CONSTRUCTION PROJECT
BETWEEN THE CITIES OF KINSHASA AND BRAZZAVILLE
KINSHASA-ILEBO RAILWAY EXTENSION PROJECT
Cahier du Participant

**FILE 1: CENTRAL AFRICA: Characterization of a
GEOPOLITIQUE**



I. INTRODUCTION

Created October 18, 1983, the Economic Community of Central African States (ECCAS) has eleven (11) Member States: Angola, Burundi, Cameroon, Central African Republic, Congo, Gabon, Equatorial Guinea, DR Congo, Rwanda, Sao Tome & Principe and Chad. It has an area of 6.667. 087 km² and a population estimated in 2016 at 181 millions of inhabitants.

ECCAS missions are defined in Article 4 of Chapter II of the Treaty establishing it - one which states that the purpose of the "Community is to promote and strengthen harmonious cooperation and balanced development and self-sustaining in the areas of economic and social activity, especially in the fields of industry, transport and communication, energy, agriculture, natural resources, commerce, customs, monetary and financial questions, human resources, tourism, education, development, culture, science and technology and the movement of people to achieve collective autonomy, raise the standard of living, increase and maintain economic stability, strengthen the narrow peaceful relations between Member States and contribute to the progress and development of the African continent. "

Located in the heart of the continent, Central Africa is not only a crossroads of trade routes land, air and sea but also a contact area between West Africa, North Africa, Africa East and Southern Africa. This pivotal strategic position doubles as important natural resources and huge mineral and natural wealth.

The important natural resources and the gigantic mineral wealth coupled with the geographical position predispose Central Africa to be all at once or a consistent vector and breeding or a space of conflict, discord, shock and envy. Given this specific situation, Central Africa is regularly projected in the media spotlight because of conflicts, tensions, terrorist threats, fractures ethno - nationalist (and even religious) or political challenges.

Central Africa is facing political challenges and security mainly concentrated in three geographic areas: (i) the Great Lakes region with its epicenter the Democratic Republic of Congo and Burundi, with the genocide in Rwanda in 1994 (ii) the basin fragile Lake Chad involving the northern part of Cameroon, Chad and the Central African Republic and (iii) the Gulf of Guinea, where piracy, illegal maritime traffic and sea attacks hit Cameroon, Gabon, Equatorial Guinea, Sao Tome and Principe.

Central Africa is, therefore, faces multiple challenges and / or weaknesses that will necessarily overcome if it wants to lay the foundations for sustainable development and successful regional integration. These challenges include:

- the consolidation of peace to break the vicious circle of instability and fragility,



- the development of infrastructure (transport, energy and ICT) whose deficit is an obstacle to the establishment of the common market and the free movement of persons and goods,
- deepening regional integration through the operationalization and harmonization of regional economic communities (ECCAS and CEMAC)
- economic diversification and the development of productive capacity of the region to strengthen the resilience of national economies,
- improving the business climate and private sector development,
- conservation of the environment,
- the implementation of a policy encouraging the development of Public Partnerships - Private constituting the cornerstone of adequate funding for regional projects.

II. GEOSTRATEGIC ASPECTS

If the natural wealth of the region is a great and necessary asset for resilience, its geostrategic position in the continent's center is essential for its economic growth. Oil, solid and precious minerals, as well as water and agricultural potential are currency-generating resources and growth drivers whose transparent and efficient operation should be the guarantee of economic and social development of the Region.

II.1 A pivotal geographical position

The geostrategic position of Central Africa is a major asset for the promotion of a dynamic cooperation and for the development of trade between this set and the various Regional Economic Communities (RECs).

Central Africa is the only region bordering both West Africa, North Africa, with East Africa and Southern Africa. This privileged geostrategic position allows to Central Africa to ensure the physical continuity and integration of RECs. Therefore, it occupies a strategic position as a crossroads and the connection point between the other regions of the continent. It has several waterways and dense with potential whose valuation could help to strengthen the connection between countries.





II.2 A significant economic potential

Central Africa is a huge reservoir of mineral wealth including:

- Oil Gulf of Guinea with estimated reserves of 31.3 billion barrels, or 28% of total reserves of Africa,
- important and precious metals and mineral deposits (diamonds, copper, iron, manganese, aluminum, cobalt, methanol, etc.).

Central Africa contains, also, important natural resources, including

- water resources consist of 16 rivers, 5 lakes, 17 aquifers and wetlands classified 15. Among the huge water resources include the Congo River and its tributaries Oubangui, Sangha and Kasai,
- 346.2 million hectares of forests considered as the second lung of the planet after those of the Amazon,
- consisting of an ecosystem: (i) 26 355 m³ of water per inhabitant per year, (ii) 26.9 million hectares of arable land and (iii) 135 million hectares of pastures,
- agroecological great diversity: it is a space where ecological zones rub shoulders Sahara, located in North border of the Republic of Chad, the Sahelian areas of the Far North of Cameroon and part of Chadian territory, areas forests that cover over 50% of the area of the sub-region, and mountainous areas and a significant coastline, stretching the Cameroon coast to the shores of Angola,
- a hydro-electric potential relatively high, accounting for over 60% of the potential of the African continent.

In agriculture, more types of speculation are practiced, particularly in the area of cash crops: cocoa, coffee, tobacco, bananas, pineapple, natural rubber and cotton seed. In addition, many food crops including, corn, millet, groundnuts, cassava and potatoes are also practiced.

The coastline of Central Africa is rich in fishery resources, as evidenced by the presence of many pirate ships plying the coast of the Region.

Meanwhile, there are many head of cattle in the hinterland, especially in Chad, the Central African Republic and Cameroon.



II.3 Safe Challenges and terrorist threats

Many countries have experienced in recent decades, crises politico - military, the post-election crisis, candied and / or terrorist activities, which have weakened public institutions, hindered the development and hampered the delivery of basic social services. In some countries, these crises and conflicts have seriously degraded the social fabric with such serious consequences of massive population displacement. Health systems and education were also highly disorganized, deeply affected the economic fabric and infrastructure destroyed or abandoned.

True convergence and attraction pole, Central Africa is a strategic geographic area rather than because of the historical importance of the area as roads land, air and sea, but also dynamically linked to oil production and the mining and logging that make it a coveted area.

II.4 Good economic performance

Central Africa has an economic upturn in the last decade due to important recovery efforts by states. Most macroeconomic indicators improved and the major balances were consolidated. According to the International Monetary Fund, the economic growth rates of the Economic Community of Central African States was around 5.1% in 2017.

This performance is certainly attributable to the soaring prices of basic commodities, but also to macroeconomic stability and the implementation of good policies that have helped sustain growth. With nearly 120 billion US dollars of exports in 2013, Central Africa is on average nearly 20% of African exports. The export of oil accounts for 41% of GDP and dominates the economy of the region, followed closely by the forestry and mining and mineral industries and agribusiness centered around the processing of cotton, coffee, cocoa and rubber.

Despite its economic performance, poverty and inequality remains persistent because of several years of insecurity and instability. On average, 46% of the population of the region lives below the poverty line, against 48% for the continent. Poverty is higher in rural areas (61.5%) than urban areas (34.4%), with rates reaching 70% in some cases. The Human Development Index (HDI) through Central Africa was estimated at 0.508 in 2016 against an average of 0.523 for SSA.

(Source: Central Africa - Report combines completion of the Document of Regional Integration Strategy (RISP) from 2011 to 2017 and Performance Review of the Regional Portfolio - May 2018).



III. CENTRAL AFRICA FACING THE MAJOR CHALLENGES

Central Africa is facing multiple challenges and / or weaknesses that must be overcome to lay the foundations for sustainable development and successful regional integration. This raises two fundamental questions:

- fact that Central Africa to embark resolutely on the path of sustainable development and regional integration on the one hand and to contain or prevent lusts, geopolitical and security challenges on the other?
- what should the international community to assist and support the Central Africa to take the path of emergence, first, and to put in place mechanisms for the early prevention of potential conflicts, tensions, terrorist threats, fractures ethno - nationalist (and even religious), on the other?

Faced with these challenges, Central Africa has, however, important assets, strengths and opportunities include:

- oil and mining resources,
- very diverse ecosystems,
- forest resources and abundant water,
- huge areas of arable land,
- great potential hydro - electric,
- comfortable geostrategic position.

In addition, more than half of the population is under 25, constituting an unprecedented opportunity for the region.

III.1 Community effort looking to the future

III.1.1 Regional Integration

Build an economy, dynamic, prosperous, competitive and compatible with the requirements of globalization is a priority for Central Africa. Regional integration appears to be the most effective way to create a viable economic unit, which aims to promote the development of all the member countries through the pooling of resources and the earnings from intra - regional



trade and international.

The States of Central Africa have established two community institutions to establish integrated regional areas, *"eliminating the problem of small domestic markets to ensure optimal conditions for opening and creating a large space capable of dealing competition on the market resulting from globalization"*.

Entries based at different times and with different members, the Economic Community of Central African States (ECCAS) and the Economic and Monetary Community of Central Africa (CEMAC) have two visions on the horizon "in 2025" which are coherent with each other and reinforce each other. They both provide the rationalization of two Regional Economic Commissions (RECs).

It is, moreover, the meaning of the Extraordinary Summit of Heads of State guidelines of Central Africa held in Yaoundé December 23, 2016 which highlighted the need for better synergy between ECCAS and CEMAC and futures, think of their merger.

In view of the challenges and put the region on the growth path of sustainable development and the vision of the ECCAS 2025 adopted in 2007 is to make Central Africa, "an area of peace, solidarity, balanced development and free movement of people and goods." This vision stems from the strategic objective of the program and the 2004 Declaration of the African Union of "building an integrated Africa, a prosperous Africa, an Africa Peace Africa and representing a dynamic force on the international scene."

The vision of the Economic and Monetary Community of Central Africa (CEMAC) adopted in 2010 is to "make the CEMAC in 2025 an integrated economic space emerging where security reign, solidarity and good governance for development human".

The states of Central Africa are aware that the dynamics of regional integration is largely dependent on the capacity of ECCAS and CEMAC together to find synergies and work to strengthen the existing consultation framework to accelerate the process of policy harmonization and coordination of programs and instruments of integration. The culmination of the integration process of two visions "2025" is the community of the peoples of Central Africa.

III.1.2 Sustainable Growth and Development

The promotion of sustainable and poverty-reducing growth can only be envisaged if significant institutional reforms are carried out. These reforms focus on good governance, sound public finances, equitable and predictable justice and an enabling environment for private sector development. It is within this framework that the Central African States have launched far-reaching reforms aimed at establishing democratic institutions and implementing good governance policies.

The States of Central Africa have put in place processes to ensure transparency in the management of revenues from the exploitation of mining that is important in several respects.



This transparency is, first of all, one of the cornerstones of good governance to the extent that it increases accountability and reduces the possibilities for fun public funds. It is in this perspective that fits the will of the African States to join the Initiative Extractive Industries Transparency (EITI).

Assuming that political stability is primarily an economic and social development of business, the States of Central Africa make every effort to address the root causes of poverty, marginalization, conflicts, tensions and fractures ethno - nationalist (and even religious), in particular by promoting equality, justice and good governance, promoting economic growth by providing access to education, health services and employment prospects equal, building just and inclusive societies, by giving women and young people the means to be the drivers of peace and leaving no one out.

The experience of recent years shows the true will of the authorities of the States of Central Africa to fully involve stakeholders concerned with sustainable growth and development (government, elected officials, civil society, private sector, development partners, etc.) in the formulation and monitoring / evaluation of these policies, including those relating to the fight against poverty and unemployment.

This willingness to consider the development of policies and programs as an exercise that involves everyone and which all segments of society must be involved constitutes an important asset for the success of actions and development operations.

In Central Africa, the analysis of the situation of poverty highlighted the multidimensional nature of the phenomenon and the tangle of causes. This analysis showed that without significant support from the transport sector, the objectives of economic growth needed to fight against poverty would be difficult to achieve.

This is why the Central Africa has a consensus Transport Master Plan in Central Africa (PDCT - AC) to contribute to the removal of constraints impeding the free movement of people and goods and reduce generalized costs transport and to improve the living conditions of people.

III.2 International Solidarity

In Central Africa, the last decade has been marked by a volatile security situation and political instability. This is due to the collapse of several multifaceted conflict, particularly for control of natural resources and also linked to terrorism. These conflicts have been exacerbated by several factors including the limited capacity of States to deal with security problems.

With the sudden burst of terrorism on the north steps of Central Africa and because of the threat this represents for both the security of the region, continent or even - beyond, we are witnessing the emergence of a new strategic built on the tangle of national interests, regional and international.

Faced with these security challenges, Central Africa invites its technical and financial partners to join it, to prevent it from becoming a refuge where can crack with impunity, conflicts,



tensions homes, fractures ethno - nationalist (or religious), etc.

The actions against insecurity in Central Africa carried out by national, regional and international have increased. First, the armed forces of the countries concerned is operating under national command, either at the Joint Multinational Force, have acquired new equipment, improved intelligence gathering and frequently launched responses against terrorist groups; which helped to weaken and improve security conditions.

Significant results in the safe area of security have been achieved with the support of the International Community, particularly through:

- its commitment and ability to provide the forces of peacekeeping (*United Nations Mission in Central African Republic - MINURCA Sangaris French Forces, Multinational Force of Central Africa - FOMAC, forces of the African Union - MISCA, multidimensional Mission integrated United Nations for stabilization in Central African Republic - minusca, The United Nations Stabilization Mission in DR Congo - MONUSCO, etc.*)
- the implementation of the programs of the Council of Peace and Security in Central Africa (COPAX) and Early Warning Mechanism of Central Africa (MARAC)
- securing interests at sea of the coastal States of the Gulf of Guinea and members of ECCAS was the work of the Regional Coordination Center for Maritime Security in Central Africa (CRESMAC).

Today, Central Africa has an Architecture of Peace and Security operational, harmonized with that of the African Union (APSA), capable of facing the multiple challenges facing the region.

IV. CONCLUSION

Politically, the significant improvements observed in many countries in terms of implementation of the national democratic structures and the progress made in the area of political governance (including the electoral level) are encouraging.

By the Peace and Security, a major project, the countries of ECCAS, with the assistance of the international community, have taken a decisive step that has significantly set back and mitigate risks related to the resurgence of hotbeds of tension, conflict, terrorist threats and bills ethno - nationalist (and even religious).

The nature of the new challenges facing Central Africa, the approach for solving and content of this response are that - it can not in any case be only regional. Some of the problems are regional, other international, it is appropriate that the means put in place to address these issues take into account this reality.

If the natural wealth of the region is a great and necessary asset for resilience, its geostrategic



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position in the continent's center is essential for its economic growth. Oil, solid and precious minerals and the agricultural potential are currency-generating resources and growth engines in the region including the transparent and effective use should be the guarantee of economic and social development.

The resources of Central Africa and the significant efforts of its partners agree will be used to build a community where all citizens, without discrimination, will be at the heart of public action.

In this crucial phase, Central Africa must, without complex, turn to its development partners to ask them to support technically and financially to meet the objectives of the strategy for sustainable development and regional integration but also to deal with conflicts, tensions and outbreaks of terrorist threats.

The efforts of the States of Central Africa with the support of technical and financial partners will take all measures to, firstly, to the Region towards the emergence of sustainable development, regional integration, and secondly, to create the conditions to make the heart of the continent, a haven of peace and a vector of harmony and brewing.



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**FILE 2 : TRANSPORT SECTOR: CHALLENGES AND
OPPORTUNITIES**



I. BACKGROUND

I.1 Introduction

The Economic Community of Central African States (ECCAS) organize, with the support of the African Development Bank (AfDB), April 8, 2019 in Brazzaville, a Round Table of its technical and financial partners for the lifting the funds necessary to achieve:

- construction of road-rail bridge between Kinshasa (DRC) and Brazzaville (Congo)
- construction / road rehabilitation Ouessou - Bangui-N'Djamena missing link of the road corridor Trans Pointe Noire - Brazzaville - Ouessou - Bangui - Ndjamen (CD13)
- river engineering works,
- upgrade the work of existing ports,
- construction of new ports,
- development work of docking points.

The realization of this multimodal transportation program is an important step in the implementation of the Master Plan Consensus Transport in Central Africa (PDCT-AC) which aims to link together by paved roads, the capitals of the region.

The organization of this Round Table will be an opportunity to assess the technical and financial partners, the path for the implementation of PDCT-AC and will take into account changes in national, regional and international levels to mobilize partners around the priority projects in the transport sector.

Priority needs in transport infrastructure have been identified through several studies including those completed in 2018 by the Groupement CIMA International - Lasalle - Techniplan on financing of the African Development Bank Group.

I.2 Background

In recent years, the countries of Central Africa are engaged in the realization of a vast network of infrastructure following the adoption in January 2004 by the Heads of State and Government, Planning Consensual of Transport Central Africa (PDCT-AC). Consensual Plan of Transport aims intensification of infrastructure and the improvement of interconnections to put the region on the path of growth and emergence. Based on thorough analysis, the PDCT - AC identified priority transport infrastructure network on the basis of five (5) following criteria:

- search for minimum network the best use of existing transport capacity, that is to say, "choose what is most immediately feasible and less expensive" when a choice arises,
- adopt a policy to enable them to connect the capitals by tarred roads,
- use complementary multimodal transport "rail - road - waterway" to end the isolation of



remote areas,

- facilitate the access of landlocked countries to seaports in the region,
- ECCAS connect with neighboring Regional Economic Communities,
- protect the environment, especially regarding the preservation of the rainforest.

II. STATE OF PLAY

In Central Africa, the transport system is diverse, all modes (road, rail, river, lake, sea and air) are present, with levels of infrastructure and different operating conditions across to a single mode of transport and passing from one mode to another. The mode of transport, the most visible and most used for the movement of people and goods is the road mode. It provides 80% of passenger transport and 90% of freight and is the lifeblood of the EU economy.

The transport sector has the potential for significant growth in Central Africa, but did not attract investment up to that potential. Transport development would strengthen the capacity of ECCAS countries to create competitive industries and promote greater industry linkages. In essence, the increase in transport investment, particularly in infrastructure and regional transport services, strengthen regional markets, stimulate intra-African trade and reduce costs of production and transaction, which would make the country Central Africa more competitive in the regional and global market.

The sluggishness of economic activities and their social impacts include the impacts of periods of social and political unrest and conflict suffered by the majority of countries of Central Africa, but they also have their origins in poor control of the organization and the management area, including lack of management and adequate management of the transport sector.

Many areas are isolated for long periods of the year, due to the deficit in transportation services, all confused fashion. This finding also applies to international routes, depriving the area of countries in the region (DRC, CAR and Congo) the significant growth potential exploitation. Socio-political unrest that hit the region in recent years have been the source of a significant decline in economic activity resulting in a significant contraction in river transport activity. Of economic activity revitalization efforts have been made by various countries to boost development in the Congo Basin.

The competitiveness of many sectors heavily dependent on levels of transportation costs. This dependence becomes increasingly greater for export channels from either remote areas coastlines either landlocked countries (CAR / Chad). In the absence of effective facilitation devices, carriers often bear extra costs linked to either the lack of infrastructure, or the poor state of existing infrastructure.

Many studies conclude that Central Africa transport costs reach 20% of the value of imports, a level two to three times higher than the average observed elsewhere.



The transport sector has undergone profound changes in recent years. The activity has been largely deregulated and changed policies to enable decisions to be determined by the market enterprises to achieve their independence and control structures and management of these companies to open interests private. trucking companies have mostly been privatized and governments are generally agreed to concession railways, ports and airports and have already started this process in some cases. In terms of maintenance and rehabilitation of roads and transport infrastructure, the system of governance is quickly replaced by subcontracting by private companies. Considerable autonomy has also been granted to public enterprises and arbitrary regulation has replaced regulated by consensus-plan contracts. In the road sector, the development of more viable organisms (offices autonomous roads, Road Management Agencies, road funds, etc.) is now the norm, and in some countries began to yield positive results.

II.1 Road infrastructure

The table - below gives the linear road network in Central Africa compared to other African regional areas.

Region	Length of road network in km	Density km / 100 km ²	In percent of Total Africa
North Africa	347451	3	15.11%
East Africa	476558	6.5	20.73%
Southern Africa	853676	13.5	37.13%
Central Africa	186475	3.5	8.11%
West Africa	434910	8	18.92%
total Africa	2299160	7.6	

Source:CEA - 2015 Report on Infrastructure Development in Africa

The table above - highlights the low road density in Central Africa compared to other regions. Asphalt rate in Central Africa is the lowest in Africa is 2.2 km of road per 100 km². With a line of 186,475 km of roads, central Africa in fifth and last place of the five regions; in contrast to its geographical position and its economic potential.

Recognizing that this delay significantly limits its development, Central Africa with the support of its technical and financial partners experienced in recent years, favorable developments in construction and upgrade its transport infrastructure. These performances are in the assets of the realization of many road projects, including:

- the Cameroon corridor - CAR - Chad,
- Ketta the road (Congo) - Djoum (Cameroon)
- the Bamenda (Cameroon) - Enugu (Nigeria).

These operations helped to streamline transportation and reduce travel costs in the countries



concerned. The completion of work under the Transport Facilitation Program on the Douala corridors - Bangui and Douala - N'Djamena allowed the reduction of approximately 13% of the time passage between the output port of Douala arrival in N'Djamena. Thus, the vehicle wait time increased from 4.3 days to 1.6 days in the 2012, 2016 and the time taken to reach the nearest market rose to 2.4 hours against 10.4 hours previously. (*Source: Central Africa - combined Completion Report Document Regional Integration Strategy (RISP) from 2011 to 2017 and Performance Review of the Regional Portfolio - May 2018*).

II.2 Railway Infrastructure

The table - below reveals the inadequacy of the railway network of Central Africa.

Region	Total railway network (km)	Percentage of total network
North Africa	13120	22%
East Africa	12300	20%
Southern Africa	18860	31%
Central Africa	6560	11%
West Africa	9840	16%
total Africa	60680	100%

Source: Validation Workshop organized by the AfDB in Tunis, March 26, 2014.

The rail network comprises about 6650 km is the less dense (11%) compared to those in other regions. The rail network mainly consists of a single track heading inland from seaports with few interconnections.

Recently, the Congo has undertaken the rehabilitation of the Congo-Ocean line connecting Brazzaville to Pointe-Noire. Furthermore, a line was opened in 2015 linking Zambia, DRC and Angola. This work should allow to increase the tonnage of goods transported.

II.3 River and lagoon Infrastructure

The river is the natural and historical mode of transport in the region. Indeed, the Congo Basin has a large river system which the Congo River and its tributaries Oubangui and Sangha. This network includes over 22,000 km of waterways which are also part of the first program priority network PDCT-AC. These channels constitute a strategic and vital links the transport system and serving the region. They can afford to use a form of transportation cheap, energy-efficient and ecologically. The savings and the development of some countries are heavily dependent.

Today, river transport plays a rather marginal role in the physical integration and operations have declined significantly for many years: the network no longer has about 5,000 km of



waterways. Infrastructure and port facilities are dilapidated. As for the tracks, they face mainly to inadequate dredging and marking; which prevents the rise of ships during low water for 5 to 6 months in the year for the Ubangi example.

The development and maintenance of waterways are at the heart of the International Commission missions Basin Congo - Oubangui - Sangha (JRCC) organization established in 1999. The objective of CICOS is to strengthen cooperation between Member States through better communication across the Congo River and its tributaries for integrated water resources management (IWRM) to promote development and reduce poverty.



① Bangui - Kinshasa ② Kisangani - Kinshasa ③ Illebo - Kinshasa

Source: Deforestation dynamics in the Congo Basin, World Bank and Commission of Central African Forests

Although they are slower, waterways contribute to significantly strengthen the transmission network in the region. In the current situation, river transport is far from keeping its promises in terms of opening up and contributing to economic and social development of the Region.

II.4 Port infrastructure

Coastal Central African States are relatively well endowed with seaports. Their handling capacity is roughly equivalent to the transport demand and the available material is often



efficient and in good condition. The main ports were in most cases entrusted to the private sector and many of them are operated by large international companies.

The major ports have warehouses and storage facilities under customs control, particularly for dangerous goods, bulk and containers.

II.5 Airport Infrastructure

Central Africa has 19 world-class airport infrastructure which are able to receive large aircraft. But most of these facilities require rehabilitation and / or upgrading.

II.6 Regional integration Indices

Regional integration is based, inter alia, infrastructure and transport services that support the mobility of people and goods. This integration depends on the consistency and quality of cross-border road and rail networks and the development of shipping lines along the coasts of the region.

The Group of the African Development Bank, the African Union and the Economic Commission for Africa published in 2016 a report entitled "Index of regional integration in Africa." This report measuring the level of regional integration in Africa to assess the developments of the various Regional Economic Communities (RECs) and is an important tool to highlight the gaps and shortcomings existing in each Community area. This report covers the eight (8) RECs recognized by the African Union, namely:

- **CAE** East African Community,
- **ECCAS** Economic Community of States of Central Africa,
- **ECOWAS** Economic Community of West African States
- **CEN-SAD**, Community of Sahel-Saharan States,
- **LIKE THIS**, Common Market for Eastern and Southern Africa,
- **IGAD** Intergovernmental Authority on Development in Eastern Africa
- **SADC** Development Community Southern Africa,
- **UMA** Arab Maghreb Union.

Dimensions and Indicators - below are based on Agenda 2063 and the Abuja Treaty (1991) and its operational framework. These include:

- trade integration,
- regional infrastructure
- the free movement of people and goods.

Regional Economic Community	trade integration	regional infrastructure	Free movement of persons and goods
CAE	0.780	0.496	0.715
ECOWAS	0.442	0.426	0.800



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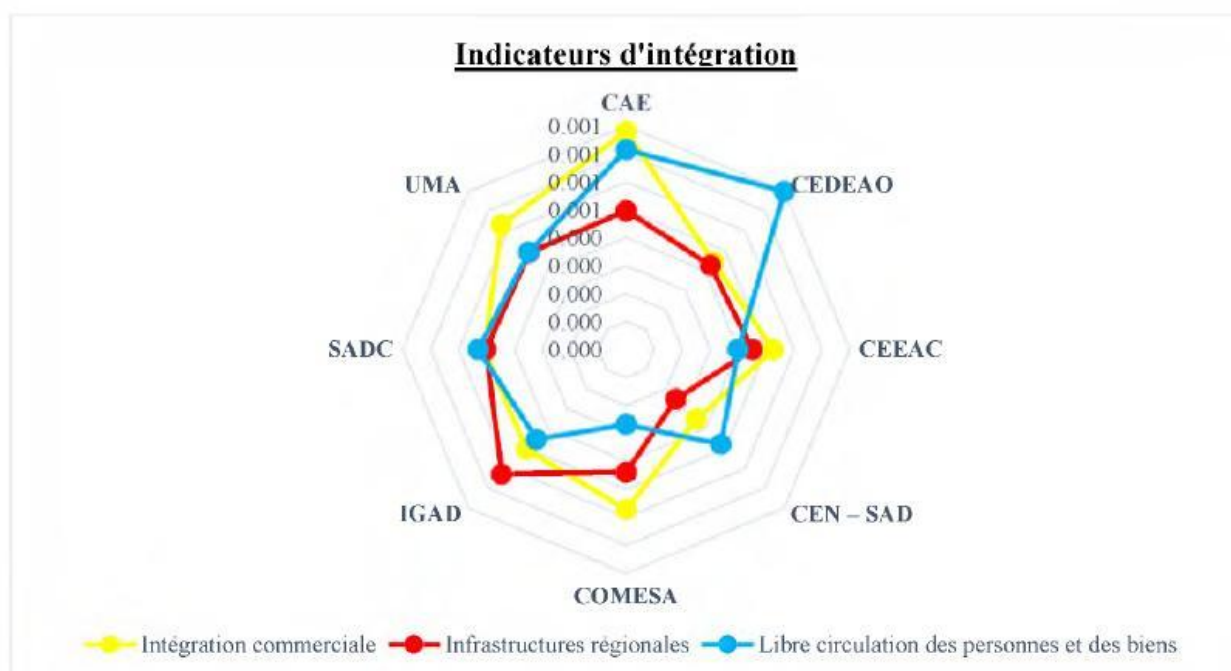
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ECCAS	0.526	0.451	0.400
CEN - SAD	0.353	0.251	0.479
LIKE THIS	0.572	0.439	0.268
IGAD	0.505	0.630	0.454
SADC	0.508	0.502	0.530
UMA	0.631	0.491	0.493
Average CER	0,540	0.461	0.517

Source: ADB - EU - CEA

ECCAS regional integration scores are on average lower than the average level of the scale from 0 to 1. This result highlights the need to significantly advance the integration of this region. The highest score of 0.526 slightly below average to trade integration.



The human dimension of integration is one of the main aspects in which the road transport infrastructure has a significant impact on regionalization. As mentioned above, road transport is the most used means of communication in Africa in general. This means is an important vehicle for linking populations within the Community. The low score of 0.400, the lowest RECs (COMESA the exception) shows that the free movement of people and goods is a top priority for Central Africa.

The score of 0.451 assigned to regional infrastructure shows that those - are still insufficient. This low score is one of the main obstacles to the integration and the free movement of people and goods within the Community.

The overall index of regional integration for ECCAS is estimated at 0.454 in 2016, below the average of the African RECs (0.4470). This community remains among the least integrated of



the African continent; This is a paradox in view of the significant mineral wealth and natural resources of the region.

The intra - regional trade ECCAS represents just 2% of total trade, against an average of 14% in 2015 for the entire continent. The general state of affairs still suggests that intra - regional struggling to develop.

These relatively low scores are due as Central Africa more than any other region of Africa has unfortunately recorded in recent decades a recurrence of conflict and strongly hotbeds of tension that hampered its process of integration and economic development.

The diagnosis above - highlighted:

- weak transport infrastructure, especially roads, which is one of the main obstacles to integration and trade in Central Africa. Compared to other regional economic communities, Central Africa remains the region with the road oiling rate is the lowest, less than 15% of the main road network is paved. Significant differences were observed between the different countries of the region,
- the low density of transport infrastructure thereby creating a juxtaposition of landlocked economies in the region,
- the main challenge is to move from fragmentation of transport networks for greater harmonization of transport policies as a basic condition for strengthening regional integration.

III. CONSENSUS PLAN TRANSPORTATION

Transport is one of the essential elements for growth and socioeconomic development and structural transformation of the country. Main vector of economic integration, transport infrastructures and services are a prerequisite for facilitating trade and the movement of goods and people.

Long perceived as an accessibility tool for commercial and global trade in an international environment in flux, transport infrastructure remains one of the pillars of development for accelerating growth and reducing poverty.

In December 2003, the first forum on transport infrastructure and regional integration in Central Africa held in Yaoundé (Cameroon) stressed that weak transport infrastructure constitute a serious handicap to economic and social development and the acceleration of regional integration process despite the efforts of the Member States.

In 2004, the general consensus was that the transport infrastructure is inadequate, dilapidated and badly maintained or destroyed several missing links. Transport networks were poorly integrated and transport costs were very high. It showed also that Central Africa was the least endowed in infrastructure and less integrated despite the fact that it has important benefits that



the singles include:

- the hinge and strategic position of Central Africa, bordering all regions of the continent: West Africa, North, East and Southern which predisposes to a privileged area of trade and transit as it ensures the physical continuity of African spaces,
- the huge mining potential, the huge water resources and forest considered the second lung of the planet after the Amazon.

It is in this context that at their 11th Ordinary Summit held in Brazzaville, January 24, 2004, the Heads of State and Government of Central Africa have adopted the Master Plan Consensus Transport in Central Africa (PDCT-AC) whose primary objective is to link the capital by a paved road.

In January 2012, the Heads of State and Government of the African Union adopted the Infrastructure Development Program in Africa (PIDA). The AC-PDCT projects are part of the Priority Action Plan PIDA (PAP / PIDA).

III.1 Objectives and strategic directions PDCT - AC

The Master Plan Consensus Transport is the reference framework for the development of transport infrastructure and services and for the facilitation of transport in Central Africa.

The main objectives of first priority program PDCT-AC are to: (i) linking the economic capitals and / or policies of the Member States together by paved roads while emphasizing the Inter corridors - States, (ii) achieving road projects NEPAD and (iii) rehabilitate and commission airports, ports, inland waterways and road existing iron.

The strategic axes PDCT-AC are: (i) consolidating reforms of policies and institutions in the transport sector, (ii) promoting inter modalism, (iii) the adoption of the approach corridor promote trade between the coastal and hinterland, (iv) the establishment of facilitation committees, (v) internal resource mobilization and (vi) the application of harmonized regulatory frameworks.

The PDCT-AC is composed of the following 55 projects:

- 44 road projects covering 5,906 km of roads including 3,752 km of new construction, 2,154 km of rehabilitation / strengthening and 3 major bridges,
- 3 rail projects for the construction of about 2,000 km of railways,
- 6 port and maritime projects including 3 port construction projects in deepwater and 3 rehabilitation projects of port infrastructure,
- 1 river and lake project,
- 1 Air project.

The PDCT - AC underlines the imperative need to take into account the preservation of forests in the Congo Basin, which are key in the fight against global warming. Therefore, the development of transport in the Congo Basin has been designed to meet the urgent need to liberate the countries' development potential through integration of their economies



fragmented, while minimizing negative impacts on natural forests.

III.2 First Priority Program

As part of the continuity of the implementation of the first priority program PDCT-AC, it is expected the projects above - below.

In the road sector: Efforts are increasingly made to build the missing links in trans road corridors, including the construction and upgrading of Corridor No. 13 PDCT-AC Pointe Noire - Brazzaville - Ouessou - Bangui - N'Djamena precisely the road Ouessou (Congo) - Bangui (Central African Republic) - Mbaikro (Chad).

Previously, the direct involvement of Heads of State and Government in support of its technical and financial partners for the construction and asphaltting of about 65% of Corridor No 13. The continuity of the actions already undertaken requires completion of construction of the entire corridor to open up the territories through and provide a second corridor for access to the sea of Chad and the Central African Republic.

The missing links are focused on the part of the corridor between Ouessou in northern Congo and Moundou in southern Chad crossing the CAR, where, because of the conflicts that have weakened the country, the rate of development is relatively small.

In the river area: The International Commission basin Congo-Oubangui-Sangha (JRCC) opted for the realization by step with modern port facilities (river ports, port stops, channels management, tagging, etc.) structuring to improve and develop the river transport. This is to make river navigation, an effective tool for strengthening economic competitiveness and contribution in regional planning and regional development. To this end, it is planned realizationthe development and maintenance of waterways works and construction / rehabilitation of ports on the Congo River and its tributaries Oubangui and Sangha to contribute to the development of Chad and the CAR that requires heavy freight whose costs could be alleviated through river transport. The river system on which investments are studied extends over a length of 1,200 km.

Multimodal Project Road Bridge construction - Rail development of the Ouessou-Bangui-N'Djamena road and improvement of navigation on the Congo River and its tributaries, the Oubangui and Sangha rivers will connect the capitals Congo (Brazzaville), CAR (Bangui), Chad (N'Djamena), DRC (Kinshasa) is a positive response to PDCT-AC and PIDA.

For the preparation of these projects, the four countries signed a Memorandum of Understanding in which they have delegated to the ECCAS Secretariat General the overall coordination of roles and Executing studies. In addition, they signed a joint request for funding for the study was submitted to the African Development Bank. Based on this request, the group of the African Development Bank has granted an ADF grant of \$ 8 million Units of Account (UA).



III.3 Financing of the PIP Priority Investments Program 2020-2024

The total cost of the PIP is estimated at 1,600,798,218,156 FCFA, the equivalent of 2,462,766,489 Euros or the equivalent of US \$ 2,910,542,215.

This cost is divided by country and by component as follows:

Designation	Amount in FCFA				
	DRC	Congo	RCA	Chad	Total
Bridge Road - Rail between Brazzaville and Kinshasa	135486750000	135486750000			270973500000
Strand Road	-	385 582 564 712	486491159137	83379459767	955453183616
port component	101152878346	55591947838	35452912457	-	192197738640
river Strand	43861627124	56622371065	81689797711	-	182173795900
Total	280501255470	633283633615	603633869304	83379459767	1 600 798 218 156
in %	17.52%	39.56%	37.71%	5.21%	100.00%

Each of the above - is the subject of a specific note and an MSDS.

The types of funding will, priority, or loans on concessional terms, or grants or quasi - donations. The ambition for the transport sector is to systematize the use of mixing loans / grants (blending) to finance priority investments of the transport sector. Other investment financing channels will, also explored in order to involve, the private sector more in the form of Public Private Partnership (PPP) in the implementation of transport infrastructure projects.

It is in this context that the States of Central Africa and the Secretariat General of ECCAS want the active participation of all of their technical and financial partners to the success of this Round Table to which they attach utmost importance .

IV. RECOMMENDATION

In an increasingly globalized world, Africa will be destined to be the grain warehouse, a source of energy and fresh water; therefore the nourishing earth of all Africa. The effective and intelligent exploitation of all its wealth will require the reorganization and development of an efficient (multimodal) integrated transport system, hence of its waterways, railways and roads, as well as of its maritime and river port infrastructures. without forgetting its air network and its airport infrastructures, all necessary for the economic exchanges, both inside and outside.



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Challenges for centuries to come, will be water, energy and agricultural production to meet the needs of a world population constantly growing. Central Africa with its underground mineral resources, oil and gas, its freshwater resources (2nd hydraulic basin in the world), its potential arable land is certainly the focus of African countries or the world.

Heart of the Continent and the second lung of the planet after the Amazon, Central Africa deserves the commitment of its technical and financial partners to help finance its transport projects submitted to the foundation of this Round Table. Experience shows that the phenomena of marginalization and poverty leads to situations where losing all values as it is commonly used to say that "the hungry man is not a free man, a man capable of reflecting calmly and objectively, and most social unrest could fall within these phenomena. "

Africa thanks its technical and financial partners for the progress already achieved together and thanked them in advance for the new provisions it calls for.



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FILE 3 - CONCEPTUAL NOTE: PRIORITY INVESTMENT PROGRAM FOR THE TRANSPORT SECTOR



I. CONTEXT

The vision of the Heads of State of the member countries is to make ECCAS an economically integrated, socially prosperous, culturally rich space, where security and peace reign lastingly, based on the rule of law, good governance and democracy, by creating a modern community, open to innovation and technology, united, united and tolerant, contributing effectively to the constant improvement of the quality of life of all its populations and at all levels. ECCAS also has as its objectives the achievement of the aspirations and objectives of the African Union (AU) Agenda 2063, the Sustainable Development Goals (SDGs) and the international development commitments to which its member states have subscribed.

Based on this Vision, the sectoral transport strategy aims to: (i) open up landlocked countries, (ii) increase trade between member countries and then with other regions, (iii) free movement of people and goods, (iv) liberalization of the transport sector and involvement of the private sector, (v) poverty reduction and (vi) improvement of the state of infrastructure and the quality of services.

This strategy was reflected in the Consensual Master Plan for Transport in Central Africa (PDCT - AC) adopted in 2004 by the Heads of State and Government of ECCAS with a view to providing the Sub-region with a reliable transport system. and effective in promoting regional integration, facilitating access to intra-regional and external markets, while improving the competitiveness of products. This plan contains all the transport infrastructure needs, all modes combined, expressed by the member States of ECCAS. It constitutes the frame of reference for the development of these infrastructures in Central Africa.

The First Program of the PDCT - AC composed of 55 projects has been adopted by the Ministers in charge of Transport and Public Works. Among the 55 projects selected, priority is given to:

- the construction of the Road-Rail Bridge between the cities of Kinshasa (DRC) and Brazzaville (Congo),
- construction / rehabilitation of the Ouesso - Bangui - N'Djamena road, missing link in the Pointe Noire - Brazzaville - Ouesso - Bangui - Ndjamena corridor (CD13),
- improving navigation on the Congo River and its tributaries Oubangui and Sangha by: (i) development of the Zinga threshold, (ii) development of the access channel to the port of Bangui and (iii) the development of ears on the Sangha,
- upgrading of the ports of Kinshasa in the DRC, Bangui in the CAR and (iii) Brazzaville and Impfondo in the Congo,
- the construction of new ports in: (i) Liranga and Betou in the Congo, (ii) Maluku and Gombé in the DRC and (iii) Mongoumba in the CAR,
- the development of docking points in Zongo, Kwamouth and Bolobo in the DRC.

This concept note describes the objectives, the expected results, the development process, the



financing strategy and the institutional mechanism for implementing the Priority Investment Program for the Transport sector in accordance with the PDCT-AC.

II. PIP OBJECTIVES

The overall objective of the Priority Investments Program for the transport sector is to:

- contribute to economic development, growth and poverty reduction,
- promote and strengthen the integration of community space,
- encourage balanced regional development,
- promote balanced development of different modes of transport,
- ensuring the security of transport networks,
- protect the environment.

The Priority Investments Program takes into account the need to face the double challenge of developing the economies of the countries by improving their infrastructures, while limiting the negative impacts of growth on the natural heritage of the region, in particular the forests of the basin from Congo.

The specific objective is to provide an appropriate response to the needs of sustainable development, growth, integration and the expectations of users and to anticipate future needs for transport infrastructure.

III. EXPECTED RESULTS

The expected results relate to:

- increased trade in the region and even beyond,
- significant improvement in the standard of living of populations, particularly for those in the Congo Basin, remote and / or isolated areas and landlocked countries,
- the promotion of river transport,
- the complementarity between the different modes of transport,
- reduction of generalized transport costs.

These results are expected through the lasting establishment of peace and security in the community space, inclusive governance and the rule of law, the opening up and integration of ECCAS countries.

The results expected from the implementation of the PIP will contribute to the preservation of



the second lung of the planet namely the Congo river basin.

IV. ELABORATION PROCESS

The projects listed in the PIP which were the subject of technical, environmental and economic studies were selected according to criteria such as:

- the demand for transport of people and goods,
- development of economic potential,
- regional integration,
- opening up isolated and / or distant territories,
- the economic and social impact on the living conditions of the populations, especially the most vulnerable, whether in rural or peri-urban areas,
- the complementarity of road and river transport modes.

The PIP was developed in accordance with the provisions of the PDCT - AC which highlights the imperative need to preserve the forests of the Congo Basin which are key elements in the fight against global warming.

The PIP portfolio is made up of nineteen (19) structuring projects which are consistent with the objectives of the PDCT-AC and those of Sustainable Development.

V. FINANCING STRATEGY

The total cost of the PIP 2020-2024 is estimated at 1,600,798,218,156 FCFA, the equivalent of 2,462,766,489 Euros or the equivalent of US \$ 2,910,542,215. This cost is distributed by country and by component as follows:

Designation	Amount in FCFA				
	RDC	Congo	RCA	Tchad	Total
Bridge - Road - Rail between Brazzaville and Kinshasa	135 486 750 000	135 486 750 000			270 973 500 000
Road sector	-	385 582 564 712	486 491 159 137	83 379 459 767	955 453 183 616
Port sector	101 152 878 346	55 591 947 838	35 452 912 457	-	192 197 738 640
River sector	43 861 627 124	56 622 371 065	81 689 797 711	-	182 173 795 900
Total	280 501 255 470	633 283 633 615	603 633 869 304	83 379 459 767	1 600 798 218 156
in %	17,52%	39,56%	37,71%	5,21%	100,00%



The Heads of State of the member countries have mandated the General Secretariat of ECCAS to organize a Round Table of Technical and Financial Partners. The Round Table aims to seek, from Bilateral and Multilateral, Traditional and Emerging, Public and Private Partners, financial resources to cover the need for PIP funding. It is a first step in the resource mobilization strategy for financing the PIP.

The sources of funding for this program will be diversified. To this end, they will not be limited to only traditional public resources (own resources or official development aid) mobilized in the form of grants, quasi-grants or concessional loans. New mechanisms for financing investments will be explored with a view to involving the private sector more in the implementation of projects initiated by the States.

VI. IMPLEMENTATION DEVICE

The Conference of Heads of State and Government, as the supreme body of ECCAS, is responsible for political orientation and the taking of strategic decisions. The Council of Ministers provides the leadership and the impetus necessary to implement the decisions of the Heads of State. The General Secretariat is responsible for coordinating the implementation of projects by relying on specialized technical committees and the competent structures in the States.

The projects are implemented at member state level by the competent technical structures with the coordination of the General Secretariat. ECCAS also works in synergy and in complementarity with the various regional organizations and development partners in their areas of competence for the effective implementation of projects.

Each member state or its designated representative, in collaboration with the expert in charge of the project portfolio at the level of the General Secretariat, the private sector and civil society organizations will be involved in the implementation and execution of the PIP. To this end, they will have to produce quarterly follow-up narrative and financial reports intended to inform stakeholders, Technical and Financial Partners on the progress of project execution. Where appropriate, the ECCAS General Secretariat will set up specific mechanisms to strengthen the monitoring and evaluation system for the implementation of PIP projects and programs.

VII. RISKS AND ASSUMPTIONS

The main risks inherent in carrying out the PIP are essentially of three types:

- difficulties in mobilizing financial resources,
- political instability and security problems in certain border regions,
- integration difficulties.

With regard to the difficulties of mobilizing resources, the General Secretariat of ECCAS is



involved through the various channels available to it in advocating for projects for the benefit of the States with the various Technical and Financial Partners. At the state level also various solutions will be implemented. These include, for example, Public-Private Partnership, the mobilization of funding through innovative partnerships, diplomatic and communication offensives, etc.

With regard to the risks linked to the resurgence of conflicts or the willingness of States to pursue and strengthen the integration policy are mitigated by (i) the commitment of the international community and its capacity to provide the forces for the maintenance of peace in the region, (ii) the implementation at ECCAS level of the COPAX and MARAC program and (iii) the fact that institutions such as ECCAS and CEMAC are at a stage of maturity which augurs well for their sustainability and the commitment of States to pursue their major objectives concerning this integration. In addition, these two institutions have undertaken initiatives which, in the long term, should lead to their merger into a single entity, in accordance with the directives of the Extraordinary Summit of Heads of State of Central Africa held in Yaoundé on December 23, 2016 and (iv) the donor intervention strategies in the area encourage and support States in strengthening their desire for integration and regional cooperation.

In addition, each State carrying out projects on its territory will take the necessary security measures, on the one hand, will associate local authorities, local communities in securing investments.

The ECCAS States, thanks to the support of the Technical and Financial Partners, will take all the measures to, on the one hand, put the Region on the path of emergence, sustainable development, regional integration, and on the other hand, create the conditions to make the heart of the continent a haven of peace and a vector of harmony and intermingling.

VIII. BENEFICIARIES AND STAKEHOLDERS

The direct beneficiaries of the projects are the States, the local authorities and the populations of the direct and extended areas of influence. These actors were involved in all phases of formulation, preparation and evaluation of projects as well as during technical, economic, social and environmental studies. Their interests and roles helped guide the technical conditions of the work to be carried out.

Technical and Financial Partners, regional organizations, non-governmental organizations etc. will also be involved in the implementation of projects.

In addition, the project studies took into account several cross-cutting issues, first environmental and social and climate change issues which were analyzed in the environmental and social impact studies. With regard to taking into account vulnerable groups, the project documents provide for support measures for local populations, women and young people.



IX. INTERNAL PROFITABILITY RATE OF PIP PROJECTS PHASE 2020-2024

IX.1 Road shutter

The lengths of the sections of the Ouesso - Bangui - N'Djamena road, penetrating roads and urban roads by country are given in the table below.

Country	Road	Penetrating	roadway	Total	In percent of the total
CONGO	503,932 km	12,90 km	25,51 km	542,342 km	39,17%
RCA	693,370 km	12,27 km	18,06 km	723,700 km	52,27%
CHAD	113,009 km		5,496 km	118,505 km	8,56%
TOTAL	1,310,311 km	25,17 km	49,066 km	1,384,547 km	100%

The main results of the economic analysis of the Ouesso - Bangui - Ndjamen road construction / rehabilitation and upgrading project are presented by country and by section in the table below.

Country	Designation	IRR by batch	IRR Consolidated by country
CONGO	Lot 1: OUESSO-POKOLA	13,5%	19,5%
	Lot 2: POKOLA-BOFANZDA	20,0%	
	Lot 3: BOUFANZDA-THANRY	19,9%	
	Lot 4: THANRY-Carrefour MIMPOUTOU	19,7%	
	Lot 5: LIKENZE-Carrefour ENYELLE +PENETRANTE ENYELE	17,5%	
	Lot 6: ENYELLE-BETOU	25,4%	
	Lot 7: BETOU-GOUGA	25,0%	
RCA	Lot 1: GOUGA-LOBAYE-MBAIKI	24,7%	19,3%
	Lot 2: MBAIKI-BOSSONGO	36,7%	
	Lot 3 :BOSSONGO – NZILA-PONT MPOKO - SAKPA – RN1	35,2%	
	Lot 4: RN1 (Carrefour contournement)-BOGAZI	14,7%	
	Lot 5: BOGAZI- BOSSEMBELE	13,4%	
	Lot 6 : BOSSEMBELE-LENGA KOTA	5,7%	
	Lot 7 : LENGA KOTA- BOSSANGO –BOKINE	4,6%	
	Lot 8 : BOKINE-BOGUILA	6,4%	
	Lot 9 : BOGUILA- BEBOURE	5,5%	
CHAD	BEKONINGA-MBAIKORO	12,0%	12,0%

Economic analysis concludes that the Ouesso - Bangui - N'Djamena road improvement and upgrading project is a profitable investment, with an overall internal rate of return of 18.8%.



IX.2 Port and river component

The table below of key indicators of the economic analysis confirms the economic viability of the planned developments.

component		Internal rate of profitability
Port upgrade	Port of Brazzaville	16,66%
	Port of Impfondo	19,95%
	Port of Kinshasa	16,63%
	Port of Bangui	17,21%
New ports	Port of Bétou	20,72%
	Port of Maluku	21,26%
	Port of Mougoumbé	21,33%
Construction of Berths	Bolobo docking point Zongo docking point Kwamouth docking point	21,41%
River developments	Zinga threshold, Bangui port access channel, Sangha development	14,56%

IX.3 Bridge-Route-Rail construction project between the cities of Kinshasa and Brazzaville

The main results of the economic analysis of the road-rail bridge construction project between the cities of Brazzaville and Kinshasa are presented in the table below.

SCENARIO ANALYSIS	Internal Rate of Return (IRR)	Net Present Value (NPV) in Billions of FCFA
Baseline scenario	18,1,0%	+227,282

X. PHASING OF PIP PROJECTS

ECCAS States faced with multiple security challenges, climate change, inter-community conflicts etc. quickly realized that development issues should be considered more at the regional level and that regional integrative projects between member countries should be favored to the detriment of those with an exclusively national dimension. The security and development challenges of cross-border areas call for special emphasis on these areas in order to allow a



redeployment of state structures. In this sense, central priority must be given to the regional dimension while applying the principle of subsidiarity in relation to other regional actors.

This is why the Community development strategy emphasizes a better balance and a good link between development and security. As development takes place in a stable and secure environment, it is also true that on the contrary, without any prospect of development, there is no security in Central Africa.

In this community strategy, the nagging question of risk analysis has not been overlooked.

The main risk is of course the difficulty of mobilizing funding in view of the downward trend observed in terms of official development assistance in the region. Particular emphasis will therefore be placed on the preparation of the round table through better high-level communication and awareness-raising and targeting of innovative partnerships. Insecurity in certain areas of the region also constitutes a major risk for the implementation of projects.

It is proposed to carry out PIP projects in two phases:

- (i) a first phase during the period 2020 - 2024 and
- (ii) a second phase for the period 2025 - 2029.

To this end, the choice of priority projects was made following a hierarchical exercise built on objective criteria previously established and approved in concert with the States, and in accordance with the guidelines of the supreme bodies of ECCAS. The main criteria used are:

- **Criterion 1 (feasibility of the project):** the economic dimension shows how well the individual road sections meet the normal feasibility criteria. These criteria are actually used to determine how viable the road sections are.
- **Criterion 2 (impact of the project):** it is a question of emphasizing road sections having rapid effects by favoring particularly deprived areas, which should in the very short term, improve the living conditions of the populations of concrete and visible way,
- **Criterion 3 (emergency response for security reasons):** this involves taking into account the operational needs of the defense forces to better accomplish their missions (risk of conflicts, tensions, terrorist threats, ethno-nationalist / religious fractures), etc.).
- **Criterion 4 (cross-border nature of the project):** it is a question of targeting the road sections responding to cross-border issues making it possible to cover vulnerable areas.

For a project to have a chance of success, it must meet clear and precise collective needs. These needs must be sustainable, that is, balanced between social, environmental and economic needs. All the criteria are assessed by socio-economic, technical and environmental data to limit the margin of subjectivity in order to ensure the transparency of the process of choosing and prioritizing the road sections. The criteria, indicators and rating systems used are as follows:



Designation	indicators	Weighting and scoring systems / Notes
Criterion 1: Feasibility of the project (FP)	Economic dimension shows how well the road section meets the normal feasibility criteria. This criterion in fact makes it possible to determine how viable the road section is.	4 points: Low profitability Economic (IRR <12%), 15 points: Average economic profitability (12 <IRR <15%), 20 points: Profitability High economic (TRI>15%)
Criterion 2: Impact of the project (PI)	Emphasize the road sections with rapid effects by favoring particularly deprived areas, which should in the very short term, improve the living conditions of the populations in a concrete and visible way.	6 points: Area of low population density, 16 points: Area with an average population density, 20 points: Area with high population density.
Criterion 3: Emergency intervention for security reasons (SR)	It is a question of taking into account the operational needs of the defense forces to better accomplish their missions (risks of conflicts, tensions, terrorist threats, ethno-nationalist / religious fractures, etc.) to establish the State Authority.	5 points: Low or nonexistent risk of insecurity, 14 points: Medium risk of insecurity, 20 points: High risk of insecurity.
Criterion 4: cross-border nature of the project (CT)	It is a question of targeting the road sections answering the cross-border problems making it possible to cover the vulnerable zones.	8 points: non-cross-border road section, 20 points: cross-border road section,

Based on these criteria, indicators and rating systems, a portfolio of nine (9) road sections with a length of 719.17 km on the seventeen (17) missing road sections of the CD13 corridor (Pointe Noire - Brazzaville - Bangui - N'Djamena) was identified for the first phase of the Priority Investment Program (2020 - 2024).

Country	Section	Length in km	Estimated cost of work in FCFA
CONGO	Lot 1: OUESSO-POKOLA	56,28	90 365 181 377
	Lot 2: POKOLA-BOFANZDA	97,00	51 737 565 607
	Lot 6: ENYELLE-BETOU	82,62	49 158 630 626
	Lot 7: BETOU-GOUGA	52,80	33 807 061 316
	Total Congo	288,7	225 068 438 926
RCA	Lot 1: GOUGA-LOBAYE-MBAIKI	108,74	106 473 325 169
	Lot 2: MBAIKI-BOSSONGO	62,79	45 468 516 499
	Lot 3 : BOSSONGO – NZILA-PONT MPOKO - SAKPA – RN1 (Carrefour contournement)	57,20	44 222 258 268
	Lot 9 : BOGUILA- BEBOURE	83,24	54 326 123 947
	Total RCA	311,97	250 490 223 883
CHAD	BEKONINGA-MBAIKORO	118,50	83 379 459 767
	Total chad	118,50	83 379 459 767



The components of the port component are presented in the table below by country in FCFA are proposed in Public - Private Partnership.

Designation		Amount in FCFA			
		Country			Total
		RDC	Congo	RCA	
Construction of new ports	Bétou		12 976 609 078		12 976 609 078
	Moungoumba			6 758 877 683	6 758 877 683
	Maluku	33 695 670 566			33 695 670 566
	Sous - total	33 695 670 566	12 976 609 078	6 758 877 683	53 431 157 328
Port upgrade	Brazzaville		32 339 891 430		32 339 891 430
	Bangui			15 809 156 055	15 809 156 055
	Impfondo		4 316 444 344		4 316 444 344
	Kinshasa	28 066 329 984			28 066 329 984
	Sous - total	28 066 329 984	36 656 335 774	15 809 156 055	80 531 821 813
Berthing points	Bolobo	7 018 355 710			7 018 355 710
	Kwamouth	7 463 030 710			7 463 030 710
	Zongo	4 449 874 160			4 449 874 160
	Sous - total	18 931 260 579			18 931 260 579
River navigation	Seuil de Zinga			34 471 665 286	34 471 665 286
	Chenal accès port de Bangui			43 361 965 301	43 361 965 301
	Aménagement Snagha		51 086 553 441		51 086 553 441
	Sous - total	-	51 086 553 441	77 833 630 586	128 920 184 027
Total		80 693 261 129	100 719 498 293	100 401 664 325	281 814 423 747
Percentage of total		28,63%	35,74%	35,63%	100,00%

The Road-Rail Bridge project developed by the Africa50 fund in the form of a public private partnership (PPP), already benefits from ADB financing (debt) is estimated at 413.7 million Euros, the cost of which is broken down as indicated. in the table below.

Designation	Cost in millions of euros before tax	Percent
Main bridge over the Congo river	300,3	72,58%
Road and rail connections	62,7	15,16%
Single Border Checkpoints	37,7	9,11%
Works control and supervision	12,0	2,91%
Environmental measures	0,8	0,19%
expropriations	0,2	0,05%
Total investment	413,7	100%



XI. CONCLUSION

The states having in common the Congo river basin make every effort to have a regular navigation service on the Congo river and its tributaries Oubangui and Sangha as part of a synergy between the modes of transport to support their efforts of sustainable development and regional integration.

The river transport service, once very developed, has declined over time under competition from land transport modes (rail and road) and because of the development of other international transport corridors. Indeed, the Congo River and its tributaries were an important penetration route for the transport of people and goods to the interior of the various countries and also constituted access to the sea for states without a maritime front.

The effective putting into operation of the network of inland waterways, the rehabilitation, the improvement of port infrastructures and the modernization of the fleet will relaunch river navigation, will improve trade by linking production centers to consumption and vice versa. The enhancement of inland waterway navigation will constitute an invaluable source of job-generating activities in the various sectors of the national economies ranging from that of industry to agriculture passing through the service sector. It will also contribute to the development of countries and to the improvement of their balance of payments and their revenues.

The ECCAS States, which thank their Technical and Financial Partners for their constant support, are particularly seeking their support at this time for the promotion of navigation on the Congo River and its tributaries Oubangui and Sangha. They also take this opportunity to thank their Private Sector Partners and invite them to contribute to the funding of this important project.



All together on the road to emergence



**ROUND TABLE
FOR THE FINANCING OF
INFRASTRUCTURE PROJECTS
IN CENTRAL AFRICA**

Central African Republic, Democratic Republic of Congo,
Republic of Chad, Republic of Comoros
19 March 2020 • BRAZZAVILLE

Fluvial and port development project on the Congo River and
Construction project of the ROAD-RAIL BRIDGE CONSTRUCTION PROJECT
BETWEEN THE CITIES OF KINSHASA AND BRAZZAVILLE
KINSHASA-ILEBO RAILWAY EXTENSION PROJECT
Cahier du Participant

**FILE 4- ROAD COMPONENT: *PROJECT CONSTRUCTION AND UPGRADING
OF THE ROAD OUESSO - BANGUI - N'DJAMENA***



I. PROJECT BACKGROUND

For the Economic Community of States of Central Africa, the role of the roads is comparable to that of the arteries and veins in the human body. If the arteries and veins supplying the body with oxygen and essential elements for its operation, roads enable the movement of people and goods, promote the growth of the economy, contribute to the improvement of living conditions populations, countries belong to each other and facilitate regional integration.

The diagnosis of the transport sector has shown that Central Africa is facing a deficit of road infrastructure; which constitutes a considerable obstacle to: (i) the implementation of sustainable growth and development policies, (ii) the accessibility of the population to basic social services and (iii) regional integration.

The states of Central Africa lead each regarding the expansion and modernization of its political road infrastructure network whose primary vocation internal opening up. It is in this context that the States of Central Africa have developed in 2004, the Master Plan Consensus Transport in Central Africa (PDCT-AC), whose objective is to provide the region with an integrated transport system (all modes) reliable and cost, promoting the free movement of people and goods and contributing significantly to the integration process.

The objectives of the Master Plan Consensus Transport in Central Africa (PDCT-AC) are:

- **short term** to allow traffic on a fully paved road from one capital to another,
- **medium term** to establish a regional consensus framework for negotiations to mobilize investments in the field of transport infrastructure,
- **long-term** to provide the Central Africa of a transport system (all modes) reliable and cost, promoting the free movement of people and goods and be able to support the development of trade between countries, and therefore economic integration.

In the road sector, the First Priority Program PDCT-AC had set a goal, the construction / rehabilitation and upgrading of several projects including the missing links of the corridor No. 13 Pointe Noire - Brazzaville - Bangui - N'Djamena, precisely the road Ouesso (Congo) - Bangui (CAR) - N'Djamena (Chad).

It should be recalled before the Economic Community of Central African States had mobilized with the support of its technical and financial partners for the construction and asphaltting of about 65% of the Pointe Noire corridor - Brazzaville - Ouesso - Bangui - N'Djamena. The state of Corridor No. 13 Pointe Noire - Brazzaville - Bangui - N'Djamena is:



Designation	Length	Road conditions	observations
Route Pointe Noire - Brazzaville	535 km	Paved road	Good condition
Route Brazzaville - Ouesso	835 km	Paved road	Good condition
Route Ouesso - Bangui	713km		
Section Ouesso - Mbaiki	601 km	Dirt road	To build
Section Mbaiki - Bangui	112 km	deteriorated paved road	To rehabilitate
Route Bangui - Mbaiki	596 km		
Section Bangui - Bossembélé	141 km	deteriorated paved road	To rehabilitate
Section Bossembélé - Mbaiki	455 km	Dirt road	To build
Route Mbaiki - N'Djamena	492 km		
Section Mbaiki - Moundou	22 km	Paved road	Good condition
Section Moundou - N'Djamena	470 km	Paved road	Good condition
Total length of the corridor No. 13	3.171 km		

II. PROJECT JUSTIFICATION

II.1 Project Objectives

The development project and upgrade the corridor Pointe Noire - Brazzaville - Bangui - N'Djamena meets the guidelines of sectoral transport policies and national programs of ECCAS countries. It fits in line with the priorities expressed in the PDCT-AC and sectoral policy documents of transport, Poverty Reduction Strategy documents of the countries crossed and NEPAD. These papers focus on road infrastructure which are obviously a fundamental if not the main lever of economic development, the empowerment of the majority of people especially those in remote areas and / or remote. Indeed, roads play an important role in improving the social welfare and represent a factor of stability, cohesion, solidarity,

The objectives of the construction project / rehabilitation and road upgrade Ouesso - Bangui - N'Djamena central link of Corridor 13, are including:

- the reduction in generalized costs of transport on the corridor, especially between firstly the northern part of Congo, CAR and southern Chad, providing a permanent connection and safe and fluid traffic conditions,
- improving living conditions of the population in the project's area of influence by improving access to services and infrastructure basic socio-economic,



- the contribution to the efficiency of road transport to support and strengthen exchanges Inter - States and meet the needs of regional integration,
- the development of wealth and natural resources of the territories crossed,
- improving food security.

II.2 Overview of the direct influence area

The geographical area of the road stretches northern Congo, the Central African Republic and Chad. The total area of the three countries is approximately 2,249,000 km² distributed as follows: 342,000 km² for Congo, 623,000 km² in the Central African Republic and 1,284,000 km² for Chad. The total population was estimated at about 42 million in 2013.

The Project has a strategic importance for the opening up of crossing areas with significant potential for mineral wealth and natural resources.

The project is doubly strategic when we consider the road that, if completed, gives direct access to ports of Pointe Noire and Matadi where will transit goods coming to the CAR and Chad.

II.3 Road Description

The Ouessou-Bangui-N'Djamena road begins to Ouessou in northern Congo and ends in the Chadian capital N'djamena, through Bangui. The part that goes Ouessou north of Congo Mbaïkoro southern Chad, consists of two sections: (i) the South and in the equatorial forest, Ouessou section - Bangui - Bossembélé Congo and RCA and (ii) in the North and in the savannah, the Bossembélé section - Mbaïkoro located in CAR and Chad.



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Cahier du Participant



In its current state, the road Ouesso - Bangui - Mbaiki is either dirt road condition summarily appointed or paved roads deteriorated. On sections to the dirt road condition, strings of sloughs, puddles and even termite mounds take one with the road, causing a hazard to users. These sections are virtually cut off during the rainy seasons and no vehicle gets to spend even 4x4 vehicles.



Since the road is located mostly in the equatorial zone, that - it crosses a river system made significant Sangha Ouesso (Congo), Lobaye near Mbaiki the Mpoko Bangui at the entrance to the south and Ouham Bossangoa, Nana Nana Bakassa Bakassa, Nana Barya to Bébouira and



Pende or Eastern Logone in Gore (Chad) to the north. The crossings are mostly makeshift structures of wood or flimsy materials.



II.4 Project Features

II.4.1 road Category

The main objective of the Trans Corridor Pointe Noire - Brazzaville - Bangui - N'Djamena is to be a highway structuring exchanges and integration where the privileged function is that of the flow of traffic, particularly transit medium and / or long distance.

In terms of road objectives, through the environment (hilly to flat relief) and the need to optimize construction costs, the T80 category (reference speed 80 km / h) was used. The geometric design standards are those of the community roads (CU) of the CEMAC zone.

The rules for sizing the horizontal alignment and vertical alignment applied are designed to ensure uniform conditions of comfort adapted to each road section and ensure good security. These objectives are reflected essentially by the minimum geometric characteristics to be respected and the principles web path components and visibility conditions.

II.4.2 road Plot

The road Ouesso - Bangui - Mbaikoro crosses Congo, CAR and Chad as follows:

- in Congolese territory, the project has its origin in the city of Ouesso and ends at the locality of Gouga on the border between the Republic of Congo and Central African Republic,



- in Central African territory, the project originates in Gouga and ends in Central African Bembere last village which borders the Republic of Chad,
- Chad, the project has its origin in the village Bekoninga, border between Chad and the Central African Republics. This section ends in the village of Mbaikoro.

The lengths of the road Ouesso - Bangui - Mbaikoro, penetrating and urban roads by country are given in the table - below.

Country	routes	penetrating	Highways	Total	In percent of total
CONGO	503.932 km	12.90 km	25.51 km	542.342 km	39.17%
RCA	693.370 km	12.27 km	18.06 km	723.700 km	52.27%
CHAD	113.009 km		5.496 km	118.505 km	8.56%
TOTAL	1,310,311 km	25.17 km	49,066 km	1,384,547 km	100%

II.4.3 The profile of across

The cross type selected is as follows:

➤ Open country

- Floor: $2 \times 3.75 \text{ m} = 7.50 \text{ m}$ with consideration of the road marking strip,
- Two shoulders of 2.00 m each.

The cross slope is 2.5% (roof) to provide drainage of the carriageway with triangular foot ditches Brick optionally in high slope zones.

➤ In areas with difficult terrain

- Creating a third path of 3.00 m with all possible conditions mentioned above.

➤ In urban areas

- Ground two channels of $4.750 \text{ m} = 9.50 \text{ m}$,
- Two covered lateral gutters (inner width of 0.80 m) separated from the floor by high staple borders,
- A parking lane 2,50 m wide (including the width of the channel), located in staggered,
- Two sidewalks 2.00 m wide each (including the channel width) depending on whether or not parking lane.

➤ In rural settlements

- Floor: 7.50 meters (with consideration of the band of horizontal signaling shore),
- Two open lateral gutters (inner width of 0.70 m) separated from the floor by high staple borders,



- Parking lane 2,50 m wide (including the width of the channel), located in staggered,
- Two sidewalks 2.00 m wide each (including the channel width) depending on whether or not parking lane.

II.4.4 pavement structures

Given the forecast heavy vehicle, the type of floor is the most suitable, in general, a thick bituminous structure. The long-term behavior of this type of floor does not have intrinsic characteristics leading to disorders. The rigidity of layered bituminous materials advertises, mitigating strongly, the vertical forces transmitted to the support and as the layers of asphalt remain stuck maximum traction forces exerted at the base of the deepest layer.

It is recognized that the bituminous structures have the advantage of flexibility in implementation both in terms of weather that daily returns.

The selected base material is a Grave - bitumen which has good mechanical characteristics as well as high adaptability to the specific geometry projects. La Grave - Bitumen is also a classic material whose implementation is well controlled by the companies.

II.4.5 Hydraulic works

To ensure proper drainage of water flows, prevent the deposition of solid particles and reduce the risk of obstruction by the strong thrust (tree branches, trash, miscellaneous waste ...) the proposed works are sized torrential regime . The number and nature of hydraulic structures to achieve by country are given below - below.

Country	Number of scuppers	Number of Decks
Congo	318	22
RCA	428	20
Chad	73	8
Total	819	50

II.5 Road Safety

Satisfying the demand for transport has to intervene in the best conditions of cost and safety for the Community users. If the cost of transporting people and goods are expected to fall because of the new road conditions, special attention was paid to the component "road safety".

Thus the project design provided for measures to improve road safety by: (i) compliance with regulations and standards for the flat and longitudinal geometric design, (ii) the establishment of a signaling horizontal and vertical adequate, (iii) the development of off areas of the vehicles in temporary parking and rest periods for drivers and (iv) the organization of awareness campaigns on road safety targeting users and local residents.

The studies were based on road safety manual for Africa published by the African Development Bank Group.



II.6 Evaluation of transport demand

The estimated demand for personal travel was made by a generation model of gravity and distribution type. The gravity model is established according to the following principle: the displacement between two zones are proportional to the weight in terms of population in these areas and inversely proportional to the distance that separates them. The gravity model was calibrated based on the cities constituting the pair of origin / destination (O / D) below: Ouessou - Oyo. Knowing the distance separating them and with counts and surveys O / D on the course, the parameters required for calibration of the model were estimated.

For cons, the freight demand was apprehended by two methods: (i) the results of investigations or surveys Origin / Destination available and (ii) analysis - sectors (the sector being heard from one type of product associated with a specific operation). The value chain analysis has defined product by product, the deficit areas and surplus areas. The flow of goods coming then the shortfall of some and absorb surpluses of others.

Traffic projections were made on the basis of growth rates of 9% for light vehicle traffic and 7.5% for heavy goods vehicle traffic. The Annual Daily Average Traffic (AYYY) to the projected year of commissioning (2022) of the Ouessou - Bangui - Mbaiki road are given by section and by country in the table below.

SECTION	LOTS	Normal traffic	Deflected traffic	Induced traffic	TMJA
OUESSO-BANGUI	CONGO				
	Lot 1 (Ouessou-Mbirou)	408	56	306	770
	Lot 2 (Mbirou-Pokola)	408	56	306	770
	Lot 3 (Pokola-Bofanzda)	206	56	155	417
	Lot 4 (Bofanzda-Thanyry)	173	56	132	361
	Lot 5 (Thanyry-Likenzé)	202	56	155	413
	Lot 6 (Likenzé-Enyellé)	205	56	156	417
	Lot 7 (Enyellé-Bétou)	327	56	247	630
	Lot 8 (Bétou-Gouga)	491	51	368	910
	RCA				
	Lot 1 (Gouga-Mbaiki)	692	51	424	1167
	Lot 2 (Mbaiki-Bossongo)	941	51	602	1594
	Lot 3 (Bossongo-Sakpa RN1)	941	51	602	1594
	Lot 4 (Sakpa RN1-Bogazi)	166	59	79	304
BANGUI-MBAIKORO	Lot 5 (Bogazi-Bossembélé)	166	59	79	304
	Lot 6 (Bossembélé-Lenga Kota)	70	59	18	147
	Lot 7 (Lenga Kota-Ndoubélé)	70	59	18	147
	Lot 8 (Ndoubélé-Sodoko)	60	56	72	188
	Lot 9 (Sodoko-Frontière Tchad)	60	56	72	188



CHAD					
Lot 1 (Békoninga-Benja)	194	52	123	369	
Lot 2 (Benja-Mbaikoro)	194	52	123	369	

II.7 Environmental and social impact

This Ouesso - Bangui - N'Djamena road improvement project was the subject of environmental and social studies, in particular the environmental and social impact study, the realization of a Resettlement Action Plan (PAR) Integral for the section crossing each country and Development Plans for Indigenous Populations on the sections of Congo and CAR.

II.7.1 Environment

The layout of the planned road essentially follows that of the existing runway, which will undergo localized adjustments and improvements in the curves pronounced to ensure the comfort and safety of users.

In accordance with environmental policy requirements, the project has been the subject of Environmental and Social Impact Assessment (ESIA) in the countries concerned and validated by the Ministries in charge of the environment of these countries. country. These studies made it possible to highlight the environmental and social impacts and propose mitigation, enhancement and compensation measures for significant impacts. These studies were conducted using a participatory approach to involve the beneficiaries in the whole process and in particular in the design and definition of management choices, and the consideration of their concerns in the definition of appropriate environmental and social measures to improve quality and their living environment. Involvement of the beneficiaries thus took the form of public consultations in each locality crossed by the road and Stakeholder consultation workshops in certain agglomerations of the countries concerned by the project.

The environmental and social impacts of the project and the corresponding mitigation, enhancement and compensation measures were identified in the Environmental and Social Management Plans (ESMP) at three levels: (i) at the technical design level of the road (ii) at road construction level and (iii) during road operation.

By improving access to the natural resources of the regions crossed, the road will make it possible, on the basis of principles of environmental and forest governance, to better control and manage these resources (mainly wood and wildlife).

All the countries concerned by the Project are signatories with seven (07) other Central African countries of the COMIFAC sub regional Convergence Plan for the conservation and sustainable management of forest ecosystems of Central Africa. This document is the frame of reference and coordination of all the interventions concerning the conservation and sustainable management of forest ecosystems in Central Africa. The second edition of this Plan for the period (2015 - 2025) is designed to address the main issues that could jeopardize development efforts in the region.



II.7.2 Climate change

The project crosses the Congo Basin, whose forests constitute carbon sinks for an absorption capacity of 500 million tonnes of CO₂ per year. Climate change has been taken into account in its design with the out of water sections of roads to be developed and the sizing of hydraulic structures, taking into account the rainfall in the project area.

The impact of climate change is also reflected in the third level of mitigation measures referred to above, which include management and governance of forest and wildlife resources, reduction of emissions from deforestation, and the conduct of forest degradation, environmental and forest audits. They also include monitoring and evaluation actions and environmental and forestry monitoring.

II.7.3 Physical and economic displacements

The development of the Ouesso-Bangui-N'Djamena road will require the release of a 50-meter right-of-way, ie 25 m either side of the center line of the roadway over its entire linear structure. On some sections, the road allowance is approximately 80% clear, particularly in the Congo. Road opening and expansion of the right-of-way in some areas will directly affect dwellings, bare plots and cultivated areas.

As part of the participatory approach to implementation of the study, all local residents and other project stakeholders were consulted. Their involvement was made in the form of public consultations in villages and workshops of stakeholder consultations in some areas. Thus, more than 4,000 people have been involved in all the project areas.

According to the census of compensation made on the entire road section that 4006 people will be affected by the project in the Congo against 8530 persons in Chad and more than 3047 people in CAR.

In terms of indigenous people, 1415 people gathered in 303 households will be affected by the project in the Congo against 1815 people grouped in 355 households in CAR. Arrangements for relocation of some affected people have been advocated and administrative infrastructure and some social utilities.

Positive impacts can also occur due to road development, to the extent that the construction activities will provide employment opportunities at local level and the presence of new roads / renovated facilitate better connections with the surrounding areas, thus improving access to jobs and markets, especially for young people, and providing business opportunities to economic development related thereto.



II.7.4 Recommendations

All the recommended measures will only be effective if they are effectively implemented by the companies and NGOs which will be in charge of the works and the implementation of all the planned actions.

Also, in order to comply with the safeguard policies of the main Multilateral Donors, the prescriptions of the Environmental and Social Management Plan (ESMP), of each Integral Resettlement Action Plan (PAR) and of Population Development Plans Indigenous (PDPA) must be implemented adequately.

Furthermore, in order for the project to meet the development objectives and comply with the different countries' strategies for poverty reduction and the achievement of the MDGs, it is recommended to have the social support measures provided for in the ESMP implemented. NGOs and local associations, under the coordination and in collaboration with the sectoral administrations concerned.

II.8 Economic Analysis

The road is undoubtedly an engine of economic development and social fulfillment. It plays - and will continue to play - a key role in the development and well - being of people. As a result, road projects must be part of a sustainable development approach that takes into account the social and economic aspects of the environment.

Assessing a major road project is not as easy as comparing numbers because it's always about conflict and compromise. Major infrastructure projects involve considerable investment, the socio - economic consequences of which often fall short of forecasts, and therefore of numbers.

The project road has been assessed following the conventional method of economic evaluation of road projects, based on the updated review of flows (benefits and costs) arising from the confrontation of different costs and benefits in the baseline "without project situation" which is not to carry out the project road construction Ouessou - Bangui - Mbaikoro and development scenario and upgrading of the road considered the "project situation".

The reference situation includes data regarding the description of the current track and the consequences caused by traffic on the analysis period, while the situation "with project" includes data relating to the construction of the road, traffic future and their effects on the interviews of the road.



The economic profitability of the investment was examined through a balance sheet comparing costs and benefits during the analysis period. The method compared the project costs with the expected benefits, which are:

- increased mobility and improved links between countries and in the region,
- the savings on the operating costs of vehicles (VECs) constituted by the net gains generated by normal traffic, induced traffic and deviated traffic thanks to the improvement of traffic conditions on the road,
- saving travel time for travelers,
- the increase in agricultural production and the development of commercial activities in the zone of influence of the project,
- the effects of opening up.
- The project costs considered are: (i) investment costs (related to works and control with a provision for physical contingencies) and (ii) the costs of routine and periodic maintenance of the different sections of the road.
- The method adopted for the assessment of the economic balance sheet of the Ouesso - Bangui - Ndjamena road development project is based on the comparison of the cost - benefit balance for two situations: the reference situation or "no project" situation corresponding to the non realization of the project, and the situation with the development of the road or situation "with project". The method essentially consists in comparing the costs of development and maintenance of the road with the benefits expected from the realization of the project.

All monetary values, expressed in CFA Francs, represent economic costs (excluding financial risks, taxes, royalties or other transfers of payments to the State).

The costs considered are: (i) investment costs (related to works and their control and physical contingencies) and (ii) maintenance costs for sections of road.

The total cost of the project (excluding taxes / duties), including provisions for construction hazards and for price increases, is CFAF 955,453,183,616. The costs of the project in FCFA by country and by heading are shown in the table below.

N°	POSTE	CONGO	RCA	CHAD	TOTAL PROJET
000	SITE INSTALLATION	20 363 974 000	20 839 533 000	3 571 672 000	44 775 179 000
100	PREPARATORY WORK	2 618 185 750	7 474 732 670	815 184 275	10 908 102 695
200	TERRASSEMENTS	30680801413	40447559350	4483534600	75611895363
300	FLOOR COVERING-ACCOTEMENTS	177 244 658 651	194 617 005 853	30497790051	402 359 454 555
400	SANITATION	10589225800	83861345648	11667668640	106 118 240 088
500	HYDRAULIC WORKS AND SMALL WORKS	12683110000	20731742300	4298636900	37713489200
600	CONSTRUCTION OF STRUCTURES	62316858999	45437780493	10842069393	118 596 708 885



700	SIGNALING - EQUIPMENT	2771754500	4853641800	712 569 300	8337965600
800	CONSTRUCTION RELATED	5457824000	8942374200	4165194100	18565392300
900	IMPLEMENTATION ESMP	2004704400	3210421000	1086117585	6301242985
1000	URBAN ROADS	23798506770	11848553811	3659072035	39306132616
PHYSICAL CONTINGENCY AND OTHER EXPENSES 10%		35052960428	44 226 469 012	7 579 950 888	86 859 380 329
TOTAL COST OF WORK		385 582 564 712	486 491 159 137	83 379 459 767	955 453 183 616

The development costs are based on estimates made in the technical studies. The unit prices of the various works are determined from data on similar projects recently carried out in each country for it.

Road maintenance costs include all expenses incurred annually or periodically to maintain a consistent level of service on the road. Maintenance standards and unit costs of maintenance work are derived from the use of maintenance in each country.

The benefits of the project are mainly related to: (i) savings in vehicle operating costs (VEC), which is the net gain from normal traffic, induced traffic, deviated traffic and international traffic, thanks to improved road traffic conditions, (ii) travel time gains, (iii) road-generated exogenous benefits, and (iv) gains in road maintenance costs.

For the economic analysis, the Ouesso - Bangui - Ndjamenas road was subdivided at the level of each country into homogeneous sections namely: 7 sections in Congo, 9 sections in CAR and 1 section in Chad. For each of these sections, the economic evaluation was carried out on the basis of the cost / benefit analysis between the "without" and "with" projects, over a period of 20 years and a discount rate of 12%. . The residual value of the investment at the end of the aforementioned period is 20%.

The "without project" situation is defined as the projection over time of the existing situation without the project, for the same exogenous demand. The analysis of the reference situation assumes the forecast of traffic in this same situation at the various project horizons and the consideration on the one hand of the maintenance costs necessary to maintain the current state of traffic conditions on the ground. sections of the road and, on the other hand, benefits to the community.

The situation "with project" consists of the construction of the road Ouesso - Bangui - Ndjamenas according to the levels of development defined for the different sections. The geometric and technical characteristics of the road and the levels of development are presented in detail in the files of the technical study of the project.



The calculation of vehicle operating costs was done using HDM's Vehicle Operating Cost (VOC) module, which allows the calculation of these costs, depending on the characteristics of the vehicles and the geometric parameters of the road, and the evolution of its surface state.

The value that users place on their journey time depends mainly on the level of their income and their motive for travel, because the time spent on a road corresponds to a shortfall in terms of production. In order to be taken into account in the economic analysis, the transport times of users must be converted into monetary values. It is therefore necessary to estimate the value of time. This estimate was made according to the method of calculation proposed by the World Bank (Kenneth M. Gwilliam - World Bank). This is based on an estimate of the average annual income of each country and an increase coefficient for work-related reasons (1.33) and lower for other reasons (0.30). It has been assumed that work-related trips (commercial activity ...) represent half of the trips.

The schedule used in the calculations of economic profitability, provides for development work during the period 2019 - 2021 followed by commissioning in early 2022. The period of economic analysis is 20 years. The economic calculations are established a residual investment value of 20%.

The main results of the economic analysis of the construction and asphaltting project of the Ouessou - Bangui - Ndjamena road are presented by country and by section in the table below.

Country	Section	Batch Sorting	Sorting Consolidated by country
CONGO	Lot 1: OUESSO-POKOLA	13,5%	19,5%
	Lot 2: POKOLA-BOFANZDA	20,0%	
	Lot 3: BOUFANZDA-THANRY	19,9%	
	Lot 4: THANRY-Carrefour MIMPOUTOU	19,7%	
	Lot 5: LIKENZE-Carrefour ENYELLE +PENETRANTE ENYELE	17,5%	
	Lot 6: ENYELLE-BETOU	25,4%	
	Lot 7: BETOU-GOUGA	25,0%	
RCA	Lot 1: GOUGA-LOBAYE-MBAIKI	24,7%	19,3%
	Lot 2: MBAIKI-BOSSONGO	36,7%	
	Lot 3 : BOSSONGO – NZILA-PONT MPOKO - SAKPA – RN1 (Carrefour contournement)	35,2%	
	Lot 4: RN1 (Carrefour contournement)-BOGAZI	14,7%	
	Lot 5: BOGAZI- BOSSEMBELE	13,4%	
	Lot 6 : BOSSEMBELE-LENGA KOTA	5,7%	
	Lot 7 : LENGA KOTA- BOSSANGOA -BOKINE	4,6%	



	Lot 8 : BOKINE-BOGUILA	6,4%	
	Lot 9 : BOGUILA- BEBOURE	5,5%	
CHAD	BEKONINGA-MBAIKORO	12,0%	12,0%
ROUTE OUESSO - BANGUI – MBAIKORO			18,80%

The economic analysis led to the conclusion that the Ouesso - Bangui - Mbaikoro development and upgrading project is a profitable investment, with an Internal Rate of Return (IRR) of 18.8%.

These results lead to the conclusion that the project is economically justified, especially as recent economic developments in Central African countries will have a strong impact on the growth of road traffic in the coming years.

By making it possible to reduce the operating costs of the vehicles, the construction of this road will contribute to improving the living conditions of the beneficiary populations. This is the reason why the social demand for its realization is very strong.

III. CONCLUSION

The road is undoubtedly an engine of economic development and social fulfillment. It plays - and will continue to play - a key role in the development and well - being of people. As a result, road projects must be part of a sustainable development approach that takes into account the social and economic aspects of the environment.

The assessment of a road-scale project is not easy as comparing the figures because it is always about conflict and compromise. Large infrastructure projects involve huge investment the socio - economic escape, often with expectations, so the numbers.

Ouesso - Bangui - N'Djamena is part of the ambition of the ECCAS States to strengthen regional integration into sustainable and feasible routes in all seasons. The section Ouesso - Bangui - Bossembélé - Mbaikoro is the missing link of the road corridor Trans Pointe Noire - Brazzaville - Bangui - N'Djamena.

The realization of this road will allow the opening up of regions with huge untapped agricultural potential, mainly because of the poor state of transport infrastructure. They also contain large deposits of minerals and forest reserves.

In addition, the completion of this route accompanied by various facilitation measures (Single Border Control Station, lifting of non-physical barriers, ...) will lead to lower transport costs, and lead to a substantial increase in the volume of commercial exchanges (especially agricultural and pastoral products) between countries.



The total cost of the project is CFAF 955,453,183,616. The construction and asphaltting of the Ouessou - Bangui - N'Djamena road will be carried out by section and it will be commissioned in the course of the year 2022.

The economic analysis of the Ouessou - Bangui - N'Djamena road development project yielded a satisfactory internal rate of return of 18.8%.

Heart of the continent and second lung of the planet after the Amazon, Central Africa, which thanks the Technical and Financial Partners for their constant support, is particularly asking at this moment their support for the financing of the construction and asphaltting works of the Ouessou - Bangui - N'Djamena road for the completion of the development and upgrading of the trans-African corridor Pointe Noire - Brazzaville - Ouessou - Bangui - N'Djamena.



**ROUND TABLE
FOR THE FINANCING OF
INFRASTRUCTURE PROJECTS
IN CENTRAL AFRICA**

Central African Republic, Democratic Republic of Congo,
Republic of Chad, Republic of Congo
19 March 2020 • BRAZZAVILLE

Fluvial and port development project on the Congo River and
Construction project of the ROAD-RAIL BRIDGE CONSTRUCTION PROJECT
BETWEEN THE CITIES OF KINSHASA AND BRAZZAVILLE
KINSHASA-ILEBO RAILWAY EXTENSION PROJECT

Cahier du Participant

FILE 5 - PORT AND RIVER COMPONENT: RIVER AND PORT FACILITIES



I. INTRODUCTION

Historically, the Congo River and its tributaries were important routes of entry for the transport of people and goods to inland areas with no road and / or rail infrastructure and landlocked countries without sea frontage.

In response to the decline of river transport, the Central African States had adopted in January 2004, the Consensual Master Plan for Transport in Central Africa (PDCT - AC) designed to fill infrastructure gaps, promote development and accelerate the development of regional integration. In particular, the PDCT - AC aims to make the Congo River and its tributaries modern, efficient and sustainable waterways. It is in this context that studies were carried out on the project to improve navigation on the Congo River and its tributaries the Oubangui and Sangha rivers.

The first part of these studies took stock of the situation and made the diagnosis of the port and river sector in the Congo River basin. The problems identified in the field of infrastructure relate both to inland waterways and to ports, and in both cases they relate to both the development, the equipment and the infrastructure. 'interview. It has been shown that the qualitative and quantitative inadequacy of the transport is largely due to the lack of infrastructure and the lack of adequate facilities and the lack of adequate facilities. the region. She has also shown that the existing infrastructure and services are far from allowing the realization of socio-economic development and integration in the region.

The second part of the studies identified the river and the port facilities. The analysis of issues identified in the river transport sector made it possible to define solutions aimed at improving the performance of the sector in the short and medium term. These solutions concern the need to carry out port and river development works to provide the studied waterways with port and river infrastructures.

The purpose of this paper is to present the current situation of the river and port sector and the challenges facing Central Africa in this area. It proposes appropriate projects for river navigation to contribute effectively to the socio-economic development and integration of the region.



II. FLUVIAL SHUTTER

II.1 Context

In DRC, Congo and CAR, the transport system is a multimodal system which the Congo River and its tributaries are the spine, around which the other rail and road modes. Transport by water occupies a prominent place in the socio-economic development, the opening up of isolated and / or remote areas, the provision of food and other products, particularly in the area of the Congo River basin.

The river navigation was carried out under satisfactory conditions and history has proved that this mode of transport was efficient and safe. However, due to lack of funding and resources during periods of instability, river transport has become less important, with the consequent deterioration and deterioration of port infrastructures and aids to navigation. As a result, river transport is not being carried out. not in optimal security conditions. The number of accidents has steadily increased in recent years. The main causes of accidents are related to difficulties in navigation (sandbanks, rock passes), overload and poor condition of river equipment.

In recent years, Central African states have implemented proactive policies aimed at the rehabilitation of river transport, the satisfaction of transport demand, the modernization of the fleet and the harmonization of the institutional framework. This renewed interest in river transport is due to the combination of several advantages, including:

- its favorable impact on development, the fight against poverty and the creation of jobs,
- the massification of traffic, the regularity and the variety of the transport supply,
- a strong reserve of capacity,
- price competitiveness,
- environmental assets: limited noise pollution and low gas emissions.

To this end , the States of Central Africa were established in 1999, the International Commission of the basin Oubangui-Sangha (JRCC). The objective of CICOS is to strengthen cooperation between Member States through better communication across the Congo River and its tributaries. His long-term goal is to promote integrated water resources management (IWRM) to promote development and reduce poverty in the Member States.

CICOS had a diagnosis of the river and transportation prepared on this basis, a Strategic Action Plan for the promotion of navigation in the Congo Basin - Oubangui - Sangha. This diagnosis was confirmed by recent studies, reveals many constraints to the development of river transport in the region, including:

- lack of maintenance and proper markup,
- infrastructure and transport equipment obsolete and inadequate,
- the weak regulation of exploitation,



- many barriers "non-physical" and "harassment".

II.2 Diagnosis and State of Play

The network of waterways on the Congo River and its tributaries Oubangui and Sangha analyzed involves a linear 2035 kilometers distributed as follows:

- a linear 600km Malebo Pool (Brazzaville / Kinshasa) on the Congo River up to the confluence of the Oubangui,
- a line of 610 km from the confluence of the Ubangi river with the Congo River to Bangui,
- a line of 825 km Mossaka Nola on the Sangha River. The confluence Congo - Sangha is located 465 km upstream of the Pool Malebo (Brazzaville / Kinshasa).

The diagnosis established from field investigations supported by the use of powerful modeling tool has highlighted the constraints that mark the transition to a regular and sustainable navigation, including:

- the Zinga threshold, which is a major obstacle both during normal low water periods and extreme low water levels due to the problem of sediment accumulation at the outlet of the main channel. The Zinga threshold can only be crossed for 5-7 months per year, thus limiting navigation on the Impfondo-Bangui section to 5 - 6 months per year,
- the access channel to the Bangui port which is silted in the area where the width of the main arm is wider than the average. Flow velocities are slowed, which favors sediment deposition and hinders navigation, especially during low water periods. As the water depths in this channel become internal at 1 m for flow rates below 500 m³ / s, navigation is interrupted over a period of 1-2 months per year,
- the "Castor" dams of the Sangha have not been satisfactory and as a result have not been maintained. With the effects of time, they are now all or part, destroyed, which is very dangerous for navigation. The hydro-sedimentary process of the Sangha following the removal of these structural elements currently produces singular head losses, browsing to the low Sangha Ouessou, is seasonal: (i) no restriction on navigation for 6 months a year (July to December) for barge convoys with a draft of 1.20 and (ii) 3 months a year, the convoys can travel with loads of limitations,
- a lack of marking and communication network to ensure safe navigation on all waterways.

Despite the improvement of roads passable in all seasons, there is always, in the Congo River basin relatively isolated areas. These areas are located in the immediate areas of influence and widened the river and tributaries and have, therefore, a vested interest in the Project navigation, both for purely inland transport of persons and goods.



II.2.1 river improvements

The waterways network studies have been conducted on the basis of a set of field investigations, including:

- Generally visit Congo River, its tributaries, ports and docking points
- topographical campaigns
- geotechnical campaigns at ports to assess the nature of the land and set up the mechanical design of the structures to achieve,
- bathymetry ports of Brazzaville Ouessou, Mossaka and Bangui
- hydrographic reconnaissance,
- liquid flow measurements (a total of 26 stations: 9 on the Congo River, 10 of the Sangha and 7 of the Oubanghi).

The campaigns of Collette hydrological data, bathymetric and hydrometric have helped achieve:

a description of the hydraulic regime (flows, velocities and water levels) of the reaches studied on the Congo river and the Oubangui and Sangha rivers,

- a general characterization of the navigability of diversion bays with identification and studies of sandy and / or rocky passes impeding navigation,
- a technical and economic analysis of the proposed solutions with a view to choosing the arrangements likely to improve navigation,
- a numerical model of the three rivers to: (i) understand the hydraulic behavior of waterways and the sensitivity of this behavior to hydrological variations, (ii) simulate and fix the geometric characteristics of structures (elevations, dimensions, position, etc.) and (iii) verify the effect the planned developments do not disturb hydraulic conditions elsewhere.

The studies selected the following priority developments: (i) the Zinga threshold, (ii) the access channel to the port of Bangui, (iii) replacement spikes on the Sangha river and (iv) dredging and the marking of waterways.

The purpose of the Zinga sill is to maintain sufficiently high flow velocities to prevent sediment deposition in the shipping channel. However, these velocities should not cause pressure drops across the threshold that can significantly increase water levels in the Zinga - Bangui section because an increase in the water level could have an effect on the morphology of the section. These two objectives are achievable by means of two spill crests that concentrate the flow in the natural low-flow channel and the excavation of a shipping channel connecting the natural channel exit of the Zinga sill to the preferential channel of the river. .



The development of the Bangui port access channel is designed to ensure the maintenance of sufficiently high flow velocities to prevent sediment deposition in a shipping channel that crosses a very wide section of the river. These speeds should not, however, cause head losses through the intervention section that can significantly increase water levels along the shores of the cities of Bangui and Zongo. These two objectives are achievable by means of a spilling ridge and a longitudinal spike that concentrate the flow in the center of the river and the excavation of a shipping channel connecting the deepest sections of the river.

The objective of the development of the ears on the Sangha is to replace the pressure drops produced by the "Castor" dams which will be dismantled soon by an equivalent loss of load visible on the surface. The removal of pressure losses from the water network could lower the water line and increase speeds, which could set in motion the sandy bottoms and change the morphology of the Sangha River downstream of Ouesso.

II.3 Support structures for navigation

The main public shipyards in charge of maintenance and maintenance as well as the bodies in charge of the maintenance and development of the waterways were the subject of investigations. These include: (i) Naval Shipyard of Ndolo and RVF, both in Kinshasa, DRC, (ii) Shipbuilding Shipyard (CNTF) in Brazzaville, Congo and (iii) Shipyard. Naval from Kolongo to Bangui in CAR.

The following key findings were noted:

- obsolescence and breakdowns of machines and tools,
- absence of a generator,
- absence of equipment and lifting gear,
- needs in human capacity building in equipment maintenance.

For the waterways maintenance and development organizations, the diagnoses concerned the Economic Interest Group - Common Service for the Maintenance of the Waterways, GIE-SCEVN in acronym for the Republic of Congo and the Central African Republic, and the Régie des Voies Fluviales, RVF in acronym for the Democratic Republic of Congo.

II.4 Objectives of the project

The general objectives of the project are:

- enhancement of the natural vocation of transport on the Congo River and its tributaries,
- the strengthening of regional integration through a massification of flows and exchanges,
- the opening up of the production and consumption areas of the river basin,



- the dynamisation of the productive and commercial sectors,
 - the creation of conditions for sustained economic growth,
- creating an environmental living environment and healthy social

II.5 Expected Results

The expected results include:

- navigability of the Congo River and its tributary Oubangui throughout the year,
- the revival of navigation in the Congo River Basin,
- easier and quicker for vessels and convoys of large access
- security of the insured navigation throughout the year day and night,
- the incentive to the creation of agricultural complex and / or agribusiness,
- the flow of agricultural, agro-industrial and mining to ports and / or to large distribution centers,
- reducing transport costs through river transport,
- the development of traditional activities and new opportunities in the private sector,
- capital gains linked to surplus agricultural production resulting from the opening up of the Congo River basin,
- job creation for the management and operation of the navigation system facilities and services.

II.6 Costs of river developments

The total cost of the project (excluding taxes / duties), including provisions for physical contingencies and financial contingencies, is 128,920,184,027 FCFA equivalent to US \$ 234,400,335 or 198,338,745 Euros. The project components and costs in FCFA are presented in the table below.

component	Amount in FCFA			
	Threshold Zinga	of Access channel to Bangui Port	Development of the Sangha	Total cost
Complementary studies	1 018 875 000	-	-	1 018 875 000
Dredging works	1 045 000 000	3 289 000 000	-	4 334 000 000
Tapis d'enrochement	18 585 111 050	24 764 214 000	-	43 349 325 050
Ears of 677 m	-	3 987 500 000	-	3 987 500 000
Ears of 903 m	-	5 502 113 100	-	5 502 113 100
Ears of 100m	-	-	17 901 925 800	17 901 925 800
Ears of 150 m	-	-	26 328 856 400	26 328 856 400
1.042 m spilling ridge	5 617 251 750	-	-	5 617 251 750



486 m spilling ridge	3 579 359 850	-	-	3 579 359 850
Total cost base	29 845 597 650	37 542 827 100	44 230 782 200	111 619 206 950
Physical contingencies	2 984 559 765	3 754 282 710	4 423 078 220	11 161 920 695
Financial risks	1 641 507 871	2 064 855 491	2 432 693 021	6 139 056 382
Total cost of the project	34 471 665 286	43 361 965 301	51 086 553 441	128 920 184 027

The breakdown of investments in river facilities by country is given in the table below.

Country	Designation	Cost of Work in FCFA	Cost of Work by Country in FCFA	In% of total
RCA	Adjustment of the Zinga threshold	34 471 665 286	77 833 630 586	60,37%
	Aménagement du chenal d'accès au port de Bangui	43 361 965 301		
CONGO	Development of the Sangha River	51 086 553 441	51 086 553 441	39,63%
TOTAL COST			128 920 184 027	100%

II.2.6 Economic analysis

The approach adopted in the economic analysis consists of comparing the costs of river facilities with the benefits associated, in particular, with savings in transport costs on the one hand between a "no project" situation where only the existing road mode will be used and on the other hand a "project-based" situation where the river transport mode replaces part of the traffic provided by the road.

The "without project" situation is characterized by the absence of investments to improve the conditions of navigation so the transport of goods will be done by the road mode from the port of Moungoumba towards that of Bangui.

In the "with project" situation, investments to improve navigational conditions are made and navigation replaces road mode for traffic in the Congo Basin, including a portion of CAR's international traffic.

The schedule used in the calculations of economic profitability, provides for work during the period 2019 - 2024 followed by commissioning in early 2025.

All monetary values, expressed in CFA Francs, represent economic costs (excluding taxes, royalties or other transfers of payments to the State).

The economic calculations are established for a period of 30 years (horizon 2054) and for a residual value of the navigation facilities of 15%.

Based on the data collected locally, the transport costs of the two main modes of transport are on average:



- CFAF 140 per tonne - kilometer by road,
- FCFA 70 per tonne - kilometer by river.

In the "no project" situation in the long term, the Zinga threshold will no longer be passable as well as the access channel to the Bangui port.

The table - summarizes key economic indicators, which confirm the economic viability of the proposed development. In addition, the results of the sensitivity analysis shows that the project is viable despite adverse shocks. This analysis demonstrates that the project's profitability is sensitive to changes in benefits and cost variations. However, even with a decrease in benefits of 10% and an increase in costs of 10%, the project remains profitable with an IRR of 12.50% and a positive NPV of 4.069 billion FCFA.

analyzed cases	Return (IRR)	NPV at 12% in billion FCFA
Base case	14.56%	19.955
scenario 1: 10% increase in investment costs	13.56%	13,104
scenario 2: 10% reduction in benefits	13.43%	10,920
scenario 3: 10% increase in investment costs and 10% decrease in benefits	12 ,50%	4,069

III. PORT COMPARTMENT

III.1 Diagnosis and State of play

During the surveys, an inventory of river ports and berthing areas (unmanaged) was carried out and a comprehensive inventory of infrastructures and equipment was drawn up. River transport suffers from numerous deficiencies, with the result that, in general, it is of very poor quality, it is more expensive than it should be and it proves to be unsafe with regard to many shipwrecks that have been recorded in the past years.

The main ports including those of Brazzaville, Kinshasa and Bangui are ports built in the colonial era and have played for more than 60 years a leading role. The various crises in the region have resulted in a lack of investment and poor maintenance in transport infrastructure, increasing the cost of goods in landlocked countries and handicapping inter-regional trade.

The main problems identified relate, in particular, to:



- the deterioration of wharf structures, which sometimes makes handling and storage operations difficult,
- the low capacity and low productivity of the ports,
- the deterioration of the medians, warehouses and buildings,
- the obsolescence and the repetitive breakdowns of many handling machines,
- silting, the presence of shipwrecks and the lack of markings at the approach of ports.

III.2 Port developments

On the basis of information and analyzes of the state of play and the main problems that arise, the solutions selected relate to the need:

- upgrading of the main ports, in particular: (i) the port of Kinshasa in the DRC, (ii) the port of Bangui in CAR and (iii) the ports of Brazzaville and Impfondo in Congo,
- new construction:
 - **in the Congo**, it concerns: (i) the port of Liranga on the right bank of the Congo River 592 km upstream from Brazzaville and (ii) the port of Bétou on the right bank of the Oubangui River, 1047 km upstream from Brazzaville and 163 km from Bangui,
 - **in the DRC**, it concerns: (i) the port of Maluku on the left bank of the Congo River 55 km upstream from Kinshasa by river and (ii) the port of Gombé on the left bank of the Congo River at 585 km upstream of Kinshasa,
 - **in CAR**, it is the Mongoumba port on the right bank of the Oubangui River, about 90 km downstream from Bangui.

The choice of these new ports is essentially justified by: (i) the absence of port infrastructures compatible with the volumes of traffic over 500 km upstream of Kinshasa and Brazzaville, the two largest centers of consumption in the region; (ii) the development of agropastoral, forestry and other commercial activities in the Gombe sector in the DRC, Liranga and Bétou in RC and Mongoumba in CAR, and (iii) the decongestion of the ports of Kinshasa by Maluku and the fact that the expansion of the settlement of Maluku and its environs with a population of about one million.

- the development and modernization of the Zongo, Kwamouth and Bolobo berths in the DRC,
- training and capacity building of public operators in the areas of: (i) hydrography, hydrology, river navigation code, safety and security of navigation.

III.3 Objectives

The general objectives of the project are:

- enhancement of the natural vocation of transport on the Congo River and its tributaries,



- strengthening regional integration through increased flows and exchanges,
- the opening up of the production and consumption areas of the river basin,
- the dynamisation of the productive and commercial sectors,
- the creation of conditions for sustained economic growth,
- the creation of a healthy environment and social environment.

Investments in river transport infrastructure will contribute to growth by increasing the stock of public capital available for the production of goods and services. It is widely accepted that the development of transport infrastructure, which improves accessibility, increases total factor productivity and has effects on activities and revenues.

III.4 Expected results

The expected results relate to:

- the reduction of port costs,
- the competitiveness of ports,
- the reduction of waiting times and the increase of ship rotations,
- easier and faster access ports for large ships and convoys,
- the safety of navigation guaranteed day and night,
- job creation for the management and operation of the navigation system facilities and services.

III.5 Cost estimates

The total cost of the project (excluding taxes / duties), including provisions for physical contingencies and financial contingencies, is CFAF 152,894,239,738, equivalent to US \$ 277,989,527 or 235,221,907

Designation		Amount in FCFA			
		Country			Total
		RDC	Congo	RCA	
Construction new ports	Bétou		12 976 609 078		12 976 609 078
	Moungoumba			6 758 877 683	6 758 877 683
	Maluku	33 695 670 566			33 695 670 566
	Sub - total	33 695 670 566	12 976 609 078	6 758 877 683	53 431 157 328
Upgrading ports	Brazzaville		32 339 891 430		32 339 891 430
	Bangui			15 809 156 055	15 809 156 055
	Impfondo		4 316 444 344		4 316 444 344
	Kinshasa	28 066 329 984			28 066 329 984
	Sub - total	28 066 329 984	36 656 335 774	15 809 156 055	80 531 821 813
	Bolobo	7 018 355 710			7 018 355 710
	Kwamouth	7 463 030 710			7 463 030 710



Berthing points	Zongo	4 449 874 160			4 449 874 160
	<i>Sub - total</i>	<i>18 931 260 579</i>			<i>18 931 260 579</i>
Total		80 693 261 129	49 632 944 852	22 568 033 738	152 894 239 719

IV. ENVIRONMENTAL AND SOCIAL IMPACT

An Environmental and Social Impact Assessment (ESIA) has been carried out for the port and fluvial component and has made it possible to evaluate the direct or indirect impact of the project's activities on the ecological balance of the zone of implantation, the framework and the quality of life of the population and the environment in general to ensure its harmonious integration into its host environment.

This study, which concerned both river and main ports, secondary ports and berths in DR Congo, Congo and CAR, made it possible to highlight the environmental and social impacts and to propose environmental protection measures, mitigations, bonuses and offsets of significant impacts. Its implementation followed a participatory approach and made it possible to involve all the actors in the whole process. This stakeholder involvement was mainly done through stakeholder consultation workshops held in Kinshasa, Brazzaville and Bangui.

The environmental and social impacts of the project and the corresponding mitigation, enhancement and compensation measures have been identified in the Environmental and Social Management Plans (ESMP).

By improving the quality and quantity of port infrastructure as well as navigation on the Congo River and its tributaries Oubangui and Sangha, the project will contribute globally to (i) the beautification of the landscape of the sites of the new ports, (ii) the creation of employment and the development of the local economy, (iii) improvement of port operations and river transport activities; (iv) the increase in revenues related to the operation of new ports, (v) the increase in the level of safety and security at the level of port facilities, as a result of new developments and equipment, (vi) the contribution to the Reduction of Greenhouse Gases due to the development of inland waterway transport which constitutes a mass transport mode for goods.



V.ECONOMIC CALCULATION

The components and costs of the project in FCFA are presented in the table below by country.

Designation		Amount in FCFA			
		Country			Total
		RDC	Congo	RCA	
Construction new ports	Bétou		12 976 609 078		12 976 609 078
	Moungoumba			6 758 877 683	6 758 877 683
	Maluku	33 695 670 566			33 695 670 566
	Subtotal	33 695 670 566	12 976 609 078	6 758 877 683	53 431 157 328
Upgrading ports	Brazzaville		32 339 891 430		32 339 891 430
	Bangui			15 809 156 055	15 809 156 055
	Impfondo		4 316 444 344		4 316 444 344
	Kinshasa	28 066 329 984			28 066 329 984
	Subtotal	28 066 329 984	36 656 335 774	15 809 156 055	80 531 821 813
Berthing points	Bolobo	7 018 355 710			7 018 355 710
	Kwamouth	7 463 030 710			7 463 030 710
	Zongo	4 449 874 160			4 449 874 160
	Subtotal	18 931 260 579			18 931 260 579
River navigation	Seuil de Zinga			34 471 665 286	34 471 665 286
	Chenal accès port de Bangui			43 361 965 301	43 361 965 301
	Aménagement Snagha		51 086 553 441		51 086 553 441
	Subtotal	-	51 086 553 441	77 833 630 586	128 920 184 027
Total		80 693 261 129	100 719 498 293	100 401 664 325	281 814 423 747
Percentage of total		28,63%	35,74%	35,63%	100,00%

The table below of the key indicators of the economic analysis confirms the economic viability of the proposed developments.



**ROUND TABLE
FOR THE FINANCING OF
INFRASTRUCTURE PROJECTS
IN CENTRAL AFRICA**

Central African Republic, Democratic Republic of Congo,
Republic of Chad, Republic of Congo
19 March 2020 • BRAZZAVILLE

Fluvial and port development project on the Congo River and
Construction project of the ROAD-RAIL BRIDGE CONSTRUCTION PROJECT
BETWEEN THE CITIES OF KINSHASA AND BRAZZAVILLE
KINSHASA-ILEBO RAILWAY EXTENSION PROJECT

Cahier du Participant

component		Internal rate of profitability
Upgrading ports	Port of Brazzaville	16,66%
	Port of Impfondo	19,95%
	Port of Kinshasa	16,63%
	Port of Bangui	17,21%
News ports	Port of Bétou	20,72%
	Port of Maluku	21,26%
	Port of Moungoumbé	21,33%
Construction of Berths	Bolobo berthing point Zongo docking point Kwamouth berthing point	21,41%
River developments	Threshold of Zinga, Chenal access port of Bangui, Development Sangha	14,56%



**ROUND TABLE
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Central African Republic, Democratic Republic of Congo,
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Cahier du Participant

**FILE 6: ROAD-RAIL BRIDGE BETWEEN KINSHSA AND
BRAZZAVILLE CITIES**



I. CONTEXT AND JUSTIFICATION OF THE PROJECT

The project of linking the two banks of the Congo River to the two nearest capitals of the world, Brazzaville and Kinshasa, separated by the river of only four kilometers is not a totally new project.

The idea had already germinated during the Second World War when it had been necessary to facilitate transport between the two cities, both men and equipment. But work had been done only on the Kinshasa side: from Ngaliema Bay, the island of Mimosas had already been reached for some 700 meters, somewhere on the side of the current presidential concession of Mount Ngaliema. The remains are still there, more than half a century later.

In 1991, the idea had resurfaced, with not only a road bridge, but a road - rail bridge. The proposed site was about six kilometers downstream from the Mimosa Island site on the right bank of the river.

In 2003, the Transport Infrastructure Unit, which coordinated road projects in Central Africa in cooperation with the European Union, had taken up the idea and proposed a new site, downstream from the capitals "where the river's width is only about 500 m.

In December 2007, the Democratic Republic of Congo and the Republic of Congo adopted a memorandum of understanding for conducting feasibility studies and the organization of the operation of a road-rail bridge between Brazzaville and Kinshasa on the "Majestic Congo River". The Congo River is the second river in the world with its average flow (40,650 m³ / s) and the surface of its catchment (30,000 km²) as well as the second river of Africa by its length (4,380 km). The entire watershed is located on the southern and northern hemispheres where the rain regimes are reversed; which makes the Congo one of the most regular rivers of Africa and the planet, because it is very well fed in all seasons.

At present, the crossing in Kinshasa and Brazzaville is under very difficult conditions, both in terms of transport conditions and the length of red tape on both sides of the river.



II. OBJECTS AND ISSUES OF THE PROJECT

II.1 Purpose of the project

The purpose of the project is to build a fixed link between the cities of Brazzaville and Kinshasa through the construction of a road-rail bridge designed to ensure the optimal conditions of safety and economy of automobile traffic. rail. In addition to the construction of the bridge, the project also includes:

- the bridge access connections to the road and rail networks of the two countries,
- terminal installations, separate or common, in connection with the border nature of the bridge.
- The Road Rail Bridge has been designed to be easy to maintain and operate. He will wear:
- a two-lane road carriageway with the possibility of extension to four lanes and two sidewalks,
- a railway line.

II.2 Challenges of the project

The stakes of the project are:

- Improve and secure the connections between Brazzaville-Kinshasa and the seaports

It is to offer an alternative for the service of Kinshasa from the port of Matadi and the service of Brazzaville from the port of Pointe-Noire. These two routes are complementary since a limited part of the supply of Brazzaville goes through the route Pointe-Noire - Matadi (by boat feeders) - Kinshasa (by road) - Brazzaville (crossing the river).

- Promote exchanges between Brazzaville and Kinshasa, the two capitals closest to the world

The exchanges between the two capitals are very limited because of the absence of bridge but especially the high cost of the crossing (cost of transport but also cost of formalities). But the development of these exchanges, whose level does not correspond at all to what it should be given the proximity and importance of these two cities, could only be beneficial to the economy of these two cities .

- Promote exchanges between the Democratic Republic of Congo and the Republic of Congo



The development potential of both the Democratic Republic of Congo and the Republic of Congo is very high both in agriculture and manufacturing. Trade between the two countries would make it possible to develop complementarities, to play competition and thus, ultimately, to allow a fall in the prices of consumer goods, thus benefiting the entire population.

- Promote travel along the Tripoli - Windhoek corridor

Although in general, very long distance transport flows are limited in the sub-region (apart from those generated by the supply of landlocked countries), the construction of the bridge can contribute to the development of trade along the Tripoli - Windhoek corridor, between Brazzaville - Kinshasa and Angola, the Central African Republic and Namibia.

- Promote exchanges between the Democratic Republic of Congo on the one hand and Cameroon and Gabon on the other hand

Major road projects are underway to link Brazzaville and Kinshasa to Cameroon and Gabon. The bridge would promote trade between these two countries and Kinshasa.

II.3 Evaluation of the transport demand

The estimation of the request for the movement of people was made from models of generation and distribution of gravity type. The calibration of the model was done on the basis of traffic data available on the road and river links currently used in both countries.

The demand for freight transport was estimated using two methods: (i) using survey results or available origin-destination surveys and (ii) using a chain analysis. .

Without project, the number of passengers crossing the river would increase from 750,000 per year in 2010 to 1,000,000 in 2015. It would reach 4,500,000 in 2040.

With the construction of the bridge and the implementation of measures to standardize border crossing procedures, the number of passengers crossing the river would increase from 3,135,000 a year in 2019 to 4,344,000 in 2025. It would reach 10,460. 000 in 2040.

With the construction of the bridge and the implementation of measures to standardize border crossing procedures, freight traffic would increase from 2,228,703 tons of goods per year in 2015 to 5,199,873 tons of goods per year by 2025 .

Currently, the total traffic crossing the river is low and can be estimated at 340,000 tons per year.

Supply traffic from Kinshasa from the coastline is set to grow very strongly: 14.8 million tonnes in 2025, 42.0 million tonnes in 2040. Given the saturation of the port of Matadi, this supply is called to be done more and more via the Pointe Noire Brazzaville corridor and therefore to take the bridge.



II.4 Characteristics of the PRR

The PRR is designed to be easy to maintain and operate. He will wear:

- a roadway with two lanes of traffic with the possibility of extension to 4 lanes as well as two sidewalks,
- a railway track.

- The length of the Bridge will be 1,575 m

The Bridge consists of a succession of 10 spans. The large spans of 152 m and 242 m span are guyed.

- Road and rail connections

- The Bridge will be located in Maloukou Tréchet 65 km from Brazzaville and 87 km from Kinshasa
- On the right bank of the river (RC), the accesses to the Bridge will connect for 3.2 km, with the future RN1 which should reach the village of Maloukou Tréchet
- On the left bank of the river (DRC), access to the Bridge will be connected for 6.8 km with the paved road which crosses the agglomeration of Maluku and provides access to Kinshasa

II.5 Environmental and social impact

The environmental assessment of the project is focused on the direct impacts of the project, that is to say those that are exerted on the right-of-way areas and around the PRRC and its connections to the road and rail networks, on the on either side of the river.

The direct impacts of its infrastructures relate not only to the physical presence ("structural" impacts) but also to the operation (traffic, frequentation, related parking) and operation (maintenance, repair, monitoring) of these infrastructures. These constitute the so-called "functional" impacts.

Taking into account all of the direct impacts leads to defining a main study area comprising both all of the infrastructure and works rights of way and their surroundings up to the limit of potential influence of the functional impacts. This last limit is for example for the human environment the area of extension of the noise generated by the traffic induced on the transport infrastructures, or even the area of extension of a significant deterioration of the air quality caused by these trafficking.

Faced with the a priori environmental impacts caused by the project, the impact study identifies and describes the measures that are likely to avoid or fail to reduce the negative impacts, and possibly optimize the positive impacts. The relevant measures, the time of their implementation,



the actors and means of their implementation and their follow-up are described in the Environmental and Social Management Plan (ESMP) which accompanies the ESIA.

The residual impacts of the project are the impacts resulting from the completion of the project under the conditions for implementing the environmental measures provided for in the ESMP. The importance of the residual impact is the result of the importance of the gross impact (or potential or a priori) from which the effectiveness of the measure is subtracted. In the event of an avoidance measure, the residual impact is zero or negligible. In the case of a reduction measure, the reduced impact (manifestation with the measure) can be evaluated as a percentage (25, 50 or 75%) of the gross (or potential) impact. In some cases it may appear, in the most optimistic hypothesis, that the implementation of an environmental measure replaces a negative gross impact (potential damage) by a positive residual impact (real benefit) compared to the current situation. The nature and extent of the residual impact are in turn reassessed on the same scale as that used for the gross impact.

The cost of the usual reduction measures (design / production) is estimated at around 4 to 5 million euros. The amount of the expropriations (RDC rail connection) represents only about a quarter.

Measures to deal with the direct effects of long connections (revegetation, anti-erosion measures, etc.) represent a preponderant part of this cost.

The accompanying measures are estimated as follows:

- around 5 to 8 million euros with regard to the treatment of indirect effects in connection corridors (management of space and resources)
- overwhelmingly (more than 130 million euros, 90% of the total measures) allocated to carrying out the PL bypasses of Brazzaville and Kinshasa, connected to the PRRC.

III. ECONOMIC ANALYSIS

The method used to assess the project's economic balance sheet is the cost-benefit method, which aims to assess the costs and benefits of two situations:

- the reference situation, corresponding to the non-completion of the project,
- the situation with project, corresponding to the realization of the project.

The comparison of the cost-benefit balance in the two situations makes it possible to judge the economic interest of the project.

III.1 Definition of situations



The reference situation or "no project" situation corresponding to the non-realization of the bridge and is defined as the situation where the operation of boats, boats and motorboats will continue, with the same quality of service (waiting period in particular) than currently. In order to sell the traffic, taking into account its progression, under normal conditions, it will be necessary to continue and reinforce, at the opportune moment, the current exploitation of boats, boats and motorboats. It will also be necessary to proceed with the rehabilitation and maintenance of the access roads to the passenger unloading and unloading facilities.

The "with project" situation corresponds to the construction of the bridge and its access roads, the construction of the toll areas and the environmental measures.

III.2 Associated costs

The associated costs considered are: (i) investment costs (related to work and control and physical contingencies) and (ii) bridge maintenance costs.

The total amount of investment needed to build the Route - Rail Bridge and its road and rail connections is 413.7 million Euros excluding taxes. This cost breaks down as shown in the table below.

Designation	Cost in millions of euros excluding tax	Percentage
Main bridge on the Congo River	300,3	72,58%
Road and rail connections	62,7	15,16%
Border Single Control Stations	37,7	9,11%
Control and supervision of works	12,0	2,91%
Environmental measures	0,8	0,19%
Environmental measures	0,2	0,05%
Total amount of investment	413,7	100%

As regards maintenance, the following actions are proposed:

- during the first five years following the year of commissioning, the works will require no maintenance,



- from the sixth year, a routine maintenance, amounting to 1% of the investments, will be necessary,
- rehabilitation works in the twentieth year (about 20% of the cost of the work).

Beyond the evaluation period, infrastructure, even degraded, remains. It is therefore appropriate to include in the economic evaluation a valuation of the infrastructure remaining at the end of the evaluation period.

Structures are generally designed for a lifetime of 100 years. We reduce this life to 75 years to account for imperfections at the time of completion and maintenance defects. By applying a straight-line depreciation rate, the residual value of the structure (excluding access roads) would be 60% at the end of the 30-year period prescribed for the analysis. With regard to access, we estimate that the residual value of the investment beyond the evaluation period corresponds to the cost of the earthworks.

III.3 Project benefits

The expected benefits of the project, consisting of the bridge, access infrastructures, border posts and associated facilitation measures are as follows

- For travelers
 - time saving,
 - reduction of the economic cost of crossing,
 - in return for an additional cost related to the lengthening of the route to access the book.
- For the goods
 - reduction of downtime of goods,
 - reduction of downtimes of heavy goods vehicles,
 - reduction of the cost of the crossing.

III.3.1 Savings on users' time

The average price per boat crossing is 7.8 euros per passenger. Considering that this price is not a price net of taxes (which must be excluded from the economic analysis), a coefficient of 0.75 is applied. The cost taken into account is 5.9 euros per passenger.

In a project situation, additional transport costs must be taken into account to access the structure (Maluku Maes and Ngombé variants). The future costs of the crossing are the operating costs of the vehicles. It should be noted that a toll should not be taken into account in



the economic analysis because it is a transfer to agents (negative for the user, positive for the operator of the bridge).

The cost of rail transport is estimated at 0.04 euros per passenger x km. For road costs, in the absence of data on vehicle operating costs, the estimate was based on data from a similar study (Feasibility and detailed design of the Kazungula bridge, border facilities and corridor studies - Egis - 2009). It is estimated at 0.35 per kilometer for a light vehicle (taxi), or 0.11 per passenger x km, given an occupancy rate of 3 people per taxi.

In order to be taken into account in the economic analysis, the transport times of users must be converted into monetary values. It is therefore necessary to estimate the value of time. This estimate was made according to the method of calculation proposed by the World Bank. This is based on an estimate of the average annual income of the two countries (prorated for the population of the two capitals) and an increase coefficient for work-related reasons (1.33) and lower for other reasons (0.30). It has been assumed that work-related trips (commercial activity ...) represent half of the trips.

The estimated time value is 0.28 euros per hour.

III.3.2 Advantages of transporting goods

As with passengers, the benefits of freight transport are related to the time and cost savings of operating vehicles.

- Time savings have a double impact on the road transport of goods:
 - like any storage, immobilization of goods at a cost,
 - for vehicles, being immobilized, and therefore not being productive, also has a cost.

In reference situation, that is to say without project or facilitation of transport, past times are linked :

- the waiting time of the vehicle during loading / unloading operations: this time is estimated at a total of 8 hours,
- the duration of immobilisation of the goods: this time is estimated at 72 hours.

The value of the goods is estimated at 1,200 euros per tonne. On the basis of an interest rate of 20% per year (the cost of immobilizing a commodity can be assimilated to losses related to the non-use of capital), the cost of immobilizing the goods can thus be estimated at 0.66 euros per tonne per day.

It turns out that the cost of immobilizing a heavy vehicle (tractor + semi-trailer) is 151 euros per day, or 7.5 euros per tonne per day. In project situations, waiting times are limited due to the facilitation measures put in place. They are estimated at one hour for trucks and 1/4 hour for trains.



At present, the cost of crossing a 15-tonne container is estimated at US \$ 832 based on interviews with freight forwarders. A financial cost of 39 euros per tonne and an economic cost of 36 euros per tonne. This high cost is explained by the difficulty of getting goods between the two countries without a bridge.

The journey made by freight trains must also be taken into account (in km), by difference between the reference situation (road journey) and the project (railway journey). The cost thus generated is estimated at 0.065 euros per tonne x km.

III.4 Profitability indicators

The results of the economic profitability analysis of the project are as follows:

Net Present Values (NPVs) are calculated at a discount rate of 12% and are given in millions of euros.

SCENARIO ANALYSIS	Internal Rate of Return (IRR)	Net Discounted Value (NPV) in millions of euros
Basic scenario	18,1,0%	+347

Assuming that the investment costs are increased by 20%, the results are as follows (NPV in Euros at the discount rate of 12%), the IRR would be 15.7%.



**ROUND TABLE
FOR THE FINANCING OF
INFRASTRUCTURE PROJECTS
IN CENTRAL AFRICA**

Central African Republic, Democratic Republic of Congo,
Republic of Chad, Republic of Congo
19 March 2020 • BRAZZAVILLE

Fluvial and port development project on the Congo River and
Construction project of the ROAD-RAIL BRIDGE CONSTRUCTION PROJECT
BETWEEN THE CITIES OF KINSHASA AND BRAZZAVILLE
KINSHASA-ILEBO RAILWAY EXTENSION PROJECT

Cahier du Participant

FILE 7 : KINSHASA-ILEBO RAILWAY EXTENSION



I. CONTEXT

The main objective of the railway line between Kinshasa and Ilebo is to ensure the continuity of rail transport between the port of Matadi and the center, east and south-east of the Democratic Republic of Congo (DRC), and to with Zambia, Zimbabwe and South Africa.

This line will thus be connected with the Matadi-Kinshasa line, the Brazzaville-Kinshasa road-rail bridge and the Republic of Congo (RC) rail network, and finally with the Ilebo-Lubumbashi-Zambia border line, becoming a strategic axis for the economic, social and cultural development of the DRC.

The long-term goal of the construction of this section of rail is to enable the interconnection and interoperability of Central, Eastern and Southern Africa.

Railway interoperability refers to the possibility of unhindered movement of trains across different rail networks, including networks in different States.

However, the geographical situation of the Democratic Republic of Congo, the second largest country in Africa and fourth most populous country on this continent, is essential to achieve a successful pan-African network, exploiting speeds much higher than those practiced by the road or on waterways.

What will you transport? Essentially five different things: men and women, goods for exchange, information, the mode of transportation in itself and the energy it needs to move forward, and energy for local people .

The Kinshasa-Ilebo railway project consists of constructing a new 870 km line for the transport of freight (ores, cereals, fuels, cement, containers, truck trailers, whole trucks, etc.) and the transport of passengers between these two cities.

This line will include a single lane, with twenty-six intermediate stations - or one station every 32 km - all equipped with sidings and adequate signaling for the crossing of trains.

The planned track has a standard gauge of 1.435 m for a maximum axle load of 23 tonnes, it will be electrified by 25KV-50Hz and will include telecommunications facilities (including the ground-train radio) for real-time monitoring. trains. The buildings and equipment needed for the maintenance of the facilities and rolling stock were integrated into the study of the line.

The maximum speed of freight trains and passengers is 120 km / h, allowing a travel time of 8:30 for the fastest trains.

The railway facilities are designed to run end-to-end, as soon as the line is put into service, two freight trains (maximum tonnage of 1600 tonnes and maximum length 750 m) and two passenger trains per direction and per day, a total of eight trains a day.



II. OBJECTS AND ISSUES OF THE PROJECT

II.1 Purpose of the project

Due to its geographical location in the Democratic Republic of Congo, the second largest country in Africa and the fourth most populous country on the continent, it is essential to achieve a successful pan-African network.

The main objective of the railway line between Kinshasa and Ilebo is to ensure the continuity of rail transport between the port of Matadi and the center, east and south-east of the Democratic Republic of Congo (DRC), and to with Zambia, Zimbabwe and South Africa.

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The long-term goal of the construction of this section of rail is to enable the interconnection and interoperability of Central, Eastern and Southern Africa.

II.2 Evaluation of the transport demand

Transport needs to size the structuring infrastructure have been appreciated in relation to the current situation but knowing that they have a life of more than 100 years compared to a moderately distant horizon.

II.2.1 Aspects of demographic growth in DRC and Kinshasa

Kinshasa will be the 21st most populous city in the world in 2025 with 14.5 million inhabitants, according to a report by the United Nations Department of Economic and Social Affairs. According to this study, the increase is particularly related to the concentration of populations in urban areas, and is expected to accelerate until 2030, with nearly one and a half billion more people in the world.



According to this UN report, Nigeria and the DRC are the two African countries that will contribute to this strong global demographic.

The Kinshasa-Brazzaville Region, by 2025, is on its way to becoming the largest agglomeration in Africa, serving as an entry point for large populations in its hinterland.

The link between Kinshasa and Brazzaville proves to be the main obstacle to the intensification of economic relations between the two Congo. A rail-bridge infrastructure linking these "natural neighbors" could pave the way for regional integration and complement more ambitious and institutionally more demanding agreements.

II.2.2 Analysis of freight requirements

An overall description of the various sectors (demand, supply, characteristics) at the country level, the logistics chains of the main products / goods (2016) and their evolution by 2030, to recall the packing of the different products, identify transport costs 2016 and 2030 (projections) was conducted. This analysis was supplemented by an input / output analysis of the different production zones along the Kinshasa-Ilebo restricted corridor. Counting / OD surveys have made it possible to better understand the parameters of supply and traffic.

In the absence of a railway line, there are 10 truck loading points to Ilebo: Banana, Kwango, Bukangalonzo, Kenge, Puanga, Masimanimba, Kihutu, Kikwit, Kimwata and Idiofa.

These points are all the subject of cassava transfers; some are more specific in certain sectors.

The major centers of loading and composition of freight trains on the Kinshasa-Ilebo line appear to be Kinshasa, Bukanga-Lonzo, Kikwit and Ilebo.

II.2.3 Analysis of passenger transport needs

An estimate of the number of passengers was carried out in Mbankana in August 2016 on the time slot 10: 00-17: 00 and shows the following figures:

- Sens Kinshasa - Kikwit: 405,000 / year (basis of a count on 9h)
- Kikwit-Kinshasa direction: 309,000 / year (basis of a 7 hour count)



A 24-hour data recovery and an extrapolation over the year make it possible to estimate the number of passengers in each direction at 600,000 / year in 2016, ie 1,200,000 passengers / year (2 directions combined).

Taking into account the saving of travel time, the conditions of comfort, the reliability of travel time, the absence of accident risks, the train has many advantages.

It can be considered that the modal share of the train on passenger travel should reach in 2030, 70% of trips all modes-all reasons.

It is also likely that there will be a 50% increase in the mobility of people and goods transported with oneself (induced traffic) if train fares are sufficiently attractive compared to those of taxis and vans.

Passenger trains generally have a kilometric rate. The fare for a Kinshasa - Kikwit trip is, in 2015, around \$ 25 per bus and \$ 60 per jeep taxi. The train fare for this distance will have to be between 40 and 60 USD; Under these conditions, the traffic could very quickly reach 2 M passengers / year - two senses combined (1500 / day) 2 years after the train is put into service, the traffic subsequently increasing at a rate of 5% per year.

II.3 Characteristics of the railway

The Kinshasa-Ilebo railway project consists of constructing a new 870 km line for the transport of freight (ores, cereals, fuels, cement, containers, truck trailers, whole trucks, etc.) and the transport of passengers between these two cities.

This line will include a single lane, with twenty-six intermediate stations - or one station every 32 km - all equipped with sidings and adequate signaling for the crossing of trains.

The planned track has a standard gauge of 1.435m for a maximum axle load of 23 tonnes, it will be electrified by 25KV-50Hz and will include telecommunications facilities (including the ground-train radio) for real-time monitoring. trains. The buildings and equipment needed for the maintenance of the facilities and rolling stock were integrated into the study of the line.

The maximum speed of freight trains and passengers is 120 km / h, allowing a travel time of 8:30 for the fastest trains.

The railway facilities are designed to run end-to-end, as soon as the line is put into service, two freight trains (maximum tonnage of 1,600 tonnes and maximum length 750 m) and two passenger trains per direction and per day, a total of eight trains a day.

The path has alignments and circular curves, the passage from one alignment to one curve being performed by a progressive radius connection, resulting in a gradual raising of one rail line relative to the other. The radius of curvature of the main tracks does not fall below 300 m. In railway



stations, on low speed roads, curves with a minimum radius of 150 m are allowed.

The development of the railway will also include the construction of:

- 78,337m for bridges,
- -105,800m for the retaining walls,
- 36 tunnels and covered trenches cumulating a linear of 19,800 m.
- 406 works type opening frame 5 m,
- 487 works type opening frame 10 m,
- 3,388 structures type opening frame 2 m,
- 28 stations.

II.4 Environmental and social impact

The potential socio-economic and environmental impacts of the project have been identified and analyzed.

The information on the theme comes mainly from two sources: secondary data (studies, reports, legislative and regulatory texts, etc.) collected from the Ministries and technical services both in Kinshasa and in the provinces visited.

Interviews and surveys conducted with and with the political-administrative authorities, customary chiefs, technical services, civil society (NGOs, community associations, churches, etc.) and resource persons.

Public consultations are organized in the main cities concerned by the project. They concern the towns and communes of Kinkole, Mbankana, Kenge, Masi-Manimba, Kikwit, Idiofa and Ilebo. Indeed, these cities and towns will all be served by the Kinshasa-Ilebo railway, and will become strategic points for the future development of the surrounding economies.

At a later stage, public consultation will be required in the more specifically affected villages, which will be on the route that has been validated as the final route of the railway, in order to collect the concerns of the populations and study mitigation options.



III. ECONOMIC ANALYSIS

The method used to assess the project's economic balance sheet is the cost-benefit method, which aims to assess the costs and benefits of two situations:

- the reference situation, corresponding to the non-completion of the project,
- the situation with project, corresponding to the realization of the project.

The comparison of the cost-benefit balance in the two situations makes it possible to judge the economic interest of the project.

III.1 Investment costs

The overall economic costs of investments considered in the analysis include direct investment costs and infrastructure maintenance and upkeep costs.

Direct investment costs include:

- investments related to rail infrastructure: they concern the construction of the platform of the railway and civil engineering works between Kinshasa and Ilebo (870 km), the laying of the track, the catenary and the equipment of the substations between Kinshasa and Ilebo (870 km),
- the acquisition of railway equipment, namely: locomotives, rolling stock, maintenance and repair equipment,
- investments related to the development of railway stations: they include the reshuffling of the stations.

Indirect investment costs include:

- annual maintenance and maintenance costs for infrastructure and equipment estimated at around 0.5% of the value of the investments;
- the costs of general infrastructure refurbishment and periodic equipment replacement: they are estimated at 50% of the initial value of the investments, at mid-life of the equipment concerned, ie every 30 years for the basic rail infrastructure, 15 years for railway stations and 25 years for traction equipment and rolling stock.

The investment costs are summarized in the table below.

Designation	Amount in Euros
CONSTRUCTION OF THE LINE	15.366.435.000



CONSTRUCTION OF LIFESTYS, STATIONS AND TECHNICAL BUILDINGS	400.486.000
ROLLING STOCK	259.376.000
CONSTRUCTION OF EQUIPMENT	148.061.000
TOTAL INVESTMENTS	16.174.358.000

Taking into account the type of infrastructure to be built and the equipment to be used, as well as scheduled mid-life renovations, the following assumptions are made regarding their residual values at the end of the economic life of the project, which is 60 years old. .

- Railway infrastructure: Residual value estimated at 57% (heavy renovations corresponding to 50% of the initial value of the investments are planned at mid-life),
- Railway stations: Residual value set at 48% (heavy renovations corresponding to 50% of the initial value of investments are planned every 15 years),
- Railway equipment: Residual value estimated at 63% (equipment rehabilitation works corresponding to 50% of their initial value are planned every 25 years).

III.2 Project benefits

The economic benefits expected by the community are divided into: (i) time savings for travelers; (ii) added value related to direct, indirect and induced jobs during construction and operation of infrastructure; (iii) externalities resulting from the transfer of "passenger" and "freight" traffic from road to rail (reduction of road accidents, reduction of air pollution on road and motorway sections, reduction of vehicles and road infrastructure, etc.); (iv) gains in maintenance and servicing costs of equipment and (v) residual value of infrastructure at the end of the study period.

With the year of commissioning in 2025, the time savings of the users of the train will be 5h compared to the situation of reference (Kinshasa-Ilebo trip). Based on projections of GDP per capita in 2025, the value of time is estimated on the basis of the following calculation: GDP / number of inhabitants * (12 * 4 * 40) or 0.24 USD / h for each of the passengers transported for professional and commuter segments.

The jobs needed for the construction of the railway, the development of railway stations, the assembly of traction equipment and rolling stock include the direct jobs generated by the companies intervening on the building sites, as well as the indirect jobs of the different sub-sectors, contractors and other suppliers. They are estimated globally at 100,000 direct jobs and 53,000 indirect jobs.

The valuation of the different externalities above is given in the table below, over the period 2025-2035.

YEARS	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
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Externalities (Millions USD)													
			248	313	386	637	706	783	868	963	1 068	1 185	1 314

III.3 Profitability indicators

The economic benefits arising from the implementation of the project during the analysis period (2025-2055) lead to an economic rate of return (ERR) of 18.8% for the whole project, to a Net Profit Discounted. (BNA) of 435.325 million USD, with a discount rate of 6%.

By conducting a sensitivity test (project cost increase of 10% and benefit reduction of 10%), the project ERR is in the range of 16.8% - 17.7%.

Список рассылки

1. МИД России
2. Минюст России
3. Минфин России
4. Минздрав России
5. Минэнерго России
6. Минобрнауки России
7. Минспорта России
8. Минпромторг России
9. Минсельхоз России
10. Минприроды России
11. Минкомсвязь России
12. Минтранс России
13. Минстрой России
14. Россельхознадзор
15. Россотрудничество
16. Роспотребнадзор
17. Российский союз промышленников и предпринимателей
18. Торгово-промышленная палата Российской Федерации
19. Московская торгово-промышленная палата
20. Общероссийская общественная организация малого и среднего предпринимательства «Опора России»
21. Общероссийская общественная организация «Деловая Россия»
22. НП «Национальная Гильдия товаропроизводителей и импортеров»
23. Национальный союз птицеводов
24. СОЮЗ «Африканская деловая инициатива»
25. ФГАОУ ВО «Российский университет дружбы народов»
26. Российский государственный геологоразведочный университет имени Серго Орджоникидзе
27. Госкорпорация Росатом
28. Госкорпорация «ВЭБ.РФ»
29. Госкорпорация «Ростех»
30. АО «Российский экспортный центр»
31. ПАО «ТМК»
32. ПАО «Лукойл»
33. АО «Зарубежнефть»
34. ПАО «Газпром нефть»
35. Европейский инжиниринговый центр
36. ПАО «ОАК»

37. ПАО «Корпорация «ИРКУТ»
38. АО «Вертолеты России»
39. АО «Росгеология»
40. ГПБ Глобал Ресорсиз
41. ООО «Северные прииски»
42. ООО «ВПК»
43. ВАО «КИСК»
44. ПАО «Северсталь»
45. ПАО «Силовые машины»
46. ОАО «Российские железные дороги»
47. НПК «ОВК»
48. ОАО «ЭЛТЕЗА»
49. ПАО «КАМАЗ»
50. ЗАО «Тролза»
51. АО «НПК «Техмаш»
52. Концерн «Тракторные Заводы»
53. ГК «Ростсельмаш»
54. ООО «ЧЕТРА»
55. ГК «Дамате»
56. ГАП «Ресурс»
57. ФГБУ «Агроэкспорт»
58. ФГБНУ «АНЦ «Донской»
59. ОАО «ВО «Технопромэкспорт»
60. АО «НИИ «Полюс» им. М.Ф. Стельмаха»
61. ГК Ренова
62. ООО «Цифра»
63. АО «Росэлектроника»
64. ООО «РТ-Развитие Бизнеса»
65. ООО «ЭКРОСТ»
66. ЗАО «Фирма «Август»
67. ГК БИОНОВАТИК
68. ООО «ХИММАШ-АППАРАТ»
69. ООО «Сибнефтегаз»