

# Vessels Repair & Maintenance in The Gambia



## WHY THE GAMBIA?

Situated on the Atlantic coast and with a navigable river and tributaries that flow more than 1,100km inland, The Gambia is the ideal entry and exit point for West Africa and the Economic Community Of West African States (ECOWAS).

This short document outlines:

1. **The market opportunity for investment in vessels maintenance and repair**
2. **The favourable conditions available to investors**
3. **The support investors can expect to receive**
4. **The project risk and sustainability factors to be considered**

The best Institutions  
quality in West Africa<sup>1</sup>

80 kilometres of  
coastline<sup>2</sup>

3<sup>rd</sup> Sub-Saharan  
country for ease of  
trade across border<sup>3</sup>

West Africa's most  
efficient labour  
market<sup>1</sup>



Source: British Foreign & Commonwealth Office website

<sup>1</sup> World Economic Forum- Global Competitiveness ranking, 2014

<sup>2</sup> GIEPA Fisheries Investment Brochure 2014

<sup>3</sup> Doing Business 2015.

## ECONOMIC INDICATORS

<b>GDP</b> <sup>4</sup>	US\$807mn in 2014
<b>GDP Growth</b> <sup>4</sup>	1.5% in 2014
<b>Country risk</b>	2 <sup>nd</sup> lower risk score among West African countries after Ghana
<b>CPI Inflation (2014)</b> <sup>4</sup>	5.4%
<b>Exports / Imports value (2013)</b> <sup>4</sup>	Exports: \$106mn Imports: \$350mn
<b>Labour force (2013)</b> <sup>4</sup>	774,000
<b>FDI stock and inflows (2013)</b> <sup>4</sup>	\$754mn stock / \$25mn inflows
<b>Currency exchange Rates 2015</b>	GMD/USD: 0.0239 (B) / 0.0257 (S) GMD/GBP: 0.0162 (B) / 0.0107 (S)
<b>Buy (B) and Sell (S)</b> <sup>4</sup>	GMD/EUR: 0.0214 (B) / 0.0230 (S)



## COMPETITIVE OPERATIONAL COSTS

The Gambia has by far the most efficient labour market in West Africa<sup>4</sup> and average daily wages are competitive when compared to major African competitors.

Labour cost unit (US\$ per year), including social security								
	The Gambia	Egypt	Kenya	Tunisia	Morocco	South Africa	Senegal	Nigeria
<b>Unskilled</b>	1,165	2,138	2,432	3,453	5,071	4,987	1,617	5,200
<b>Semi-skilled</b>	1,747	6,632	7,056	8,192	12,377	16,006	4,248	10,400
<b>Skilled</b>	3,106	12,824	13,488	15,575	25,408	31,680	9,716	26,000
<b>Highly skilled</b>	15,530	63,720	67,020	49,927	94,291	87,246	46,637	93,668

<sup>3</sup> World Bank – World Development Indicators.

<sup>4</sup> Gambia Bureau of Statistics (GBOS)

Social security rate	
South Africa	1%
Kenya	5%
Nigeria	7.50%
The Gambia	10%
Morocco	20.10%
Egypt	26%
Tunisia	26.57%

The Gambia's social security rate is situated in the average.

Utility costs in the Gambia are higher compared to costs applied in the more developed economies. However, Gambia's utility costs are inferior to other non-oil producer low income economies (Senegal and Kenya), with the exception of electricity.

Utility cost (US\$)								
	The Gambia	Egypt	Kenya	Tunisia	Morocco	South Africa	Senegal	Nigeria
Electricity per kWh	0.27	0.04	0.06	0.09	0.15	0.22	0.25	0.10
Telecoms per min	0.07	0.96	0.06	0.68	0.44	0.15	0.07	0.09
Water per m <sup>3</sup>	0.63	0.07	1.26	0.30	0.75	1.08	1.27	0.24
Industrial gas per m <sup>3</sup>	0.71	0.09	1.90	0.01	0.36	0.47	1.60	0.22

### A comparative project profile

Cost factors (sector profile properties)		
Utility usage	Electricity (kWh)	2,000,000
Labour head count	Unskilled	100
	Semi-skilled	31
	Skilled	16
	Highly skilled	3

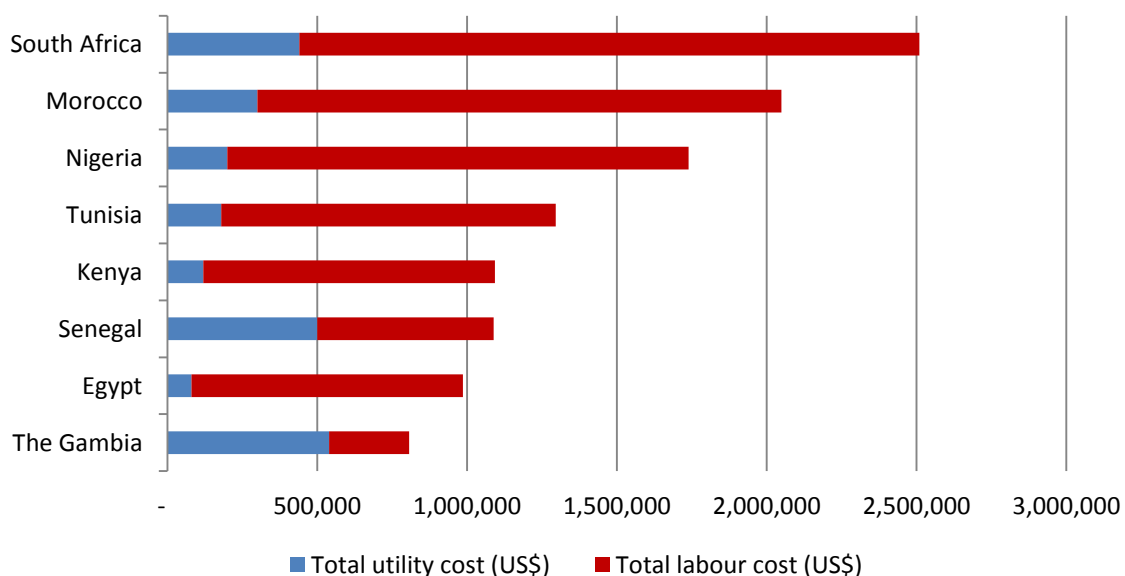
Based on the sector profile properties (utility usage and Labour head count) and applying labour and utility costs established in the tables above, the Gambia appears to be among the top 3 best competitive location for the establishment of a shipyard company.

Labour cost overview (US\$ per year), including social security								
	The Gambia	Egypt	Kenya	Tunisia	Morocco	South Africa	Senegal	Nigeria
<b>Unskilled</b>	116,500	277,972	309,532	440,146	637,496	742,699	161,700	520,000
<b>Semi-skilled</b>	54,157	215,278	229,367	266,404	409,682	529,788	131,688	322,400
<b>Skilled</b>	49,696	221,338	232,801	259,839	418,764	535,262	155,456	416,000
<b>Highly skilled</b>	46,590	191,160	201,061	149,782	282,873	261,737	139,911	281,004
<b>TOTAL</b>	<b>266,943</b>	<b>905,749</b>	<b>972,761</b>	<b>1,116,171</b>	<b>1,748,816</b>	<b>2,069,486</b>	<b>588,755</b>	<b>1,539,404</b>

Utility cost overview (US\$ per year)								
	The Gambia	Egypt	Kenya	Tunisia	Morocco	South Africa	Senegal	Nigeria
<b>TOTAL electricity cost</b>	<b>540,000</b>	<b>80,000</b>	<b>120,000</b>	<b>180,000</b>	<b>300,000</b>	<b>440,000</b>	<b>500,000</b>	<b>200,000</b>

Very low labour cost in the Gambia is more than offsetting the gap generated by high utility cost in the country. Overall, the Gambia is the most attractive market for the establishment of a shipyard. In our example, realising the shipyard project in the Gambia would cost 82% of what it would be if implemented in Egypt, the 2<sup>nd</sup> cheapest location.

### Overall operational costs



## FISHING VESSELS IN THE GAMBIA

With 80km of coastline and a continental shelf area of 4,000km<sup>2</sup>, The Gambia offers the ideal environment for industrial and artisanal fishing.

Within this continental shelf area, there are commercially viable stocks of demersals, crustaceans, cephalopods, molluscs, and pelagic (sardinella, red mullet, horse mackerel, cranx, shads, cat fish, grunts, jacks, and snappers).<sup>5</sup>

There are about 20 locally registered fishing companies. Although the number keeps increasing, only four fishing companies have managed to acquire fishing trawlers; the rest of the companies depend solely on supplies from artisanal fishermen to feed the fish factories:

In addition of domestic fishing vessels, the vast majority of fishing boats operating in the Gambian waters are from neighbouring countries, in particular Senegal.<sup>6</sup>

The growing number of fishing vessels (domestic and foreign) operating in the Gambia waters, combined with the increasing demand from domestic companies to acquire their own trawlers has created significant opportunities for manufacturers of boats; maintenance & repair of boat's motors to enter a market still free of domestic competition.

### KEY FACTS:

- Number of licensed fishing vessels for 2014 - 68
- 90% of the fishing vessels legally operating in Gambian waters are foreign owned
- Recorded yearly average production/captures<sup>4</sup>:
  - Production 2011-2013: 40.4 thousand tonnes
  - Production 2008-2010: 45.1 thousand tonnes
- Recorded yearly average trade volumes of fish, crustaceans, molluscs
  - Exports 2012-2014: 1.3 thousand tonnes
  - Exports 2009-2011: 2.2 thousand tonnes

<sup>5</sup> [www.pura.gm](http://www.pura.gm)

<sup>6</sup> Fisheries Department interviewed.

<sup>7</sup> UNCTAD

Gambia Bureau of Statistics. (GBOS)

- Exclusive Economic Zone: 19,500 km<sup>2</sup>, yielding an estimated 75,000 tonnes of fish per year<sup>5</sup>
- Around 30,000 Gambians are employed in the aquaculture and fisheries sector.
- Fisheries Department estimates that the sector contributed about 5% of GDP in 2014.
- Artisanal activity accounted for 90% of all aquaculture and fisheries outputs in 2013-2014<sup>6</sup>

## LOCATIONS

The Gambia's 80km coastline provides an ideal location for the fish industry and the export and re-export of fish by-products to western and the sub-region markets.

The River Gambia has saltwater as far as 150km upstream and 4,000 sq km of continental shelf, which offers great locations for aquaculture farming.

Banjul Port is conveniently located at the mouth of the River Gambia, making it easily accessible to trawlers and other fishing boats navigating the coast as well as the mouth of the river.



Source: Access Gambia. Accessed: 14/10/14

## FISH SPECIES IN GAMBIAN WATERS<sup>16</sup>

### DEMERSAL SPECIES:

- Sole
- Grunts
- Sea-breams
- Carangids
- Cephalopods

### PELAGIC SPECIES:

- Bonga
- Sardinella
- Red Mullet
- Shads
- Catfish
- Jacks
- Snappers



- A dedicated fisheries facility commenced operation at the port in December 2012<sup>7</sup>
- Inauguration of the new Banjul fisheries Jetty in July 2013 (US\$14mn project)<sup>8</sup>
- 2 Slipways:
  - Length 36 meters ; Depth: 9.45 metres
  - Length 10 meters ; Depth: 5 metres
- Banjul port's handling capacity<sup>7</sup>
  - 48 metric tonnes of bulk cargo per hour
  - 17 container moves (discharging and loading) per hour



Other new infrastructure / upgrades in development:

- The Trans-Gambia bridge (completion due 2017)
- Improved cross-border trunk roads with Senegal
- Ports Expansion Programme underway – Gambia Ports Authority planning to build a second port on the Atlantic coast
- Ongoing infrastructure upgrades at Banjul International Airport

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<sup>7</sup> Gambia Ports Authority. Interviewed:

<sup>8</sup> State house webpage: [http://www.statehouse.gm/inaug-banjul-fisheries-jetty\\_31072013.html](http://www.statehouse.gm/inaug-banjul-fisheries-jetty_31072013.html)



## THE GAMBIA'S FISHERIES COMMUNITY

The Gambia is already home to a developed community of stakeholders in the fisheries industry (including businesses, industry associations and representative groups) – a few examples of these organisations are displayed below.

The presence of these groups demonstrates The Gambia's attractiveness and potential as a prime location in West Africa for boat rental firms.

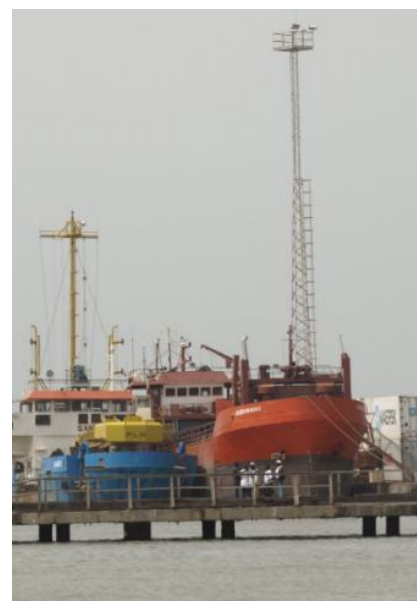
### EXAMPLES OF ORGANISATIONS:

	Association of Industrial Fishing Companies	CCT-Gambia Company Ltd
International Pelican Seafood Gambia Ltd.	Gambia Artisanal Fisheries Development Association (GAMFIDA)	Kendaka Fishing Company

## EXPORT AGREEMENTS

Seafood and other Gambian products can be exported at preferential duty rates and quota free to:

- ECOWAS markets under the ECOWAS Trade Liberalization Scheme (ETLS)
- EU market under the Everything But Arms (EBA) Initiative offered by the European Union
- India, Brazil and South Korea under preferential duty rates for products from Least-Developed Countries (LDCs)



## AVAILABILITY OF INCENTIVES

A host of incentives are available to investors in the aquaculture sector, provided certain criteria relating to investment value and job creation are met.<sup>9</sup> These incentives include:

- **Tax Holiday:** tax breaks on corporate and turnover tax, withholding tax on dividends and for a period of 5-8 years, depending on the project's location.
- **Export Incentives:** available for export oriented enterprises (exports of 30% of output minimum). Exporters can apply for a tax holiday in respect of its corporate or turnover tax and support for its investment activities (e.g. export planning advice and export market research).
- For licenced operations in **Export Processing Zones**, tax holidays are for 10 years.
- **Import Tax Incentives:** Exemption from payment of import sales tax on direct inputs for the project, or customs duty and import sales tax if the investment is located in a zone.

## GAMBIA OPERATING COSTS

The detailed table of sector's specific costs reveals the low level of all key operational costs, at the exception of internet and electricity.

### INDICATIVE KEY COSTS:

- License fee for local fishing vessels<sup>4</sup>:
  - Trawler (fish and cephalopods): \$40 / year (per GRT)
  - Shrimp trawler: \$65 / year (per GRT)
  - Trawler for small pelagic: \$19 / year (per GRT)
  - Processing vessel: \$50 / year (per GRT)
  - Tuna vessel: \$30 / ton of tuna
- Average daily wages for unskilled labour hover between US\$2.50-4 a day<sup>20</sup>

<sup>9</sup> To access incentives, a new investment must be worth at least US\$250,000 and lead to the creation of at least five jobs in the aquaculture sector. Source: GIEPA Regulations 2012. More information on criteria available from GIEPA.

- License Fee for Foreign Fishing Vessels
  - Shrimp trawler: \$105 / year (per GRT)
  - Trawler for small pelagic: \$42 / year (per GRT)
  - Processing vessel: \$50 / year (per GRT)
  - Tuna vessel: \$40 / ton of tuna
- Electricity: 9.70 GMD / kWh (commercial tariff)<sup>5</sup>
- Water: 22.48 GMD / cubic metre (commercial tariff)<sup>5</sup>
- Fuel
  - Petrol: US\$1.46 per litre
  - Diesel: US\$1.41 per litre
- Telecoms<sup>5</sup>
  - Landline: from 0.73 GMD / min
  - Mobile: from 2.47 GMD / min
- Key taxes:
  - Corporate: 31% (exemption possible)
  - Income: up to 35%
  - VAT: 15%

## GOVERNMENT POLICY POSITION

The Gambian Government recognizes the importance of private sector participation in the economy, both as an engine of growth and as a source of knowledge transfer.

Regulations for those investing in the fisheries sector are stipulated in The Fisheries Act, 2007. The Fisheries Act is designed to ensure profitable but environmentally-sustainable operations.

For all businesses operating in fishing, vessels must be registered and a fishing license obtained. Businesses in the fishing industry must also employ at least 20% of the crew and one inspector from The Gambia, as well as have at least 20% of the catch land on Gambian shores for local consumption.

The Government also plans to:

<sup>20</sup> Program for Accelerated Growth and Employment 2012-15

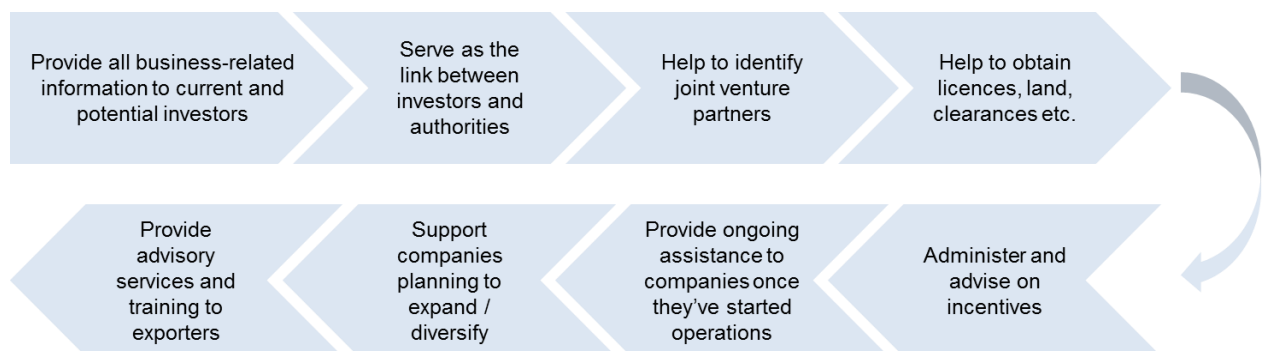
- Increase the number of accredited laboratories – supported by the EU-funded West African Quality Programme
- Establish the Gambia Food Safety and Quality Agency (GFSQA), following the passing of the GFSQA Act in 2011

## A HELPING HAND – EVERY STEP OF THE WAY

The Gambia Investment and Export Promotion Agency (GIEPA) is the Government Agency mandated to support companies with their investment, business and export development as well as support to MSMEs.

From the initial provision of information right through to supporting the establishment, growth and development of an investment project, GIEPA is your supporting partner for doing business in The Gambia – every step of the way.

Here are just a few of the ways in which GIEPA can support your business:



## FOUR GOOD REASONS TO CHOOSE THE GAMBIA

1

### **STRONG DEMAND AND BOAT LEASING POTENTIAL:**

- The already high demand for fish is set to rise (FAO), increasing the number of trawlers operating in rich and varied water resources
- Keen to secure stable fish supply, fish processors/exporters are in high demand for trawlers and mid-size fishing boats

2

### **COMPETITIVE INVESTMENT ENVIRONMENT:**

- The best Institutions quality in West Africa (WEF 2014)
- West Africa's most efficient labour market (WEF 2014)
- 5<sup>th</sup> lowest political risk level in the sub-Saharan Africa (AON)

3

### **STRONG AND IMPROVING INFRASTRUCTURE:**

- River Gambia - easily accessible to ocean- going shipping
- Efficient port with dedicated fishing piers and competitive costs
- New and upgrade projects underway, including new Atlantic port and improved transport links with ECOWAS markets

4

### **ATTRACTIVE INCENTIVES, COMPETITIVE COSTS:**

- Generous incentives for industrial fishing
- Competitive costs and fees
- Strong political support for investment in fisheries
- Comprehensive guidance and support from GIEPA

## PROJECT PRE-FEASIBILITY STUDY

The business plan/pre-feasibility study below is for the set up and operation of vessels maintenance and repair. The targeted workforce<sup>10</sup> and break down of job titles can be seen on the table below. Over the 5 year timeframe of the study it is expected that the workforce will grow in accordance with the development of the turnover.

Job Title	Head Count
Craftsperson	60
Production operative	56
Engineer	9
Quality control specialist/Manager	4
Secretary	4
Technical drawer	3
Supervisor	3
Warehouse and distribution operative	8
Production manager	1
Head of Manufacturing	1

Ship repair work is by nature labour intensive<sup>11</sup> and not prone to automation. This provides an immediate advantage to developing economies that have an abundant supply of low cost labour.

This labour intensity means that facilities that have access to ample skilled, low cost labour will have a cost advantage for less complex repair/maintenance work over their competitors in higher cost centres, even if they cannot match them in terms of technology.

This means that the selection of the appropriate ships repair centre has become crucially important to ship owners, who frequently must decide between the choice of a financially attractive low-cost centre with the need for a certain degree of reliability and technical sophistication.

### Underlying assumptions to the project

Base case scenario	
Related to constant price evaluation	
Inflation	The model assumes no inflation. Any variation in operating costs due to inflation rate is expected to be reproduced on the company's sales price. However, it is important to note that variations in inflation rate and its level remain an important indicator of The Gambia economic stability.

<sup>10</sup> Expected to be reached at the start of the 5th year operation

<sup>11</sup> It is accepted that labour and steelwork related costs are the two main components of ship repair costs.

Related to costs		
Facilities acquisition	Based on market price.	It is supposed that the company will acquire all facilities (warehouse, office building and dry dock) needed because of relatively low cost of premises and actual opportunities to buy “ready to operate” facilities.
Machinery and equipment	Second hand price.	All machineries are bought second hand, representing a 20% discount price (taking into account transport costs).  It is also expected that the company will acquire additional equipment and machinery every 2 years to develop its offer toward more technology oriented services.
Predictive maintenance	10% of assets.	This rate can obviously vary according to company's business plan strategy/policy.  Equipment renewal and maintenance costs are captured in the applied rate.
Stock (alloy steel, aluminium...)	15% of annual revenue.	It is expected to be a major cost to the company's operation.
Supplies (paintings, sales parts...)	10% of annual revenue.	It mainly includes parts (engine, electrical components...) and chemical products (paintings...) used for vessels maintenance and repair.
Taxes	Corporate tax rate: 31%	For the sake of visibility, overall cost of taxes has been evaluated at 31%, which is the corporate tax rate.  Social security rate have been included in the labour costs.
Related to revenues		
Sales projections	Based on the fisheries market growth in the West Africa region, as well as in the EU. Sales forecast is also based competitors' actual business growth <sup>12</sup> and potential growth in the Gambia and Senegal.  The starting base to evaluate the size of the market and the potential company's revenue growth is the number of vessels operating in the Senegalese and Gambian waters.	

## Market Opportunities

Ship repair does not necessarily imply the need for a dock, as work (even complex underwater work) can often be undertaken alongside at berths. This, of course, greatly increases the flexibility with which ships repair services can be delivered, and minimises the need for extensive (and expensive) fixed installations.

Assessing the future demand for ship repair services is difficult, not the least because a considerable amount of this demand is unscheduled, it also depend on exogenous drivers (Fisheries Agreements with other countries).

<sup>12</sup> Darkarnave and SENEMECA

Future demand will have some relationship with the growth of the regional and world fleet; and based on current order books, demand for shipyard services will be significant in the short to medium term<sup>13</sup>.

Revenues are based on the following market trends and facts:

- Fishing trawlers operating in Senegal and Gambia waters are about 200 a year.
- This number is due to increase because of the increasing world demand for seafood supporting the production growth – 15.4% to 17.7% in Africa.
- New fisheries partnership agreement concluded between the EU and Senegal, which has come into force in November 2014 and include 28 tuna seiners, 8 pole-and-liners and 2 trawlers.
- Increase of the world fleet with a growth rate for new orders of at least 5%, including fishing vessels.
- It is expected that revenues from services realised on fishing vessel and other types of vessels will increase proportionally<sup>14</sup> 5 years' period.

It is worth noting that vessels repairs & Maintenance activities can be associated with import/export activities, this hasn't been included in the model. It is expected that this additional activity would increase the profitability of the overall project, mainly because of the increasing demand of marine equipment (including engines).

The shipbuilding activity hasn't been explored as well here as it requires more highly skilled workforce and a more mature market. However, the manufacture activity could be envisaged by the company in a medium to long-term strategy.

<sup>13</sup> *The interaction between the ship repair, ship conversion and ship building industries, OECD, 2008*

<sup>14</sup> Indeed, it is expected that demand for intervention on each types of vessels will come from highly needed Repairs and maintenance work on ferries operating on the Gambia river, as well as oil companies' vessels Operating in Nigeria's waters and in the gulf of Guinea in general.



## Income Statement

Yearly Maintenance	276,274	290,409	305,267	320,885	337,302
Mid-Size Repair	184,183	193,606	203,511	213,923	224,868
Large Size Repair	276,274	290,409	305,267	320,885	337,302
Other Revenues	-	-	-	-	-
<b>Total Revenues</b>	<b>736,731</b>	<b>774,424</b>	<b>814,045</b>	<b>855,693</b>	<b>899,472</b>
Cost of Goods Sold					
Total Business Development Salaries & Benefits	-	-	-	-	-
Total Skilled Labour Staff Salaries & Benefits	(43,484)	(49,696)	(52,802)	(59,014)	(65,226)
Total Semi-Skilled Labour Staff Salaries & Benefits	(38,434)	(38,434)	(43,675)	(48,916)	(54,157)
Total Unskilled Labour Staff Salaries & Benefits	(93,200)	(97,860)	(102,520)	(107,180)	(111,840)
Gantry crane	(30,000)	-	-	-	-
Boilerworks	(20,000)	-	-	-	-
Facilities acquisition, construction and expansion (shipyard, warehouse...)	(800,000)	-	-	-	-
Equipment	(37,500)	-	-	-	-
Other Costs of Goods Sold	-	-	-	-	-
<b>Total Cost of Goods Sold</b>	<b>(1,062,618)</b>	<b>(185,990)</b>	<b>(198,997)</b>	<b>(215,110)</b>	<b>(231,223)</b>
<b>Gross Income</b>	<b>(325,887)</b>	<b>588,434</b>	<b>615,048</b>	<b>640,583</b>	<b>668,249</b>
Sales & Marketing Expenses					

Total Salesperson Salaries & Benefits	-	-	-	-	-
Total Marketing Salaries & Benefits	-	-	-	-	-
Public Relations	(14,735)	(15,488)	(16,281)	(17,114)	(17,989)
Advertising	(7,367)	(7,744)	(8,140)	(8,557)	(8,995)
Other Sales & Marketing Expenses	-	-	-	-	-
<b>Total Sales &amp; Marketing Expenses</b>	<b>(41,441)</b>	<b>(22,102)</b>	<b>(23,233)</b>	<b>(24,421)</b>	<b>(25,671)</b>
<b>General &amp; Administrative Expenses</b>					
Total High Skilled Labour Staff Salaries & Benefits	(51,249)	(51,249)	(51,249)	(66,779)	(66,779)
Total IT Salaries & Benefits	-	-	-	-	-
Total Other Salaries & Benefits	(6,988)	(6,988)	(6,988)	(6,988)	(6,988)
Workstation (Computer, Mouse, Desk...)	(12,285)	(1,170)	(585)	(1,755)	(1,170)
Printer Unit Price (1 per 10 Management staff)	(235)	-	-	-	-
Utilities Expenses - Electricity	(12,279)	(12,907)	(13,567)	(14,262)	(14,991)
Stock (alloy steel, aluminium...)	(5,756)	(6,050)	(6,360)	(6,685)	(7,027)
Predictive maintenance	(88,750)	(88,750)	(88,750)	(88,750)	(88,750)
Supplies (paintings, sales parts...)	(3,453)	(3,630)	(3,816)	(4,011)	(4,216)
Other	-	-	-	-	-
<b>Total General &amp; Administrative Expenses</b>	<b>(199,797)</b>	<b>(180,995)</b>	<b>(170,744)</b>	<b>(171,315)</b>	<b>(189,230)</b>
Depreciation Expense	(52,450)	(63,000)	(73,600)	(84,800)	(95,700)
<b>Total Operating Expenses</b>	<b>(255,547)</b>	<b>(256,977)</b>	<b>(269,336)</b>	<b>(299,701)</b>	<b>(312,606)</b>
<b>Operating Income</b>	<b>(581,434)</b>	<b>331,457</b>	<b>345,712</b>	<b>340,882</b>	<b>355,643</b>
<b>EBITDA</b>	<b>(528,984)</b>	<b>394,457</b>	<b>419,312</b>	<b>425,682</b>	<b>451,343</b>
Interest Expense	(10,890)	-	-	-	-



Interest Income	1,554	-	-	-	-
<b>Pre-Tax Profit (Loss)</b>	<b>(590,770)</b>	<b>331,457</b>	<b>345,712</b>	<b>340,882</b>	<b>355,643</b>
Add (Subtract) to Tax Loss Carry forward	590,770	(331,457)	(259,313)	-	-
Taxable Income (Loss)	-	-	86,399	340,882	355,643
Tax Expense	-	-	(26,784)	(105,674)	(110,249)
<b>Net Income</b>	<b>(590,770)</b>	<b>331,457</b>	<b>318,928</b>	<b>235,209</b>	<b>245,394</b>

## Project Valuation

Weighted Average Cost of Capital	15.5%
Terminal Value Growth	3.0%

	2016	2017	2018	2019	2020
Operating Income	25,065	968,985	1,015,857	1,045,314	1,096,115
Tax Expense	(5,855)	(300,385)	(314,916)	(324,047)	(339,796)
Tax-Effectuated EBIT (Earnings Before Interest)	19,210	668,600	700,941	721,267	756,319
Plus: Depreciation Expense	52,450	63,000	73,600	84,800	95,700
Capital Expenditures	(231,500)	(50,000)	(53,000)	(56,000)	(54,500)
Changes in Working Capital	(68,383)	(3,013)	(3,167)	(3,329)	(3,499)
Changes in Other Assets & Liabilities	-	-	-	-	-
<b>Unlevered Free Cash Flow</b>	<b>(228,223)</b>	<b>678,587</b>	<b>718,375</b>	<b>746,738</b>	<b>794,020</b>
Present Value of Unlevered Free Cash Flow	(197,606)	508,732	466,311	419,695	386,402
<b>Terminal Value</b>					<b>6,546,000</b>
Present Value of Terminal Value					3,185,544
<b>NPV based on terminal year 5</b>					<b>4,769,078</b>

## Sensitivity analysis

A sensitivity analysis has been conducted to test the viability of the project and determine the risk management. The results show that the project profitability is relatively robust and could withstand quite large variation in a single variable without compromising the sustainability of the project.

An increase of the income tax rate would have little effect on the profitability because of substantial investments at the beginning of the project are generating tax profit loss to carry forward.

The project is also relatively resilient to sales and costs variations. However, it is worth noting that revenues are strongly sensitive to prices, to the number of clients and type of works. The company relies relatively heavily on large and mid-repair works.

	<b>NPV=0</b>
<b>Tax rate</b> (level)	95.6%
<b>Discount Rate</b> (level)	39.6%
<b>Sales Revenues</b> (% change)	-30.0%
<b>Operating Costs + COGS</b> (% change)	+39.5%

## PROJECT RISKS AND SUSTAINABILITY FACTORS

	Issues	Impact rating	Description
Socio-political	Government support and procurement	high	The sustainability and profitability of the project, particularly at its start, will depend on the Gambia Port Authority (GPA) and Government support to open fair procurement for maintenance, repair of public vessels as revenues from private-own fishing vessels might be too low the first years of operation.
	Red tape and tax burden	medium	Ease of paying taxes is improving but the investor will still face relatively high tax burden and red tape.
	Political instability	low	Even considered as a relatively stable country in the west African region, the risk of political instability remains.
Macro-economics	Utility Costs	high	Utility costs are generally high and businesses are affected by recurrent electricity shortage. The frequent use of fuel generator is highly reducing the profitability. Investment in solar panel has partly helped some companies to overcome the problem.
	Access to bank loans	high	Bank loans in The Gambia are hard to obtain and interest rates are often too high to be a feasible option for businesses. The project requiring high investment, the investor might have to look at foreign financing. PPP would also be an option.
	Informal market	medium	The informal sector has a negative impact on the middle/long term profitability of legal businesses which depend on the sustainable supply of fish resources.
	Increasing wages	low	The Gambia is currently in a position to use low labour costs as a major pull in attracting foreign investment. However, Increasing success will inevitably push up these costs and businesses need to be certain that increasing costs can be covered.
Infrastructure	Poor road infrastructure	medium	Many of the country's roads are in poor condition making travel throughout the country difficult and even impossible at times.
	Poor landing sites facilities	low	Landing sites lack modern facilities (cold storage rooms, ice plants...) and access to them are often difficult. However works are ongoing to improve the situation.



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