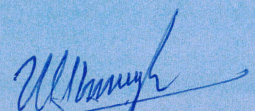




HONNAVAR PORT PRIVATE LIMITED

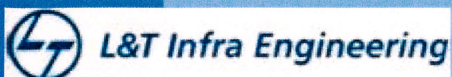
DEVELOPMENT OF PORT FACILITY AT HONNAVAR




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TECHNO ECONOMIC FEASIBILITY REPORT

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L&T Infra Engineering



L&T INFRASTRUCTURE ENGINEERING LIMITED

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ANNEXURE-2- REPORT ON TRAFFIC & TARIFF ANALYSIS

1 Project Background

Karnataka is endowed with a vast coastline of around 300 km between Karwar (at the North) and Mangalore (at the South) flanked by Uttara Kannada, Udupi and Dakshina Kannada districts, with favourable and strategic port locations. The coastline of the State is lined with ten minor ports between Karwar in the North and Mangalore in the south. The ten minor ports of the State are Karwar, Belekeri, Tadri, Honnavar, Bhatkal, Kundapur, Hangarkatta, Malpe, Padubidri and Old Mangalore. Among these ten ports, Karwar is the only all weather port while the other nine are riverine anchorage ports. The entire coastal belt as well as the adjacent districts are rich with mineral and natural resources and hence offer good scope for industrial investment. This belt is well connected by National Highways and the Konkan Railway broad-gauge line, both running parallel to the coastline. At present, there is only one Major Port in Karnataka viz., The New Mangalore Port. This is located at the southern end of the coastline and hence is predominantly being utilised by the southern districts of the State.

In order to enhance the industrial growth of Karnataka, the State Government has introduced Industrial Policy 2006-11 with an aim to increase the growth of GDP, strengthen manufacturing industries, increase share of exports from Karnataka, to generate additional employment of at least 10 lakh persons in the manufacturing and service sectors, reduce regional imbalance and ultimately aim at overall socioeconomic development of the State. It is with this background that the Directorate of Ports and Inland Water Transport Department, Government of Karnataka signed a lease agreement with Honnavar Port Pvt. Limited (HPPL), a consortium formed by GVPR Engineers Limited (GVPR) and North Canara Seaports Pvt. Ltd (NCS) to develop “Honnavar Port” in the mouth of Sharavathi River in Uttarakannada district of Karnataka.

GVPR Engineers Limited (GVPR) is an ISO 9001:2008 certified company that has extensive experience in Infrastructure project, designing, construction, operation and maintenance management. The organisation is involved in constructing world class infrastructure projects in Irrigation, transportation, power, buildings and ports. They are also involved in mining activities through their sister concern and exports world class black galaxy granite and iron ore to various countries in the world through ports in Karnataka and Goa. The company has joint venture and consortium tie up with reputed national and international companies to tender large scale projects. Understanding the resource potential of Karnataka, GVPR together with NCS (formed a consortium HPPL), plans to develop a barge/vessel loading port facility at Honnavar.

LNTIEL had already prepared the Detailed Project Report in 2012 for this project and found the project to be technically and financially feasible.

1.1 Objective of the Study

The Detailed Project Report for the port was prepared in 2012 by L&T-Infrastructure Engineering limited. The DPR is also approved by Director of Ports, GoK for further execution. In this regard as the report was prepared in 2012, it needs to be reviewed for the present market condition. Also the block cost estimate of the project needs to be revisited to consider present market prices for executing the various facilities. Hence it is understood that

in carry out a more realistic financial Viability Analysis, the Traffic and Block Cost estimate to be reviewed before working on the Financial viability.

2 Revised Traffic and Tariff Assessment

M/s AGR Knowledge Services Pvt Ltd (AGR) was appointed by HPPL to carry-out the review of the Traffic Demand assessment for the Honnavar Port. Also the Tariff Analysis study was studied by AGR. The details traffic and Tariff Analysis report is attached in **ANNEXURE-2** of this report.

3 Proposed layout for Honnavar Port

The following minor changes are effected to the development plan of the DPR (prepared in 2012) to meet the present market requirements and the updated layout is shown in Figure 3-1 below.

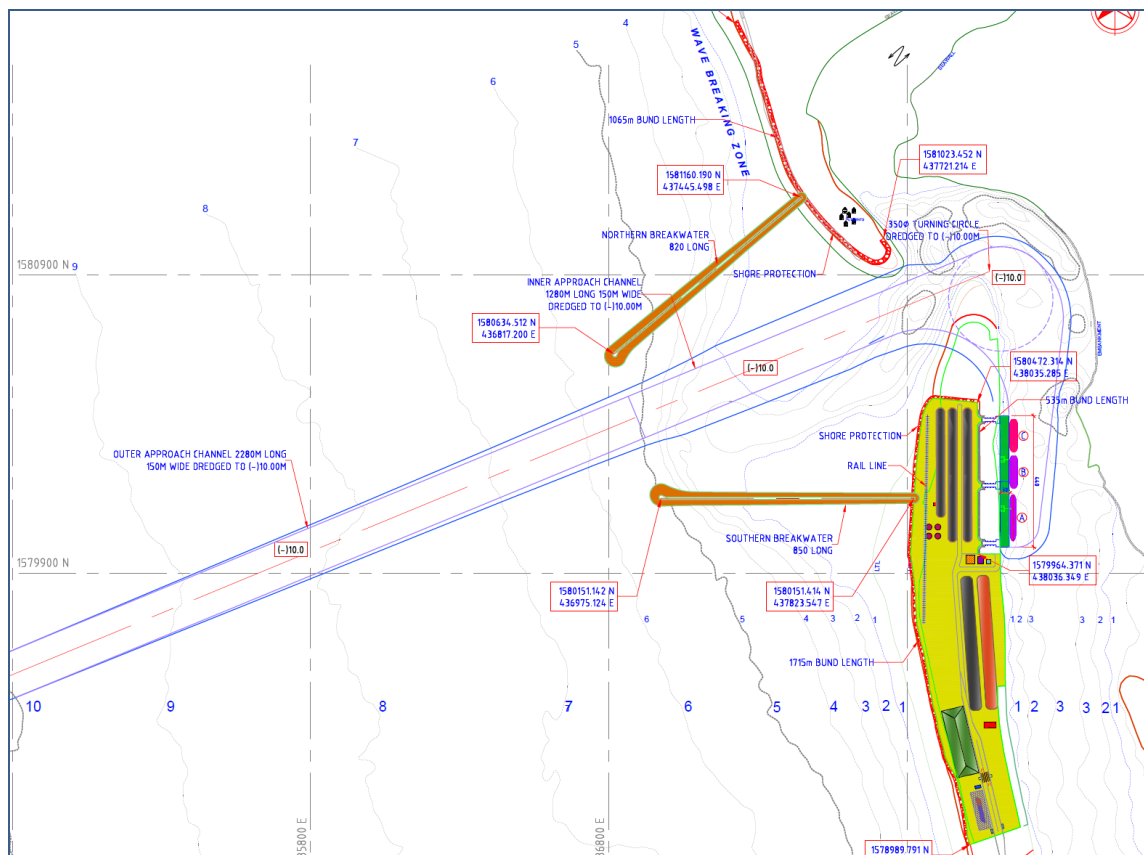


Figure 3-1 Proposed layout of Honnavar Port

1.2 Vessel Size

From the earlier report analysis, it is observed that the design general cargo vessel arriving at Honnavar port will be upto 10,000 DWT. Also to considering the future scenario, vessel up to 40,000 DWT can also come. Hence, the design mother vessel size for general cargo is fixed to be 40,000 DWT.

Therefore the Mother vessels calling at Honnavar port will predominantly be of Panamax and Handymax size but may include some post panamax vessels also in future. The design Vessel size considered for direct berthing of vessel under partial load for different cargo is as shown in table below:

Cargo	Design Vessel Size(DWT)	LoA (m)	Fully Loaded Draft (m)	Beam (m)
Bulk	Post Panmax (80000)	225	12.2	32.3
	Panmax (60,000)	205	11.5	36.5
General Cargo	40,000	190	11.2	28.2

1.3 Navigation facility

The Port at Honnavar is planned to handle vessels by both the lighterage operation as well by direct berthing inside the harbour. Practically, there is no limitation on the size of vessel to be handled at anchorage. However for the vessels to be directly berthed inside the harbour, the channel dimension as well the manoeuvring basin will pose some limitations on the size of vessel to navigate the channel.

At honnavar Port, the channel will be dredged to (-)10m CD and hence if the vessels require deeper draft, will be handled at anchorage and partially unloaded there. When the loaded draft reaches less than 9.6m, can be navigated inside the channel during high tide.

The channel dimensions required to navigate the vessels as sown in section 1.2 above are briefed below:

1.3.1 Channel Width

The width of the channel is normally determined as multiple of the beam of the largest vessel expected to enter the port. The width required for the single lane channel as per the DPR is 4.1 times the beam of largest vessel. Thus a width of 150m is provided to navigate a vessels of beam 36.5m.

1.3.2 Turning Circle

As per IS: 4651 (Part V) - 1980, the diameter of the turning circle should be 1.7 (for protected locations) the length of the largest vessel to be turned, where vessels turn by free interplay of the propeller and rudder assisted by tugs. Thus 350m dia. Turning circle is provided to handle vessel upto 205m LoA.

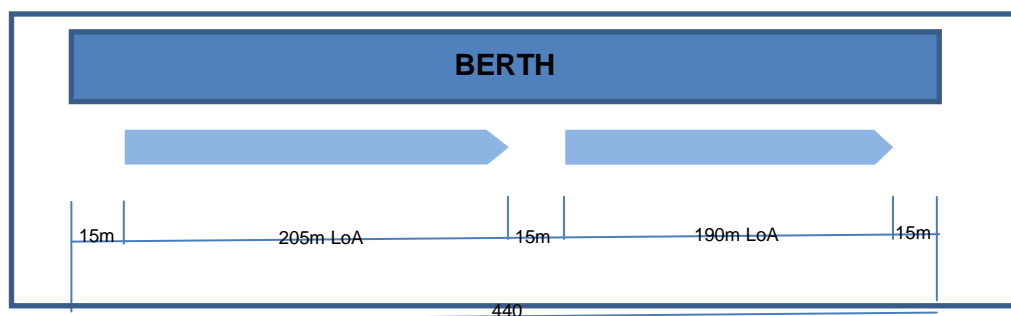
The layout particulars for the selected design vessel is presented in **Table 1.3.2-1** below.

Table 1.3.2-1: Layout Particulars

Outer Channel(m)		Inner Channel(m)		Turning Circle(m)	
Width	Depth	Width	Depth	Dia	Depth
150	(-) 10	150	(-) 10	350	(-) 10

1.4 Berth

For Honnavar Port 440m length of berth is provided to handle one Bulk Vessel (of 205m LoA) and one General Cargo Vessel (of 190m LoA) to be berthed simultaneously as shown in figure below:



1.5 Other infrastructure

The other infrastructure will be provided in line with the DPR as follows:

- Material handling Equipment
- External and Internal Road
- Open and Closed Storage spaces
- Other utilities and services including power supply, fire-fighting, water supply, drainage, etc..

4 Block Cost Estimate

The Block Cost estimate for the development of HPPL is as follows:

Sl. No.	Particulars	Unit	Quantity	Rate (₹)	Amount (₹ crore)
1	Civil Construction Cost				
1.1	Berthing structure	Sqm			
	a. Piled platform (440* 30m)	Sq.m	13200	75000	99.00
	b. Approach	Sqm	1860	60000	11.16
	c. Rock Bund	m	500	100000	5.00
	Total berth structure				115.16

1.2	Breakwaters(Northern -820 m, Southern-865 m)				
	Northern BW	m	820	475,000	38.9500
	Southern BW	m	865	475,000	41.0875
	Total Breakwaters Cost				80.0375
1.3	Shore protection works (3330m)	cum	67454.4	2714	18.3071
1.4	Buildings	LS			2.0600
1.5	Road connectivity	km	4	40000000	16.0000
1.6	Storage yard Ground preparation	Sqm	150000	1500	22.5000
1.7	Other grading & rolling	Sqm	200000	175	3.5000
1.8	General cargo storage				
	Covered shed	sqm	20000	9145	18.2900
1.9	Rail head	SEPARATRE PROJECT			
	Total Civil construction cost				80.6571
2	Dredging				
	Dredging and Reclamation	cum	5000000	250	125.00
	Total Dredging and Reclamation Cost				125.00
3	Utilities - Electrical				
3.1	Electrical and Firefighting	LS			2.9500
3.2	Communications	LS			0.6136
3.3	Navigational Aids	LS			1.8290
	Total Electrical Cost				5.39
4	Handling equipments -Mechanical				
4.1	Mobile Loader	nos	0	51500000	-
4.2	Mobile harbor crane	nos	2	260000000	52.0000
4.3	Payloader	nos	4	5500000	2.2000
	Total Mechanical Cost				54.2000
5	Msc Assets				
5.1	Pollution Control	LS			2.0600
5.2	Water supply and pipelines	LS			0.5200
5.3	CSR activity				0.7000
	Total Msc Assets				3.2800
6	Total (in Crore Rupees)				463.73
7	Engineering and Project Management @	2.50%	11.59		
8	Contingency @	2.50%	11.59		
9	Preoperative expenses (inclusive of supervision charges ie., 1% of estimated cost of construction)		30.13		

10	Preliminary expenses		0.60
11	GRAND TOTAL		577.60.

5 Financial Viability Analysis

5.1 Introduction

Financial feasibility is a key determinant in a business oriented investment decision. A project will attract investors and all other stakeholders only if the project generates sufficient revenues, during the project life, to cover the initial and additional investment costs, if any, plus a sufficient return on investment.

The viability study on financials include the key standard parameters like Post Tax Project Internal Rate of Return (IRR), Equity IRR and Debt Coverage ratios to ascertain the debt servicing capability of the project.

This Chapter covers the financial viability for the Vessel /barge handling facility at Honnavar, North Karnataka. In this analysis, the capital costs and operating expenses are escalated with an annual increment of 3% whereas revenues earned in foreign currency ie USD and Indian Currency are escalated by 2% per annum and 3% per annum, respectively. The manpower cost is escalated by 10% per annum.

5.2 Objective

The primary objectives of the financial analysis are to evaluate the financial viability and to ascertain whether the project shall be attractive for its various stake holders.

5.3 Overall Approach & Methodology

The overall approach to evaluate financial feasibility of the project involves determination of Financial Internal Rate of Return (FIRR) for the Project and comparing it with the Weighted Average Cost of Capital (WACC). This approach is preferred for infrastructure projects in which tariffs can be levied and recovered with a reasonable certainty. The emphasis is on checking the adequacy of projected revenue streams to recover the capital investment and desired returns. The steps followed under this approach are:

- ✓ Project Phasing and estimation of Capital Expenditure
- ✓ Means of Finance
- ✓ Identifying revenue sources and estimating the project revenues
- ✓ Estimation of operating expenses and financing costs over the project horizon
- ✓ Drawing up of profit & loss , cash flow statements and Balance sheet for project
- ✓ Estimation of net operating cash flows for the project
- ✓ Calculation of IRR and ADSCR

5.4 KEY ASSUMPTIONS IN FINANCIAL MODELLING

The financial model takes inputs from the detailed technical studies done for the project & other data sources for financial assumptions.

1. The financial analysis has been carried at nominal prices, as the nominal price method attempts to capture the effect of economic environment of the project.
2. The project shall be developed in a single phase as indicated in the development plan.
3. The base year for capital costs is 2017-18.
4. Land for the project has been provided by Government of Karnataka (GoK) on lease basis for a period of 30 years from the date of signing the lease agreement.
5. Capital cost and operating cost escalation has been assumed at 3% p.a.
6. Interest on Working Capital is assumed at 10.5% per annum
7. Revenue sharing with GoK is as under;
 - (a) A royalty of Rs 10 per ton on cargoes handled through the facility as per Schedule A of Gazette notification issued by Public works Secretariat No PWD 115 PSP 2001, Bangalore Dated 25th May 2006
 - (b) Royalty to GoK on storage space as per Schedule C of above mentioned Gazette notification. As per the notification, HPPL would be required to pay GoK a royalty of Rs 10 / Sqm per month for covered space and Rs 4 per Sqm per month for uncovered storage space provided in the Port premises.
 - (c) As per Schedule E of above mentioned Gazette notification, payment of Royalty to GoK on account of entry fee of Rs 6 / trip collected from trucks entering port premises.
 - (d) Lease rent on Land provided by GoK (Commercial space @ Rs.1.5 / Sqm per month and Rs 0.40 / Sqm per Month Foreshore land) as per Schedule F
 - (e) As per Schedule G of Gazette, fees on Vessels or Boats approaching, wharf-quay pier dock or any place in the Ports amounting to Rs 100 per month
 - (f) License Fees on vessel related charges ie., mooring charges for barges and anchorage charges for Ships to the tune of Rs 0.3 each per GRT / Day as per Schedule H of Gazette notification
 - (g) Supervision Charges equivalent to 1% of estimated project cost as per the lease agreement signed on 22nd September 2010
8. No terminal payment will be made as per the lease agreement
9. Financing Assumptions and data relating to loans, interest rates, tenure etc. have been taken on the basis of prevailing market trends.
10. Depreciation rates, tax rates and concessions applicable to infrastructure projects have been taken as per the guidelines of Companies Act and Income Tax Act.

5.5 FLEXIBILITY IN FINANCIAL MODEL

The financial analysis is based on the master plan. However, the model provides flexibility in choosing and executing a different traffic forecasts, change in capital cost and other input variables. The model also provides flexibility in choosing financing mix for the project.

5.6 CONSTRUCTION PERIOD AND PROJECT LIFE

The project shall be developed in single phase in tandem with the traffic projection made for the project. As per the proposed schedule of implementation, the construction is assumed to begin from Oct 01, 2018. The construction period, including post construction activities like commissioning, is assumed to be requiring 24 months. The COD may thus be assumed as September 30, 2020. A monthly-wise expenditure pattern has been drawn, based on the implementation schedule, to estimate the project cash outlay incurred on each month during the construction period and for estimating the associated funding cost incurred during the period. The details on major project milestones are given in **Table 5-1**. Cashflows for a period of 30 years is considered for this viability assessment.

Table 5-1 Project Development Schedule

Construction Details-	
Construction Start Period	01-Oct-18
Construction period (in months)	24
Completion of Construction	30-Sep-20
Concession period (in years)	30
Transfer date	31-Dec-47

5.7 PROJECT COST

The cost of the project is estimated at **Rs. 5762.85** Million (at 2017 prices). The cost includes Civil development cost, Dredging and Reclamation, Equipment cost, Navigational aids etc. In order to simplify the depreciation calculation, similar kind of project components are arranged under the following heads as given in Table 5.2

Table 5.2 : Capital Cost of the Project (2017 prices in Rs Mn)

PROJECT LANDING COST IN RS Mn	
Civil Cost	1,958.17
Breakwater & Shore protection	800.38
Dredging	1,250.00

Electrical	53.93
Mechanical	542.00
Msc Assets	32.80
Block capital Cost	4,637.27
Engineering and Project Management @ 5%	115.93
Contingency @ 5%	115.93
Preoperative expenses	301.27
Preliminary expenses	6.00
IDC & Financing cost	553.35
Margin Money for working capital	33.09
Landing Project Cost	5762.85

5.7.1 Civil Cost:

The expenditures incurred for the development of Roads, berth, Buildings, Storage yard ground preparation and Covered shed are merged under this head. The construction of berth will be completed within 15 months from the commencement of the construction activities. The break-up of each cost components are given in Table 5.3.

Table 5.3 : Civil Construction Cost (in Rs Mn)

Particulars	Amount (in Rs Mn)
Berth (440 x 30 m), diaphragm wall, tie rod, steel, concrete complete	1151.60
Buildings	20.60
Road connectivity	160.00
Storage yard ground preparation	225.00
Other grade and Rolling	35.00
Covered Shed	182.90
Total Civil Construction Cost	1775.10

5.7.2 Breakwater & Shore protection work

The breakwater and shore protection will be completed within 18 months from the commencement of construction activities.

Particulars	Amount (in Rs Mn)
Breakwaters(Northern -820 m, Southern-865m)	800.38
Shore protection works (3330m)	183.07
Total Cost	983.45

5.7.3 Dredging and Reclamation

A total quantity of 50,00,000 Cum has been quantified which would be costing Rs 250 per unit. The total cost on dredging and reclamation amounts to Rs 1250 Mn.

5.7.4 Electrical

Under this head various expenditures viz., Electrical and fire fighting, Communications and Navigational aids are clubbed together. The cost for electrical and fire fighting, communications and Navigational aids are estimated at Rs 29.50 Mn, Rs 6.14 Mn and Rs 18.29 Mn, respectively.

5.7.5 Mechanical

The cost on this head consists of expenditure incurred on Mobile loader, Mobile harbour Crane and Payloader. The details of the same are given in **Table 5.4**

Table 5.4 : Mechanical Cost (in Rs Mn)

Components	Nos	Amount in Rs Mn
Mobile harbor crane	2	520.00
Pay loader	4	22.00
Total Mechanical Cost		542.00

5.7.6 Misc Assets

Miscellaneous Asset cost consists of expenditure incurred on Pollution control equipment, Water supply and pipelines and CSR activity. The cost estimated for pollution control, water supply and pipelines and CSR are Rs 20.60 Mn, Rs.5.20 Mn and Rs 7.00Mn, respectively.

5.7.7 Engineering and Project Management Consultancy

A provision for meeting expenditure for consultancy services, for detailed engineering as well as for project monitoring, equivalent to 2.5% of the block cost has been considered.

5.7.8 Contingency

A provision of 2.5% on block cost expenditure has been considered for meeting the cost over runs incurred during the period of construction.

5.7.9 Preliminary Expenditure

Those expenditures which are incurred by the project promoters before signing the lease agreement which included expenditure incurred for site visits, cost incurred for data collection, Bid preparation / submission cost, cost on preliminary site related studies etc are brought under this head. A provision of Rs 6 Million has been considered for estimating the project viability. As these kinds of expenditures are difficult to associate with any other project assets, same shall be written off within the first 5 years of operation.

5.7.10 Preoperative Expenditure

Various expenditures incurred after signing the agreement but before the Commercial Operation Date (COD) shall be estimated under this head. The breakup of this head consists of; Site studies, Geotech, Soil investigations, Design and consultancy fees, Mobilisation expenditures, Supervision charges to GoK, Lease rent payable during construction period etc. The details of pre operative expenditures are given in **Table 5.5**

Table 5.5 : Pre operative Expenditure (in Rs Mn)

Components	In Rs Mn
Incurred expenditures on site studies , investigation and others	202.63
Design & other consultancy charges	20.00
Supervision charges to GoK	46.37
Lease rent (for period under construction)	5.85
Manpower	17.33
Travelling Expenses	4.32
Admin Expenses	4.77
Total pre operative expenses	301.27

5.7.11 Interest During Construction (IDC) and Financing Cost

During the construction period, fund raised through debt components shall be utilised to meet the project development expenditures. As no revenue during the construction period is being generated by the business, the interest which is accrued during the development period has been capitalised. HPPL may appoint a financial consultant to carry out project appraisals and fund syndication. Considering the same, a provision of 1% of the total debt component has been taken as the financing cost. The monthly expenditure curve is given in **Annexure 1.1**.

5.7.12 Margin Money

This forms the contribution made by the promoters for obtaining working capital loan from the lenders. It is assumed that 25% of the Net current asset computed for the first year of operation has been capitalised.

5.8 MEANS OF FINANCE / FINANCING STRUCTURE

The financing structure reflects the risk of the projects, the security requirements of the lenders and financing requirements of the sponsors. The financing structure of a project also depends on the stage in lifecycle of the project. Infrastructure projects have three distinct phases with different risks. Both equity investors and lenders can be expected to seek different rewards and expect different guarantees depending upon which phase they are investing in. A typical Infrastructure project would involve the following phases as given in Table 5.6

Also in the initial years of a project, greater equity participation may be more appropriate mode of funding, since if debt is used, interest cost would mount substantially due to the lack of any cash income in the development / construction phases of the project. But the availability of equity is bound to pose problem due to the magnitude of risks involved.

Infrastructure projects in developing countries usually have a financing pattern of 30-40 percent equity & 60-70 percent debt

Table 5.6 : Different phases of an infrastructure project

Phase	Risks	Financing
Development phase	Very high risk	Only equity, mainly from sponsors
Construction/start-up phase	High risk	Large volume of finance required. Mixture of equity, Senior debt & performance guarantees used. An additional Subordinated Debt infusion shall be required where subsequent phases have to be developed and the entire developments cannot be funded through internal accruals.
Public utility/operation phase	Lower risk	Refinancing with bonds or equity. Possibility for high D/E ratios could be explored.

5.8.1 Funding Structure for Honnaver Port Private Ltd (HPPL)

The funding structure refers to the mix of debt and equity components used as means of finance. As the port would not be handling a significant traffic, during the initial years after Commercial operations Date (COD), the commercial risk perceived by the lenders would be higher in the initial years of operation. Hence a conservative D/E ratio of 2.33:1 (70:30) has been assumed. The low leveraged financing structure would also help to reduce the debt servicing burden where the cash flows from the project are relatively weaker.

5.8.2 Financial Instruments & Cost of Funding

For the base case, only specific sources of financing and financial instruments, which would minimise the cost of funding (i.e. issuing cost, high interest burden, dividend payments etc.), and which can be tapped for investing in the PPP project have been explored. The preferable financing sources/instruments, their tenure and dividend/interest on them are given below:

5.8.3 Equity Structure

The major equity contribution would be from the project promoters Viz., GVPR Engineers Limited and North Canara Seaports Pvt. Ltd (NCS).

5.8.3.1 Term Loan from Commercial Banks

The potential sources of rupee debt include Indian Term Lending Institutions, Scheduled Commercial Banks, and Infrastructure Development Financing Agencies. These institutions are generally lent to infrastructure projects at rupee term loan interest for a longer tenure of upto 10 to 15 years. Commercial Banks loans would have a moratorium period of 1 -2 years.

The current prime lending rate of Commercial Banks is 8.65% to 11.00% per annum. Most infrastructure projects get term loans at PLR less 0.5 to 1.5%, depending upon the promoter's credentials and the project revenue stream. In view of the continual changes in base rates and prime lending rates over the last few years, a rate of 10.50% is considered for the project. The details on debt is given in **Table 5.7**

Table 5.7 : Details on Debt

Details on Debt	
Interest on Senior Debt	10.50%
Processing charges	1.0%
Tenor	
Period under construction (in years)	2.00
Moratorium (in years) (Excl. Construction Period)	1.00

Repayment Period (in years)	12.00
Total period (in Years)	15.00

5.9 REVENUE ESTIMATES

The tariffs considered for the financial analysis are provided in the previous chapter.

5.10 EXPENSES

Expenses are recurring in nature and would be incurred on day to day basis. These include Operating expenses, administration expenses, Repairs & Routine Maintenance expenses, Expenses on electricity, insurance, payment to GoK, Salaries etc. The expenses details are given in following paragraphs.

5.10.1 Operating Expenses

Barge unloading facility as proposed in Hannover port would be structured to handle Coal, Steel, Fertilizer and Granite. Thus the main activity is to unload the ship to barges, barge movement from ship to berth, unloading from barge to trucks, truck movement from berth to storage yard and vice versa. It is proposed that the facility shall be operational for 16 hours in a day for which sufficient lighting may be necessitated. The operating cost, thus, incurred on account of material handling and lighting are given in **Table 5-8, Table 5-9,**

Table 5-10, Table 5-11 and Table 5-12

.Table 5-8: Operating expense – Coal & coking coal

Coal		
	Mobile Harbour Crane	
	Fuel Consumption litre / Hr	65
	Average Handling Rate	600
	No of Mobile Harbour Crane	2
	Payloaders	
	No of Payloaders	4
	Fuel Consumption litre / Hr	12
	Equipment Operating Hrs / Annum	12936
	Trucks	
	Avg. trip length in Kms	1.2

	Avg Truck Carrying capacity (T)	10
	Hire charges for trucks Rs / Km	60

Table 5-9: Operating expense – Granite

Granite		
	Mobile Loaders	
	Fuel Consumption litre / Hr	65
	Average Handling Rate	150
	No of Mobile harbor Cranes	2
	Trucks	
	Avg. trip length in Kms	1.6
	Avg Truck Carrying capacity (T)	10

Table 5-10: Operating expense -Fertilizer

Fertilizer		
	Mobile Harbour Crane	
	Fuel Consumption litre / Hr	65
	Average Handling Rate	400
	No of Mobile Harbor Cranes	2
	Payloaders	
	No of Payloaders	2
	Fuel Consumption litre / Hr	12
	Equipment Operating Hrs / Annum	3064
	Trucks	
	Avg. trip length in Kms	1.2
	Avg Truck Carrying capacity	10

Table 5-11: Operating expense -Steel Products

Steel products	Mobile Loaders	
	Fuel Consumption litre / Hr	65
	Average Handling Rate	150
	Total operating Hrs	6322.58
	Trucks	
	Avg. trip length in Kms	1.6
	Avg Truck Carrying capacity (T)	10

Table 5-12: Other Operating expenses

Expense Heads	Equipment Details	Inputs
Lighting	No of high Mast towers	12
	Total area to be lighted in Sqm	300,000
	Area covered by one high mast tower	24053
	Average Duration for lighting	10
	Consumption in KWH per mast Tower	11
	Rate Per KWH	10
Fuel Cost	Diesel rate per Litre	70
Barge Operating Charges	Rs/ ton	50
Pilotage		
	Fuel Litre /Hr	100
	Hrs. per vessel call	4
	No of Tugs	2
	Fuel Consumption per vessel call in liters	112000
	Lease / month	60,00,000

5.10.2 Land Lease rent

HPPL has to pay land lease rent to GoK on every year during the 30 – year lease period. As per the lease agreement, GoK would charge a monthly lease rent of Rs 15 for 10 sqm for Commercial / Industrial land and Rs 4 for 10 Sqm for Foreshore land per month which will be escalated by 10% per annum. The total land requirement for the project is estimated at around 41 hectares. The land lease rent accrued during the construction period as well as period from agreement date to construction start date has been capitalised under pre-operative expenditure.

5.10.3 Fees on throughput as per the Schedule A

As per Schedule A of Gazette published by GoK, HPPL has to pay GoK a fee of Rs 10 on every ton of cargoes handled through the port.

5.10.4 Fees on storage space as per Schedule C

A fee of Rs 10 per SqM on covered space and Rs 1.6 per SqM on uncovered space has to be paid to GoK.

5.10.5 Entry fee collected from Vehicles

As per Schedule E of Gazette, HPPL has to pay GoK a sum of Rs 6 on every truck entering the port premises.

5.10.6 Fee from Boats/ Vessels

As per Schedule G, fee has to be paid to GoK on every Vessels or Boats approaching, wharf- quay pier dock or any place in the port to the tune of Rs 100 per boat per month.

5.10.7 Fee for Mooring & Anchoring the vessels

As per Schedule H, fee has to be paid to GoK to the tune of Rs 0.30 per GRT / Day on each vessel that is moored or anchored.

5.10.8 Repairs and Maintenance expenses

Considering the level of operation during the concession period, the following percentages on assets are considered as Repairs and Routine maintenance expenses. The assumptions on the same are given in **Table 5-13**.

Table 5-13: Repairs & Maintenance details

Assets	% on Asset Value
Civil Cost	1.00%

Breakwater & Shore protection	1.00%
Dredging	3.00%
Electrical	5.00%
Mechanical	5.00%
Msc Assets	5.00%

5.10.9 Manpower Expenses:

The manpower expenses viz., Salaries and Wages is estimated at Rs.3.61 Mn per month in the base year, which would be escalated by 10% every year. The assumption on Manpower expenses are given in **Table 5-14**

Table 5-14: Manpower Cost

Manpower Expenses	Strength	Monthly Salary in Rs
CEO/MD	1	350000
Vice President	2	175000
GM/ DGM	2	125000
Managers/ Sr Managers	6	100000
Supervisors	12	45000
Administrative staffs	4	30000
Junior employees	16	25000
Port Pilot	1	400000
Workers/ Labors	30	20000
Total Strength / Monthly Manpower Expense	74	Rs. 3.61Mn

5.10.10 Administrative Expenses:

The administrative expenses for the project are estimated at Rs 0.98 Mn per month for the base year, which will be escalated at rate of 5% per annum.

Table 5-15: Administrative Expenses

Administrative expenses	Per Month
Travelling expenses Lump sum	0.18
Advertisement expenses (Lump sum)	0.10
Electricity for administrative purposes (Lump sum)	0.25
Telephone	0.02
Printing & stationery (Lump sum)	0.10
Other expenses	0.33
Total Administrative expenses per annum in Rs Mn	0.98

5.10.11 Insurance expenses

Insurance shall be taken so as to mitigate any unforeseen events which may damage project assets. It is assumed that the HPPL shall incur insurance fee, annually, which would be equivalent to 1% on WDV of Fixed Assets.

5.11 WORKING CAPITAL

It is assumed that the working capital would be funded through both short-term loan (75%) and margin money put in by the Developer (25%). For the initial year, the margin money to be put in by the developer has been capitalized and raised through long-term debt and equity for the project. For the subsequent years the increase in working capital has been funded through short-term debt (at 10.5% interest) and margin money in the ratio of 3:1. The key assumptions in estimating working capital requirement are given in **Table 5.16**:

Table 5.16 : Working Capital Assumptions

Working Capital Loan	
Margin Money (as % of Net Current Assets)	25%
Interest on working Capital Loan	10.50%
Current Assets	
Debtors (as no. of Month's Sales revenue)	1
Consumables (as No.of month's expense incurred on Electrical, Mechanical and Msc Assets for routine maintenance)	2
Current liabilities	
Sundry Creditors (as % on operating expenses)	1

Table 5.17 : Net Working Capital Requirement in Rs Mn

Financial Year Ending	2021	2026	2031	2036	2041	2046
Current Assets	-	-	-	-	-	-
Sundry Debtors	70.02	326.68	358.46	397.36	457.44	506.91
Spares	32.23	9.34	10.83	12.55	14.55	16.87
Total Current Assets	102.25	336.02	369.29	409.91	471.99	523.78
Current Liabilities	-	-	-	-	-	-
Sundry Creditors	4.33	13.83	15.87	18.06	21.58	24.77
Total Current Liabilities	4.33	13.83	15.87	18.06	21.58	24.77
Net Current Assets	97.91	322.19	353.41	391.85	450.41	499.01
Margin Money	24.48	80.55	88.35	97.96	112.60	124.75
Working Capital Loan	73.43	241.64	265.06	293.89	337.81	374.26
Interest on Working Capital Loan	2.75	36.25	39.76	44.08	50.67	56.14
Margin Money Capitalized	69.91	-	-	-	-	-

5.12 DEPRECIATION

Depreciation rates have been taken based on the current statutory requirements of Income Tax Act and Companies Act. The Written down Value Method has been used for the purpose of Income Tax, and the Straight Line Method has been adopted for the Companies Act purposes. The rates have been assumed based on the following categories of charges:

Table 5.18 : Depreciation Rates

Depreciation Rates	Rate SLM (%)	Rate WDV (%)
Civil Cost	3.34%	10.00%
Breakwater & shore protection	3.34%	10.00%
Dredging	3.34%	10.00%
Electrical	7.42%	15.00%
Mechanical	7.42%	15.00%

Msc Assets	7.42%	15.00%
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Preliminary expenditure incurred by HPPL is written off over a period of 5 years.

5.13 INCOME TAX CALCULATIONS

The Income Tax rate assumed for the project is 34.61% whereas the Minimum Alternative Tax (MAT) during this period at the rate of 21.34%. The port will have to pay the highest among the any of the tax mentioned above.

5.14 FINANCIAL ANALYSIS - BASE CASE SCENARIO

5.14.1 Key Parameters

The key project parameters computed are Project IRR (pre-tax), Project IRR (post-tax) and Equity IRR.

The Project IRR (pre-tax) has been calculated based on the project outflows in the form of capital investment while the inflows have been considered based on the revenue net of operating expenses (excluding interest and tax) i.e. Profit Before Tax Plus: Interest Plus: Depreciation.

The Project IRR (post-tax) calculation is similar to Project IRR (pre-tax) except that in the inflows, the tax payments have also been considered i.e. Profit After Tax Plus: Interest Plus: Depreciation.

The equity IRR is based on the equity contribution being made by the investor as an outflow and the inflow is the net cash available for payment of dividend i.e. Profit After Tax Plus: Depreciation Less: Loan Repayment Obligation.

The DSCR has been calculated for the entire loan tenure. The details of DSCR calculations are provided in **Annexure 1.2**. Further, the projected Profit and Loss account, Cashflow statement, Balance sheet, IRR calculations and Working Capital Calculations are given in **Annexure 1.3, Annexure 1.4, Annexure1.5, Annexure1.6 and Annexure1.7**, respectively.

Based on the above analysis a base case scenario, with the following mix of key input variables and base traffic estimates, has been prepared.

Table 5.19 : Key Input Parameters – Base Case Scenario

D/E ratio	2.33 :1
Cost of INR debt	10.50%
Term of INR debt	15 Years
Project Cost Sensitivity	100% of base case
Traffic Sensitivity	100% of base case

Tariff Sensitivity	100% of base case
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Table 5.20 : Key results – Base Case Scenario

SL. No	Project Parameters	Output
1	Pre tax IRR	18.26%
2	Post Tax IRR	15.01%
3	Equity IRR	23.10%
4	Minimum Debt Service Coverage Ratio	1.46
5	Average Debt Service Coverage Ratio	2.03

5.14.2 Observations

Project IRR

The project has IRR (post tax) of 15.01%, considering the cashflow generated by the business till 2048. The lease agreement does not allow obtaining any terminal value on the project assets; hence same has been excluded in the viability assessment. Honnaver port Development is a 'Greenfield' project and has a high perceived commercial risk; however this level of return may be just sufficient to get nullify the same.

5.15 SENSITIVITY ANALYSIS

The consultant has carried out a sensitivity analysis so as to assess the impact of various project input variables and its implications on project return and debt servicing capability. The sensitivity of project performance with respect to various key performance parameters has been summarised in **Table 5.21**.

Table 5.21 : Sensitivity analysis

Sensitivity analysis	Internal Rate of Return (IRR)			DSCR	
	Pre tax	Post Tax	Equity IRR	Min	Av.
Base Case	18.27%	15.02%	23.11%	1.46	2.03
Increase project cost by 5%	17.53%	14.43%	21.64%	1.39	1.94
Increase project cost by 10%	16.78%	13.82%	20.28%	1.34	1.86

Increase in Operating Cost by 5%	18.05%	14.84%	22.72%	1.44	2.00
Increase interest by 1%	18.08%	14.95%	22.11%	1.38	1.94
Increase in Land Lease rent by 50%	18.18%	14.94%	22.96%	1.45	2.02
Increase in Royalty to GoK by 5%	18.21%	14.97%	23.01%	1.45	2.02
Increase in Maintenance Cost by 5%	17.40%	14.32%	21.41%	1.39	1.93
Increase in Manpower and Admin Cost by 5%	18.19%	14.95%	22.97%	1.45	2.02
Decrease in Traffic by 5%	17.26%	14.21%	21.17%	1.38	1.91
Increase in Traffic by 5%	19.35%	15.89%	25.10%	1.55	2.15

It is clear that the project is very more sensitive to increase in project cost by 10%, decrease in traffic by 5%, Project cost by 5%, Maintenance cost by 1% followed by debt interests by 1%.

5.16 CONCLUSION

It is concluded that the project is financially viable based on the assumptions considered by the consultant on project cost, capital structuring, cost of capital, revenue and cost assumptions etc.