

**Briefing Memorandum:**

**Port of Mayumba - Republic of Gabon**



**ICA Meeting:**

**Financing Transport for Growth in Africa**

**December 3-4, 2007**

## TABLE OF CONTENTS

1. Summary
2. The Project
3. Economic Rationale
4. Feasibility Analysis
5. Development Status
6. Project Contacts
7. Risk Factors
8. Next Steps

## 1. Summary

The Government of the Republic of Gabon has mandated the High Port Authority of Mayumba with the mission to contribute to the promotion and construction of a deep sea water port in Mayumba (“the Port”).

The port, which would be built in the southwest of Gabon, would be used mainly to enhance the region’s value through the commercialization and export of its natural resources (i.e. wood). It is also expected to improve accessibility to the Nyanga region, and to create a favourable commercial environment for the development of industrial fishing and leisure marine zones.



The port project, which would be financed under a public-private partnership, would include 3 components, namely:

- the port and the associated utilities;
- a road linking the Nyanga Province to the sea; and
- a bridge leading to the port.

Although the Government would prefer to finance only the access roads and leave the financing and the construction of the port to the private sector, the Consultant (see below) has proposed that the public sector assumes responsibility for most of the infrastructures, notably the construction of a 109 kilometre road, a 300 metre bridge, and the basic port infrastructures, while the private sector could add to the port by building storage facilities and installing the necessary equipment.

Total project cost estimates range from €147 million to €228 million. The wide range is mainly due to the choice of the number of lanes of the road and bridge leading to the port, which would either include 2 lanes or 4 lanes.

The development of a port in Mayumba, first mooted in 1958, was the subject of a preliminary feasibility study as far back as 1976 and updated in 1984 by BCEOM, a French engineering firm. More recently in June 2003, Lambda Plan SA of Belgium (the “Consultant”) conducted a pre-feasibility study, which was financed by the African Development Bank.

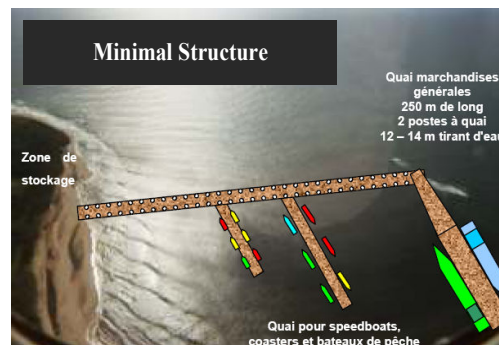
## 2. The Project

### 2.1 Project Description

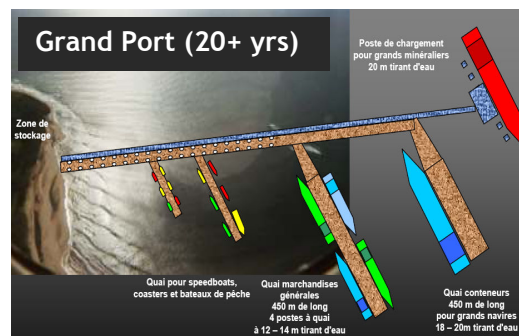
The deep sea port would initially host 3 docks (expandable to 5) capable of accommodating 832,000 tons per annum over a 20-year period and would offer an additional reserve capacity of 1,200,000 tons per annum. As a reference, a minimum activity level of 200,000 tons per annum is required to justify the construction of 1 dock.

The port would have the following characteristics:

- Wood storage area at Matouti site of approximately 30 hectares
- Construction of a concrete site (temporary storage)  
Length: 100 m; Width: 30 meters
- Construction of a loading dock for general goods  
Length: 450m; Width: 45 meters
- Construction of a dock for speedboats, supply boats, fishing boats  
Length: 200 m; Width: 25 meters
- Construction of a small dock for tug boats, marina, fisherman, etc...  
Length: 100 m; Width: 20 meters



The basic port would initially be built according to the picture above and could be expanded by one or more docks. The picture below represents the maximum size the port could potentially be expanded to should it become a regional hub after a 20-year period.



The deep sea port would be located across the Laguna. To access the port, it would be necessary to build a 300 metre access bridge over the Laguna and an access road of 109 km in length which would facilitate access to the port. The bridge and road leading to the port would have either 2 lanes or 4 lanes.



## 2.2 Environmental and Social Impacts

An environmental impact study has been carried out by the Consultant, which raised some issues, notably the need to protect the rich bio-diversity in Mayumba and the surrounding areas.

In the Yaounde Forest Summit (1999) hosted jointly by the President of Cameroon and the World Wildlife Fund, Gabon declared a portion of the Mayumba coastal strip a National protected Park (the Mayumba National Park). The area, which begins at the national boundaries with Congo, stretches 50 km up the coast and covers a width of 16 km (15 km off-shore and 1-km on shore). The National Park is located 25 km south of the planned location of the Mayumba Port. The main purpose of the Park is to protect wildlife, notably sea turtles and whales. Mayumba is home to many other types of fish species and a rich biological environment, necessitating further research on the environmental effects of the port prior to launching the project.

The social impact on the local population is limited. The study has estimated that about 30 families would have to be relocated, making the human and financial cost minimal.

## 3. Economic Rationale

### 3.1 Export Facilitation

The Government of Gabon is keen on contributing to the economic growth of its southern region and has accordingly taken initial steps to study the viability of building a deep sea water port in the city of Mayumba.

The southern region offers significant amounts of wood and, although unrealized, there is a strong potential for other mining resources, such as marble, iron, ore and other resources.

At present, trading activity (exports) in the city of Mayumba is conducted through very basic infrastructure. As can be seen in the pictures below, wood stock is stored along the coast before being loaded on a wood raft, pulled by a tug boat and transferred to a waiting vessel in the sea.

**Wood Storage**



**Raft**



**Tug boat**



**Exporting Vessel**



The port's main purpose and activity will be to facilitate the export of resources (principally wood) from the Nyanga Province.

### 3.1.1 Wood Market

Of a total land area of 27 million hectares (ha), roughly 20 million ha, or 74% of Gabon makes up the national forest (9% of forests in Africa). According to the U.N. Food and Agricultural Organization, Gabon's de-forestation rate between 1990 and 2000 was low at 0.5% per annum.

As of 2001, the international market absorbed roughly 60 million m<sup>3</sup> of tropical woods, 2.1 million m<sup>3</sup> of which originated from Gabon. Gabon, which is home to over 30 wood types, exports mainly to Asia (50%) and Europe (30%).

As can be seen in the table below, with production projected to increase to 5 million m<sup>3</sup> by 2015, Gabon aims to process 70% of production by 2015.

**Table: Wood Production Forecast**

Year	Production (in million <sup>3</sup> )	Processing/Transforming (in million <sup>3</sup> )	Processing capacity
1996	2,000,000	140,000	7%
2002	2,140,000	300,000	14%
2005	2,500,000	750,000	30%
2015	5,000,000	3,500,000	70%

### 3.1.2 Forest Concessions

As of 2000, 12 million hectares were under concession. This figure has increased significantly over the last 50 years, increasing from 1.6 million ha in 1957 to 11.8 million hectares in 1997, a seven-fold increase over 4 decades. The number of concessionaires has risen to over 200, with the largest 5 accounting for 50% of land concessions. Concessions in the Nyanga province are relatively recent, dating back to the 1995-97 period.

### 3.1.3 Mayumba region

As of 2000, the province of Nyanga under concession has reached 2.20 million hectares, distributed amongst 66 land owners, 33 temporary exploration licenses, and 2 industrial permits. There were 7 active companies, with rights to operate with their own concession license or undertake on behalf of other landowners or permit holders. Annual production had reached roughly 200,000 m<sup>3</sup>, substantially all of which was exported (roughly 10% of national production) - equivalent to 40 ship loads.

### 3.1.4 Summary of Wood market and its potential impact on the Mayumba Port

The wood market in the surrounding geographic areas would undoubtedly benefit from the construction of a new Port. The new Port would ultimately serve the following geographic zones:

- Province of Nyanga
- South-east of the province of Nagounie, which includes Ndende, Lebamba, Mbigou, Baposso and Malinga
- A 50km to 100 km stretch into Congo, which include Nzambi, Nyanga, Banda, Divene and Moutsemgani and the Ndini area

Table: Mayumba Wood Export Forecast

Wood Exports (T, 000')	2007			2012			2022		
	Worst	Base	Best	Worst	Base	Best	Worst	Base	Best
Gabon Logs	173	216	271	250	200	150	250	200	150
Congo Logs	20	50	100	50	100	200	100	150	200
Gabon other	5	10	20	50	100	150	100	150	200
<b>Total</b>	<b>198</b>	<b>276</b>	<b>391</b>	<b>350</b>	<b>400</b>	<b>500</b>	<b>450</b>	<b>500</b>	<b>550</b>

### 3.1.5 Mining Industry

In spite of its potential, Gabon's mining activity today remains largely untapped. The results of a number of public and private studies examining this sector's potential have been kept confidential. The Consultant had been asked to undertake an analysis of the mining potential of the Nyanga province. For purposes of efficiency and practicality, the Consultant focused on the largest mining sites in the area, notably:

- Marble mine located at Dousse-Oussou; reserves of 12 million tons
- Iron mine located at Milingui-Tchibanga, reserves estimated at 126 million tons
- Barytine mine located in Dourekiki, reserves of 1 million tons
- Talc mine located between Tchibanga and Moabi, reserves of 75 million tons.

In reviewing the findings of past studies, the Consultant has come to the conclusion that one of the largest obstacles to the development of these mines is the lack of infrastructure, notably roads and ports that would enable the export of these goods.



### 3.2 Demand for a Southern Port

There has been significant development in the extraction of Gabon's abundant natural resources over the last four decades. The city of Mayumba has largely been bypassed due to the lack of supporting infrastructure in both the city and the surrounding province of Nyanga. In fact there are no nearby ports or railways and no paved roads and, aside from some few communication links, very little infrastructure exists at all. Access to the city of Mayumba is constrained by very poor passages. The Consultant emphasized that the development of the port and its subsequent success are dependent on the development of appropriate supporting infrastructure.

#### 3.2.1 Ports in Gabon

Gabon's coast line, which stretches 800 km along the Atlantic coast, is one of the longest of Central Africa, making it one of the leading maritime-oriented countries in the sub-region. Aside from what can be considered a "Port Zone" at Mayumba, there are two main ports in Gabon, namely:

- **Libreville (Owendo):** Built in 1974, the port in Libreville is Gabon's largest, accounting for 80% of port activity in Gabon (excl. crude oil exports). It benefits from road and rail link.
- **Port-Gentil:** This island port is accessible via air or sea. Its main activity is the export of oil. Fishing and wood products represent a marginal share of its activity.

The Mayumba "port zone" trades mainly in wood activity and contains very poor / non-existent infrastructure.

The two ports are considered 'northern' ports, while the port zone of Mayumba is considered a 'southern' port. The government of Gabon is keen on developing a proper port in the south of the country to take advantage of the benefit the resource richness of its southern regions.

#### 3.2.2 Comparative Cost/ Benefit Analysis

An analysis was undertaken by the Consultant to determine the costs and benefits associated with the Port in comparison with Port Gentil, located further north. As can be seen in the below table, most, but not all of the surrounding cities would find it more costly to transport their products to Port Gentil, making the new Port of Mayumba a viable alternative.

**Table:** Comparative cost (Mayumba Port and Port Gentil)

Departing from	Arriving to			
	Mayumba		Port Gentil	
Tchibanga (distance/cost)	109 km	FCFA 9,810/T	291 km	FCFA 33,705/T
Ndende (distance/cost)	201 km	FCFA 18,090/T	202 km	FCFA 25,695/T
Lebamba (distance/cost)	237 km	FCFA 21,330/T	238 km	FCFA 28,935/T
Mouila (distance/cost)	280 km	FCFA 25,200/T	123 km	FCFA 18,585/T
Yeno (distance/cost)	322 km	FCFA 28,980/T	203 km	FCFA 25,785/T
Mbigou (distance/cost)	320 km	FCFA 28,800/T	283 km	FCFA 38,985/T

*For reference: exchange rate at 31/10/2007 Eur 1 = F CFA 655.9*



### 3.3 Local Support

The Consultant polled local operators and other local persons on the need for new infrastructures in the area. The overwhelming majority of those polled expressed the desire to see the construction of:

1. A road linking Tchibanga to Mayumbo
2. Construction of a bridge on the Banio linking the city to the deep sea port
3. A deep sea port

Table: Increased forecast of wood exports

Term	Change	Export (m <sup>3</sup> )	Exports (tons)
Less than 3 yrs	+30%	260,000	214,500
5-6 yrs	+50%	300,000	247,500
10-12 yrs	+75%	350,000	288,750

The major operators exporting wood have expressed their willingness to relocate to the port, and invest in the necessary equipment to use the port. They have, however, refused to invest directly in the construction of the port. Two oil exporters have expressed their preference for the upgrading of the current Port-Gentil located further north rather than the construction of a new port.

### 3.4 Competitive Landscape: Congo

Although the new port would certainly benefit from the addition of wood exports from Congo, this would run counter to the interests of the wood industry in Gabon. Nonetheless, operators located as far as 150 km to 200 km away from the port, including those from Congo, could potentially use the port. The Consultant has estimated that wood exports originating from Congo would amount to 50,000 m<sup>3</sup> in a 'worst case' scenario, 100,000 m<sup>3</sup> in a 'base case' scenario and 200,000 m<sup>3</sup> in a 'best case' scenario. The area near the potential site of the Mayumba port is not currently an active trading area.

### 3.5 Government Support

The Government of Gabon has placed emphasis on the need to have a proper port in the South of the country to facilitate exports over the coming years which are expected to increase significantly as can be seen below. The figures in the following table, using a base case scenario, project growth in exports over a 20-year period.

Table: Increased Exports

('000 Tons)	Wood	Marble	Talc	Ore	Fish (Import/Export)	
2002	136	0	0	0	5	2
2007	216	10	0	0	6	4
2012	300	40	50	2,000	12	9
2022	350	40	100	2,500	15	12

Total exports would increase from current levels (136,000 tons) to between 1 and 3 million tons over a 20-year period. The port of Mayumba is not expected to have any negative impact on the other existing ports, rather it would act as a developer of new trade within the region. The Government of Gabon would benefit from the port via taxes it would receive as a result of the increased exploration and trading activity. Finally, the new port could be a catalyst for a dynamic change in the local economy, and subsequently become a regional economic hub.

#### 3.5.1 Regulatory framework

The Government of Gabon has taken a number of actions to try and attract foreign investors into the sector, notably:

- Implementation of a Mining Code
- Implementation of an attractive Investment Code, with fiscal exemptions and guarantees for repatriation of profits
- Single point of contact for all administrative procedures

The Consultant has determined that the above rules and regulations constitute an attractive framework to attract foreign investors to the sector in general.

### **4. Economic & Financial Feasibility Analysis**

As this project is still in the early study phase, the full legal parameters have yet to be defined, however the government of the Republic of Gabon has expressed an interest in developing this port project in partnership with the private sector, within the framework of a private concession and in conformity with the existing laws of the Republic of Gabon.

The Consultant conducted a preliminary financial feasibility assessment based on previous studies and comparative projects in other African countries. A comprehensive financial viability analysis would be undertaken in a full feasibility study.

#### **4.1 Project Costs**

The costs associated with this project include the investments required to develop the necessary infrastructures of the port and the surrounding area leading to the port. This includes:

- Construction of a paved road between Tchibanga and Mayumba
- Construction of a bridge on the Banio Laguna
- Construction of a deep sea port at the Matouti site
- Rehabilitation and extension of utilities and telecommunications infrastructures

The High Port Authority is responsible for seeking investments and financing for this project. Other investments not directly related to the construction of the port and the access roads leading to it have not been considered.

##### 4.1.1 Cost estimates for the paved road between Tchibanga and Mayumba

This portion of the project consists of building a 109 km road on what is now an artificially created passageway. The authorities have not yet decided whether to build a 2-lane or 4-lane road. Combining various estimates and past experience in other African countries, the Consultant has estimated an average cost of FCFA 325 mil./km (€496,000/km), rendering the cost of a 2-lane road at **€54 million** and the cost a 4-lane road at **€108 million**.

#### Existing road linking Tchibanga and Mayumba



#### 4.1.2 Cost estimate for the bridge on the Banio Laguna

The Port would be linked to the Mayumba shore via bridge over the Banio Laguna. The bridge would be 300 metres in length and would consist of either 2 lanes or 4 lanes. Accordingly, the Consultant has estimated that the costs will vary between **€5 million** and **€10 million**

#### Banio Laguna and tugboat



#### 4.1.3 Cost estimate for the deep-sea port

##### Expected Costs

- Embankment of port zone: €10 million
- Stilts: €35 million
- Loading dock: €28 million
- Dock for speedboats and fishing: €5 million
- Dock for tug boats and tourism: €2 million
- **Total: €80 million**

In order to minimize the immediate costs to the private sector, the Consultant has proposed building the port in two phases. **Phase 1** would cost **€68 million**, while **phase 2** would cost an additional **€12 million**, which would be undertaken after an initial 10-year period, if necessary. The extension would mainly involve the loading dock. Further analysis of this suggestion has been left for a feasibility study.

#### 4.1.4 Other Costs

*Utilities and Telecommunications.* In addition to the road and port infrastructure costs, other investments must be made, notably in water, electricity, oil and telecommunications. The city of Mayumba significantly lacks drinking water and the authorities have been considering various alternatives to address this issue. It is estimated that the daily needs of the local community amounts to 400m<sup>3</sup> per day.

Other costs include the addition of 2 diesel power generators (1,200 Kva and 1,500 Kva), an oil storage facility and the rehabilitation of the local telecommunications station, which was partially damaged in a storm. These costs have been estimated at **€30 million**. The Consultant has again suggested spreading these costs to two phases, **€20 million** and **€10 million** respectively after a 10-year period. The Government would expect the private sector to finance this portion of the project. This component should be reviewed in a feasibility study as well.

Below is a summary of costs broken down between the access roads and the bridge, which would to be financed by the Government; and of the Port and associated utilities, which would be financed by the private sector.

**Table: Public Investments**

Public Investments	2 lane road and bridge	4 lane road and bridge
Tchibanga-Mayumba Road	€54 million	€108 million
Banio Laguna Bridge	€5 million	€10 million
<b>Total</b>	<b>€59 million</b>	<b>€118 million</b>

**Table: Private Investments**

Private Investments	Phase I	Phase II	Total
Embankment of port zone	€6 million	+ €4 million	€10 million
Stilts	€35 million	-	€35 million
Loading Dock	€20 million	+ €8 million	€28 million
Dock for speedboats and fishing	€5 million	-	€5 million
Dock for tug boats and tourism	€2 million	-	€2 million
Utilities-Telecommunications	€20 million	+ €10 million	€30 million
<b>Total</b>	<b>€88 million</b>	<b>€22 million</b>	<b>€110 million</b>

## 4.2 Project Revenues

### 4.2.1 Tchibanga-Mayumba road

The road is expected to be wholly financed by the Government of Gabon. There are no expected revenues as there will most likely not be any toll charges.

### 4.2.2 Banio Laguna bridge

The bridge is expected to be financed by the Government as well and, similarly, no toll charge is expected, as the vehicle traffic is not significant.

### 4.2.3 Deep Sea Port

The deep sea port is estimated to cost between €88 million and €110 million. Based on the Consultant's estimates, the most optimistic payback period would range from 14 years to 18 years. This scenario would entail earning annual revenues of €6.14 million. The revenues of the port can be expected from the following sources:

Revenues paid by users of the port:

- Tax based on tonnage for general merchandise
- Tax based on tonnage for mining products
- Concession rights for use of port facilities
- Rights to use utilities and telecommunications

Revenues paid by transiting ships:

- Mooring rights
- Approach and docking rights
- Rights to use utilities and telecommunications

**Table: Financial Projections**

Scenario	5 yrs		10 yrs		20 yrs	
	Base case	Best Case	Base case	Best Case	Base case	Best Case
<b>Annual Tonnage</b>	371,000	518,000	624,000	2,845,000	827,000	3,515,000
<b>Ships per year</b>	30	50	60	100	80	120
<b>Revenue from Users</b>						
Tax from general merchandise (€/T)	€ 742,000	€ 1,036,000	€ 1,248,000	€ 1,690,000	€ 1,654,000	€ 2,030,000
Tax on mining products (€0.5/T)	€ 0	€ 0	€ 0	€ 1,000,000	€ 0	€ 1,250,000
Concession rights - Zone 1 (10 ha x €15/sq. m./yr)	€ 1,500,000	€ 1,500,000	€ 1,500,000	€ 1,500,000	€ 1,500,000	€ 1,500,000
Concession rights - Zone 2 (100 ha x €1.5/sq. m./yr)	€ 300,000	€ 450,000	€ 600,000	€ 1,350,000	€ 750,000	€ 1,500,000
Droits de raccordage	€ 50,000	€ 75,000	€ 100,000	€ 250,000	€ 150,000	€ 250,000
<b>Revenue from Users</b>						
Mooring rights (€1,000 per ship)	€ 30,000	€ 50,000	€ 60,000	€ 100,000	€ 80,000	€ 120,000
Docking rights (€2,000 per ship)	€ 60,000	€ 100,000	€ 120,000	€ 200,000	€ 160,000	€ 240,000
Droits de raccordage	€ 15,000	€ 25,000	€ 30,000	€ 50,000	€ 40,000	€ 60,000
<b>Total annual revenues</b>	€ 2,697,000	€ 3,236,000	€ 3,658,000	€ 6,140,000	€ 4,334,000	€ 6,950,000
Scenario 1: Maximum Investment	€110 mil.	€110 mil.	€110 mil.	€110 mil.	€110 mil.	€110 mil.
Payback	41 yrs	34 yrs	30 yrs	18 yrs	25 yrs	16 yrs
Scenario 2: Minimum Investment	€88 mil.	€88 mil.	€88 mil.	€88 mil.	€88 mil.	€88 mil.
Payback	33 yrs	27 yrs	24 yrs	14 yrs	25 yrs	16 yrs

### 4.3 Financial Analysis

In light of the results of the sensitivity analysis, which suggests that the payback period could reach 41 years, the Government of Gabon may have to consider reviewing the proposed structure of the Public-Private Partnership to enhance the opportunity for private sector participation. Specifically, the Government may have to contribute to the construction of most or all of the basic infrastructure of the Deep Sea Port and let the private sector finance the operational infrastructure (e.g. loading equipment, terminals, etc.)

### 5. Development Status

The port project is yet to be launched, hence there is no existing legal entity, no ownership structure nor is there a target launch date at this point. The Government of Gabon and the African Development Bank had agreed to conduct a feasibility study if the results of the pre-feasibility study were deemed satisfactory. Although the Government of Gabon still publicly supports this project, there has been no more information or progress on this project since the pre-feasibility study was completed in 2003.

### 6. Project Contacts

The contact for this project is the High Port Authority of Mayumba, which is under the purview of the National Port Authority, *L'Office National des Ports et Rades du Gabon (OPRAG)*, whose responsibility it is to manage the country's port activity.

Please contact:

Jean-Pierre Oyiba  
 Director  
 National Port Authority  
 Owendo B.P. 1051  
 Libreville  
 Gabon

Tel : +241 70 00 48  
 Fax : +241 70 37 35

### 7. Risk Factors & Mitigation Measures

Risk Type	Risk	Mitigant
Commercial	Low utilization rate	Financial projections under the 5-yr base case scenario suggest 30 shiploads per annum. This is a very conservative estimate as actual figures in 2001 were already in excess of this at 40 shiploads per annum. Hence, we do not believe the port will suffer from low utilization.
Financial	Lack of Private Sector Interest	Review and modification of current PPP structure, where Government would have to contribute a greater share towards the construction of the basic infrastructure, ultimately reducing the burden on the private sector and making the project more attractive for private financiers.

Risk Type	Risk	Mitigant
Environmental	Protection of bio-diversity	Gabon has several national parks and reserves, which protect wildlife species and national forests. Hence, the country it is likely to seriously address any environmental issues prior to the construction of the port.
Social	Relocation Requirements	Only 30 families are expected to be relocated as a result of the construction of the port.

## 8. Next Steps

Within the last month, the Government of Gabon secured funding for a feasibility study for the Port of Mayumba from the Islamic Development Bank. Ideally, this study would identify the precise role of the private sector for the construction of the Port.