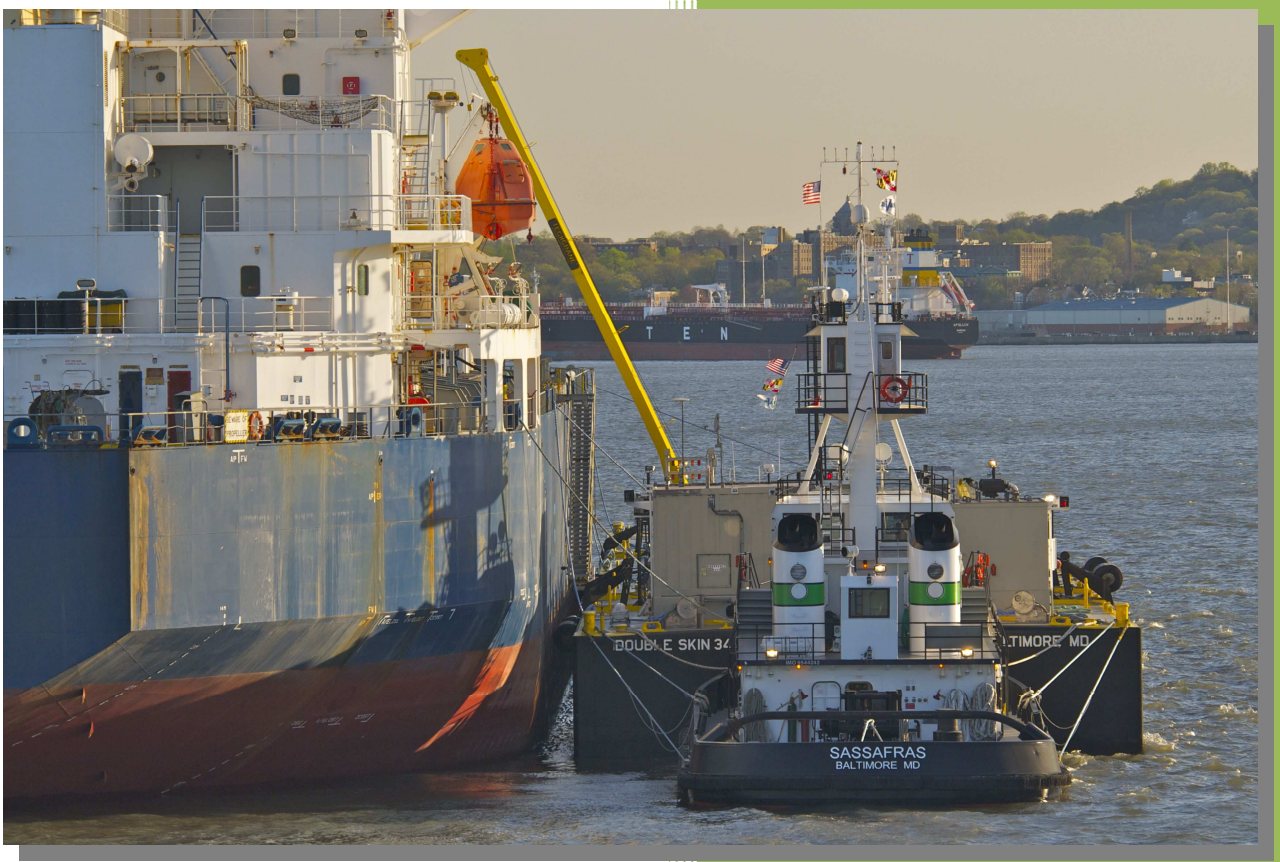
EMERGING KERALA 2012

DEPARTMENT OF PORTS, GOVERNMENT OF KERALA

Providing Comprehensive Supply Services to Ships Plying in the Kerala Coast

Feasibility Report

August 2012



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Executive Summary

Name of Project		**Supplies to merchant shipping traffic off Kerala coast**
Project Details		The merchant shipping traffic lane from Persian Gulf to Far east passes close to the Kerala coast. The lane from Red Sea to far east passes south of Kerala. These ships regularly require fuel, lubricating oils, stores and provisions. They also have needs to repatriate crew after their tenure onboard and connect the relieving crew. The logistics is done either on the jetty, or by boats or even by helicopter in some locations. The bulk of this activity in Indian Ocean now happens at Fujairah (UAE) and Singapore. The government is committed to providing the right tax regime and shore infrastructure to boost this activity on Kerala coast, enabling the entrepreneurs to set up their respective supply services in this coast.
Location		Beypore or Kollam
Proposed Capacity		Facility for providing fuel oil bunkers, fresh water, lubricating oil, provisions, stores, and arrangement for crew change by various service providers. Boats for logistics.
Period of Implementation		12 months for major supplies and 24 months for bunker supplies.
Financials		
a	**Investment**	Rs.1000 lacs for a bunker barge. Other investments are on supply boats, shore tankage, helicopter etc. Minimal investment model for a supplier, with hired logistics assets.
b	**Revenue streams**	Margins for various suppliers in fuel oil supply, lubs, stores, provisions, fresh water. Revenue from logistical services for crew change, inspection visits to vessels.

		In due course ship repairs and inspections at anchorage.
c	**Operating Margins**	Varied. The net margin in provision supply is considered to be 10 to 15%.
Benefits		• Development of port as a supply hub • Direct employment to supply and logistics industry • Will develop as a repair and inspection hub in due course • Indirect employment to hinterland manufacturing industry • Increase utilization of hotels and flights.

1. The Market

It is estimated that 36000 ships passes Hambantota every year and a substantial part of this traffic is between Persian Gulf and Far East route, which passes close to the Kerala coast. The piracy problem has further encouraged vessels on Red Sea to Far East route to take a relatively northerly route and steam closer to the western Indian coastline.

The target market segment for supply services is international shipping which passes on this route and which has its own growth dynamics, quite outside the control or influence of any one country including India. The supplies proposed are fuel for ships (called 'bunkers'), provisions, stores, lubricating oil for engines and fresh water. It is also proposed to introduce crew change and garbage landing facility here.

The growth prospects of the bunker industry thus need not look at the growth in international shipping, since there is a huge potential to divert some of the bunkering business of current international shipping that passes near India and yet chooses to bunker at Fujairah or Singapore or even Colombo.

To relocate the bunkering business or even a small percentage from Singapore or Fujairah means huge business volumes to Indian bunkering industry. All players in the industry have to play their part be it the port, the barge owner, the bunker trader or the 3rd party surveying company.

Vallarpadam container terminal shall be an important bunkering market. These vessels can be currently bunkered on offshore side while cargo is being worked on the onshore side. This saves valuable

bunkering time which will be efficiently catered to by bunker operators in Kochi.

Kochi does not have anchorage space within the port to bunker vessels in protected waters during bad weather. The vessel must be tied to a berth and this entails considerable additional tug, pilotage and berth hire adding to the cost of the fuel, besides the economic cost of additional time consumed.

2. Cochin Port

Cochin is located at a very strategic position on the international route followed by merchant ships. It provides a maritime gateway to peninsular India; also it is one of the fastest growing logistic centres and being a major international transhipment terminal. The Cochin port is an all weather functional terminal and also it is a natural port.

Some of the facts that are known will project the importance of Cochin being a major international maritime terminal. During the fiscal year 2009-2010, the Cochin port handled an all time record traffic of about 17.4 million tonnes, registering a profitable growth of 12.5% as compared to 15.49 million tonnes during the fiscal 2008-2009. Also it handled a record number of 1269 vessels during 2009-2010 compared to 1085 vessels during 2008-2009.

When it comes to handling containers, the port handled 289817 TEUs (twenty foot equivalent unit) during the fiscal year March 2010 when compared to 260784 TEUs in the preceding year showing a growth of 11.13%.

Cochin also became a major hub for the cruise ships and handling passengers in the region. 45 cruise vessels visited the port during the year 2009-2010. It also handled one of the largest cruise ships named

MV QUEEN-2 during the same period. Another vessel named AIDAcara handled a majestic 1254 passengers when she called at port in the year 2004.

An indication of the growth of the Cochin port.

www.cochinport.com [2]

Port	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012
Cochin	13.89	15.26	15.81	15.23	17.43	17.87	20.09

(in million tonnes)

3. Bunkering

3.1. Industry overview

The bunker industry refers to the supply chain segment that provides fuel to ships. The target market segment is ships that may ply in coastal waters or ocean going. The fuel ranges from residual fuel oil of 180 cst or 380 cst to diesel or gas oil grades.
The main bunkering ports are Singapore, Fujairah, Rotterdam and Houston. In the South Asian context there is some bunkering happening at Colombo. The bunkering volumes between the three major bunkering ports of Singapore, Fujairah and Rotterdam is almost 65 million MT.

It is of interest that the popular bunkering ports are located not in oil producing countries but in ports of other countries, that are located

adjacent to busy shipping lanes. These ports, over decades, have developed as very cost and time efficient in bunkering operations.

The bunkering trade in Indian ports caters mostly to coastal shipping, government vessels and small quantities to foreign flagged vessels. The bunkering ports are Kochi, Mumbai, Gujarat ports and few other ports.

Cochin Port Trust is developing a bunkering terminal which shall berth import tankers with bunker fuel, provide tankage to store the bunker and berth bunker barges that will take the bunker to the ships.

The fate of the bunker business requires management of the price risks which is a combination of international crude prices, the foreign exchange rates and local factors. The moment the bunker supplier purchases his stocks, he is taking on a risk. However this is an opportunity risk, where he stands to gain if prices move his way or lose if it moves downwards. The normal time lag from confirming the price on an import parcel to its fixing its sale contract can be long in view that EOQ for import parcels will be 30,000 MT minimum and the export or bunker parcels currently being ordered are of the order of 500 MT and not very regular.

The more appropriate model is to buy from M/s BPCL who provide bunkers complying to ISO 8217:2010. The supplier in such case can order only for his contracted volumes and not carry inventory in his account and risk.

As per notification in Nov 2010 (Annexure I), the Kerala state VAT is 0.5% on the bunker fuel to export vessels or foreign trade vessels.

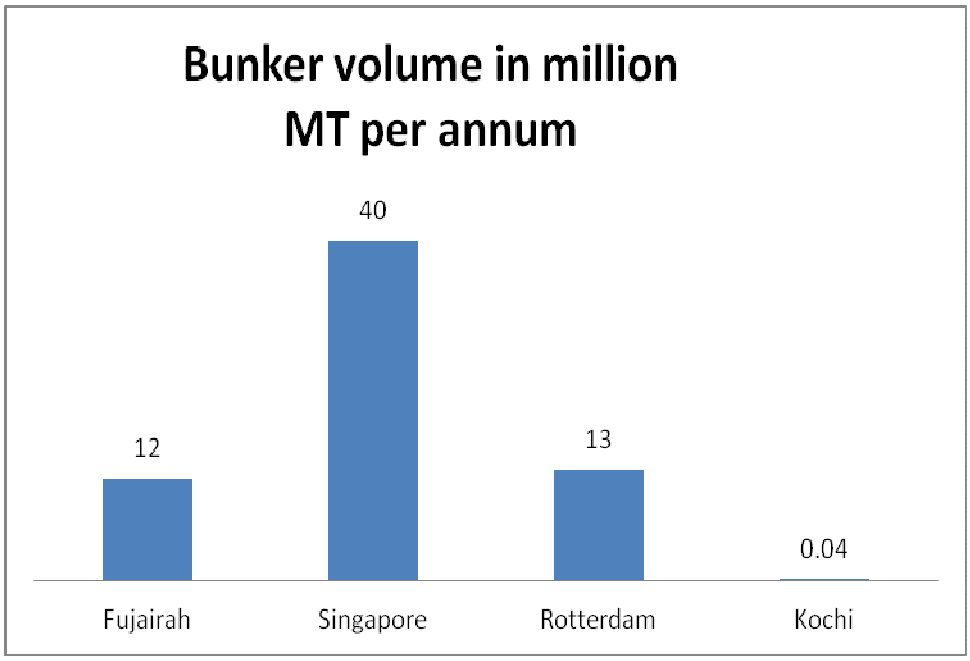
Bunkering Figures - 2010-2011

Singapore : 41 Million MT / Year

Rotterdam : 13 Million MT / Year

Fujairah : 12 Million MT / Year

Colombo : 4 Million MT / Year



3.2. Price benchmark

The price benchmark for bunkers is MOPS (Mean of Platts Singapore). This is a benchmark price that is an assessment of prevailing prices of a 20,000 to 50000 MT parcel of high sulphur 380 cst loaded FOB at Singapore. The price quoted is in terms of premium or discount to this benchmark price.

Other indexes are Bunker Index 380 cst or BIX 380.

3.3. Service model

The popular service model is to bunker at anchorage. The advantage in this model is multifold. The vessel is usually anchored by the master without need for tugs and the turnaround is faster. The port turnaround cost in this case is only the port clearances and anchorage due for roughly half a day. The bunker barges stem bunkers from shore tankage and deliver to the vessel which is at anchor.

The heavy traffic of international shipping passing close to Kochi provides a large potential clientele for any bunkering activity on the Kerala coast.

The Govt of Kerala has reduced the VAT on bunker fuel to foreign flagged vessels to 0.5%.

A suggested location for bunkering is Kollam which is roughly 150 kms south of Kochi. The vessel anchoring and barge movement will be easier in a non-major port with low traffic movement and space will be available in designated anchorages. This will also help development of stores and provisioning industry in Kollam.

It is suggested that only 180 cst or 380 cst fuel oil bunkers may be considered for supplies and not diesel or gas oil. The reason being more and more vessels are designed to burn fuel oil in the main and auxiliary engines. This leads to lower DO and GO consumptions and longer replenishment cycles, where the vessels can replenish at a port of their choice i.e Singapore or Fujairah.

3.4. Target clientele and customer requirements

The target clientele is any ship that is passing the Kerala coast, excluding those vessels that are calling Kochi for cargo operations. Such vessels may naturally bunker at Kochi.

The customer requirement can be listed as:

a. Quality meeting ISO 8217:2005 standards.
b. Bunker supply with minimum delays
c. Reputation for accurate delivery of stemmed quantity
d. Competitive pricing, taking into account the turnaround costs.

True value indexing

The TWE is a measure devised by Viswa Labs of US http://launch.viswalab.net/viswaweb/index.aspx. It is used to compare the real value of the bunker received taking into account the small variations in bunker quality within the permitted framework of each grade. This includes the

a. Calorific value
b. Density
c. Free water
d. Engine 'friendly' characteristics

New trends in bunkering trade

a. SECA (Sulphur emission control area) The SECA fuel is not expected to be in demand in Kochi in view there is no SECA area nearby.
b. EEDI Energy Efficiency Design Index (now part of Marpol VI)
c. Greenship discounts few ports have started giving discounts in port charges subject to vessel meeting certain emission norms.

4. Financial feasibility of various supplies

The services are all separate i.e bunker, lubes, stores and provisions. The revenue models of each of these are separate and hence one single financial model cannot be prepared.

The bunker sale price will depend on prevailing international prices at the time of sale irrespective of the suppliers' procurement price. Thus his price risk management is a very important criteria. In case of imported bunkers, the foreign exchange fluctuations can play a role depending on where the supplying company is registered. There are various hedging tools available to control this risk.

The provision, fresh water, lubes and stores will operate mostly on cost plus basis with ample margins. Often few items are cheaper in one country and few are costlier. The vessel has flexibility in purchase of stores and thus higher price sensitivity. But the provisions and fresh water are essential requirements, with limited inventory carrying space onboard vessels, involving monthly and unavoidable replenishment. The vessel has a high price tolerance for the prices.

A typical budget of a vessel is 5.5 USD per head per day for provisions. On a vessel of 28 persons, this translates to 2.5 Lacs per month per vessel.

It may be noted that, in due course, the reputation of the 'port' is built as a good replenishment point and not individual suppliers. So the administration has to safeguard the 'ports' reputation from being ruined by unscrupulous chandlers. A mechanism to register only quality chandlers and vet the ship's feedback regularly may help.

The bunkering costs is made up of

Bunker cost + duties or tax + storage + delivery

Bunkers which are imported and to be re exported will not suffer customs. They must be stored in custom bonded warehouse.

Bunkers from Indian refinery for export must be stored in VAT bonded warehouse, once it leaves the refinery. Below are broad price ranges of IFO 380 prices, though wide variations may be seen from time to time:

Singapore	Fujairah	Colombo	BPCL ex pipe Kochi
Reference MOPS	10 to 15 usd above MOPS	50 to 60 usd above MOPS	7 to 10 usd above MOPS

Location of supply port

The entire coast of Kerala is on the shipping route from Persian Gulf to Far East. The southernmost point near Vizinjam is relatively closer to Red Sea to Far East route. Considering the PG to Far East route by itself is a large shipping route, it may be prudent to develop one port that caters effectively solely to this route.

This port may be Kollam or Beypore or any other port that brings all supplies within one port. For simplicity this port has been referred as minor supply port (MSP).

The proposed model is asset light, except shore tankage, where the operator is hiring a barge and tankage at MSP. The bunker is shipped from Kochi to MSP on a larger vessel and a 1000 MT bunker barge is stationed at MSP that supplies the bunkers to vessels.

It is proposed to time charter an IV vessel at Kollam that will deliver bunkers to vessels at anchor. The bunkers shall be stored on shore tanks at Kollam.

It may be noted that the average volumes currently bunkered at Kochi is 5000 MT and the largest bunker parcel supplied is 1725 MT. The average bunker parcel in demand is close to 500 MT.

The overall bunker market has to grow to provide minimum breakeven volumes to a supplier in Kollam. This is quite possible since the bunkers price at Colombo is often more than 50 USD above MOPS and this provides a certain room for pricing at Kollam with respect to the vessels calling Colombo. It may be noted that the bunker volume handled at Colombo was close to 4 million MT last year and only about 40,000 MT at Kochi.

Comparison of MSP and Kochi

At the outset, it is difficult for the MSP bunker supplier to match the offer of the Kochi bunker operator. This will be sharply in focus for vessels calling Kochi, who will find bunkering at Kochi cheaper and easier.

For vessels not calling Kochi for cargo operations, the choice of bunkers will yet be Kochi. The position of MSP vis-à-vis Kochi shall be affected by following:

1. The shipping cost from Kochi to MSP for BPCL supplied bunkers.

2. The EOQ will be higher at MSP in view distance from Kochi. This will entail MSP operator keeping inventory in the tankage and carrying inventory carrying costs plus - very importantly - the price risks.

   The Kochi operator on the other hand can order only required quantity of bunkers from BPCL. Hence the MSP operator cannot price himself as efficiently as the Kochi operator.

3. The onshore tankage is not yet developed at MSP and the rates will be higher to Kochi rates in view of the excess tankage capacities available at Kochi.

There is a distinct challenge to compete for passing vessels with Kochi until the volume of bunkering at MSP reaches a level of EOQ quantities to be imported and exhausted every month and development of adequate competitively priced tankage capacities. This will level the playing field between Kochi and MSP to a large extent. Either port suppliers can source from BPCL or import, subject to prevailing prices and have economy of scale in their operations.

Given the quality assurance of BPCL bunkers and the competitive pricing offered by them, it will be possible to compete with Colombo prices in spite of these additional costs at MSP.

MSP has to offer quick turnaround with minimum formalities while working on thinner margins than Kochi to effectively compete with Kochi.

It would be unfair to make a judgement of profitability without accounting for risk management. This can make or break an operator depending the price movement when he is holding inventory. Considering the bunker price closely follows international crude prices, a robust risk management procedure is required for any bunkering operator, which is outside the scope of this report.

Considering the operation is asset light, except for the tankage part which is treated here as a separate business unit, the capex involved is low, only for working capital. The economic benefit is employment for a barge and tankage along with the operating staff.

This estimate is based on TC rates obtained few months back for a 1000 MT barge suitable for bunkering. Such vessel under IV act is allowed to go within port limits at anchor in fair weather. The port may deny this permission in moderately rough weather and a long interruption to business during monsoon. A higher TC allocation will fetch a vessel registered under MS Act that can go to anchorage in all seasons. But this will also increase the required breakeven volumes.

The operations may be possible for only 8 to 9 months of the year. In SW monsoon, the operations may be much interrupted. The monthly bunkering volumes referred here are volumes averaged for the whole year.

The operating gross margin is taken at 30 usd per ton. This is based on comparison with Colombo which is selling 4 million MT of bunkers at a premium of over 50 usd over MOPS (Mean of Platts Singapore).

The price at Hambantota which is being developed for bunkers will be different. The port is aiming for economy of scale and is very close to the combined sea lanes of Persian Gulf and Red Sea to Far East.

The cost inputs for bunker operations are:

- Cost of fuel as a premium or discount to MOPS
- Import duty or VAT
- Shore Tankage
- Barge delivery costs

The first follows the prevailing international oil prices.

The second is a %age of the first.

The 3rd and 4th are rather stable cost differential characteristic of each port.

Presumptions for financial analysis

The supply chain size -

a. 10,000 MT per month volume handled at MSP on an average through the year.

b. Bunker barge is 1000 MT tanker with IV registration at Kollam.

c. Individual stem varying from 400 MT to 2000 MT,

d. Shore tankage capacity of roughly one month supply, with reorder inventory level of 2000 MT.

e. Average storage is 6000 MT for 8 months and 2000 MT for the 4 monsoon months, making the revenue as 56,000 Ton-months X tariff per ton- month.

f. Shore tankage located on 2 hectares of land.

g. Kollam port jetty is used to moor delivery tanker vessel.

h. EOQ taken as 10000 MT, shipped by a suitable tanker from Kochi to Kollam.

Having a larger storage quantity or importing and storing quantities which are EOQ for importing, will mean substantial inventory carrying costs and blocked capital.

Capital cost inputs -

i. Time charter of a 1000 MT barge with IV registration at MSP as Rs.15 Lacs pm

j. The shore tankage development cost is taken at Rs.8000/ per KL for a capacity of 12,000 KL. This amounts to 9.60 crores and is a major capital expense disproportionate to the scale of economic activity being discussed.

Main revenue costs :

k. Aimed shore tankage cost at Rs.100/ per ton per month as is prevailing at Kochi. This will need government support.*

l. Taking the HR and admin cost of the company i.e marketing and operations executives at Rs.5 Lacs pm.

m. Taking land lease rental at Rs.16.0 lacs per annum for two hectares for the shore tankage. The major ports land lease policy allows the ports to lease land at rates pegged to the registered value of the land at 6%. Taking a similar approach to the non-major ports will provide a ballpark figure for the land lease rentals at Kollam port. TAMP order section 2.3 places the annual land lease rentals at Rs.13.7 Lacs per hectare at Palluruthy and Rs.18.27 Lacs at Fort Kochi. Considering the MSP land is not as premium as Kochi land, a ballpark figure of Rs.8 Lacs per hectare is taken for Kollam.

n. Taking the ex pipe delivery cost of BPCL fuel oil bunkers as MOPS + 10 USD.

The shore tankage financials:

o. It may be stated that at these target tariffs of Rs.100/ it is not financially viable to a shore tankage operator to provide this service. In view of the competitive environment of the bunkering business, the government may have to support to make this element on par with

Kochi. Shore tankage financial model is built around a target tariff of Rs.100 per ton per month, achieved with government support.

p. If this tankage cost factor is not subsidized and is priced at commercially viable levels, the viability of the bunkering business suffers due to uncompetitive pricing.

Financial feasibility of shore tankage:

Fixed costs		**Lacs INR per month**	
	HR	60	Marketing and operational supervisors
	Maintenance	19.2	
	Land Lease	16.0	
	WACC @18%	172.0	
	Depreciation	48.0	20 year lifecycle SL method
Total expenses per annum		316	
Variable cost taken as negligible per ton of bunker handled			
		Lacs of INR	**Tariff per ton-months**
Breakeven revenue level		316	
Revenue	56000 ton-months	56.0	Rs.100
		112.0	Rs.200
		316	Rs.565

q. This difference in the sustainable tariff has to be met by the government to make the tankage viable as a separate business unit. This can mean a revenue subsidy in the manner of feed-in-tariffs for every ton of bunker sold and/ or soft loans to reduce the interest burden.

Bunkering financials :

Capital costs: In view the bunker business is running without fixed assets and the shore tankage is considered a separate business unit, there is no capital expenditure for procurement.

Revenue expenditure:

r. A 1000 MT tanker complying with MSP Harbour craft regulations is time chartered as bunker barge.

s. The HR costs are for marketing department and operational supervisors.

t. The barge has to pay annual port dues for operating within the port waters.

u. The anchorage fee at MSP outside breakwater is negligible. The daily fee for the bunker barge whether at berth or at anchor is Rs.700/ day.

Fixed costs			
	Barge TC + fuel	1500000	INR pm
	HR	300000	INR pm
	Admin	200000	INR pm
	Barge port dues	21000	INR pm
	Total fixed expenses	2021000	INR pm
	Gross margin per ton	1500	INR per ton
Variable cost			
	Shipping	600	INR per ton
	Tankage	100	INR per ton
	Survey n adm	50	INR per ton
	WC interest	375	INR per ton
	Variable expenses	1125	INR per ton
	Contribution per ton	375	INR per tom
	Breakeven volume	5389	MT per month

5. Fresh water and Lubricating oil supplies

Lube is a consumable for vessels and is to be replenished regularly. Given the storage capacities on most vessels, it has a good replenishment time window and thus the replenishment is a very planned and timed operation. Most vessels replenish the lubes at the same port as they have stopped for replenishing fuel.

The vessels have fresh water generator and thus a long time windows for replenishment and planned purchase at a cost effective port.

To be a serious player in supplying lubes and fresh water, the port must be efficient in operations and the duty regime must allow a competitive pricing. While the Kerala VAT regime has reduced duty on export bunkers from 10.5% to 0.5% upfront, the other supplies to foreign trade vessels will have to pay and claim refund for export consignments later, which is detrimental to working capital management.

The water should be potable grade. Today most seagoing vessels have FW generator for domestic water requirements, though vessels still prefer to procure shore municipal water for drinking water purposes.

A fresh water supply barge is under construction at Beypore, of 150 Tons dwt. Typical fresh water supply will range between 300 to 800 tons. Though this 150 Ton size is small, it can be a starting point for the water supply services.

The port may invite a private operator to cater to this fresh water supply requirement and charge an appropriate bareboat charter rate from the operator and permit him use of this vessel. The costing can be worked on basis of :

1. Cost of capital of asset value +
2. Depreciation of asset +
3. Targeted returns.

The port may not be flexible in the first two above but can exhibit flexibility on targeted returns and the port charges it levies on this boat as volumes are built up. The operator can price his supply cost

based on cost of municipal water supply costs and operating costs. This supply clientele will not be too price sensitive.

6. Infrastructure for supply of bunkers, lubs, stores and provisions

The infrastructure required for bunkering is storage capacity on land as shore tanks. or floating storage in tankers. The floating storage has its benefits, since it can move to the Kochi and load the bunkers, but incur higher operational costs even when at anchor. In case of land based storage tanks, arrangement must be made to ship the oil from Kochi to the bunker port storage tanks. The custom clearances need to be arranged at Kochi and the cleared goods kept in custom bonded /excise bonded warehouse near supply location.

The business of bunker supply, lub supply, water supply are all different and will be carried out be different operators. The administration's role would be to –

a. Provide land for tankage for fuel oil and lube oil grades to be stored by private parties. Beypore port office advised that land can be made available for this project.

b. Provide land and connections for freshwater storage or arrangements for direct filling of fresh water barges from municipal lines.

c. Custom/ excise bonded warehouse on jetty for storing outbound goods. Provision for frozen stores.

d. Landing jetty for boats with handling gear such as forklifts, and cranes.

e. Export cargo in principle is not subject to VAT or other duties. All the provision and store supplies to foreign flag ships fall into this category. However, only bunkers enjoy the reduced VAT during supply to vessels.

Supplier would need to buy VAT paid stores and provisions from local stores and apply for a refund of the tax component. The ship chandler has to process refunds with the department after providing proof of having supplied the same to ships. Though right in principle, this requires a streamlined process in place which may be facilitated by the state at the chosen port.

It is suggested that government set up a small corpus of funds or engage with a bank to refund this VAT to the ship chandler immediately and receive the VAT from the government in due course. These funds are receivable from the government and the risk of non payment is negligible. The chandler will be willing to pay for the interest for the period and thus he will be able to compete in this export market at duty free prices, with his main competitors in Fujairah, Singapore and Colombo.

In the last few years, various chains of malls have sprung up all over India. This has made it easier to procure quality provision and supplies at ordered quantities and immediate notice. The same was possible earlier but difficult since quality, availability and packing was not assured in the unorganized sector. This tended to make the supply unreliable and uncompetitive and the port not earning a good name for this activity.

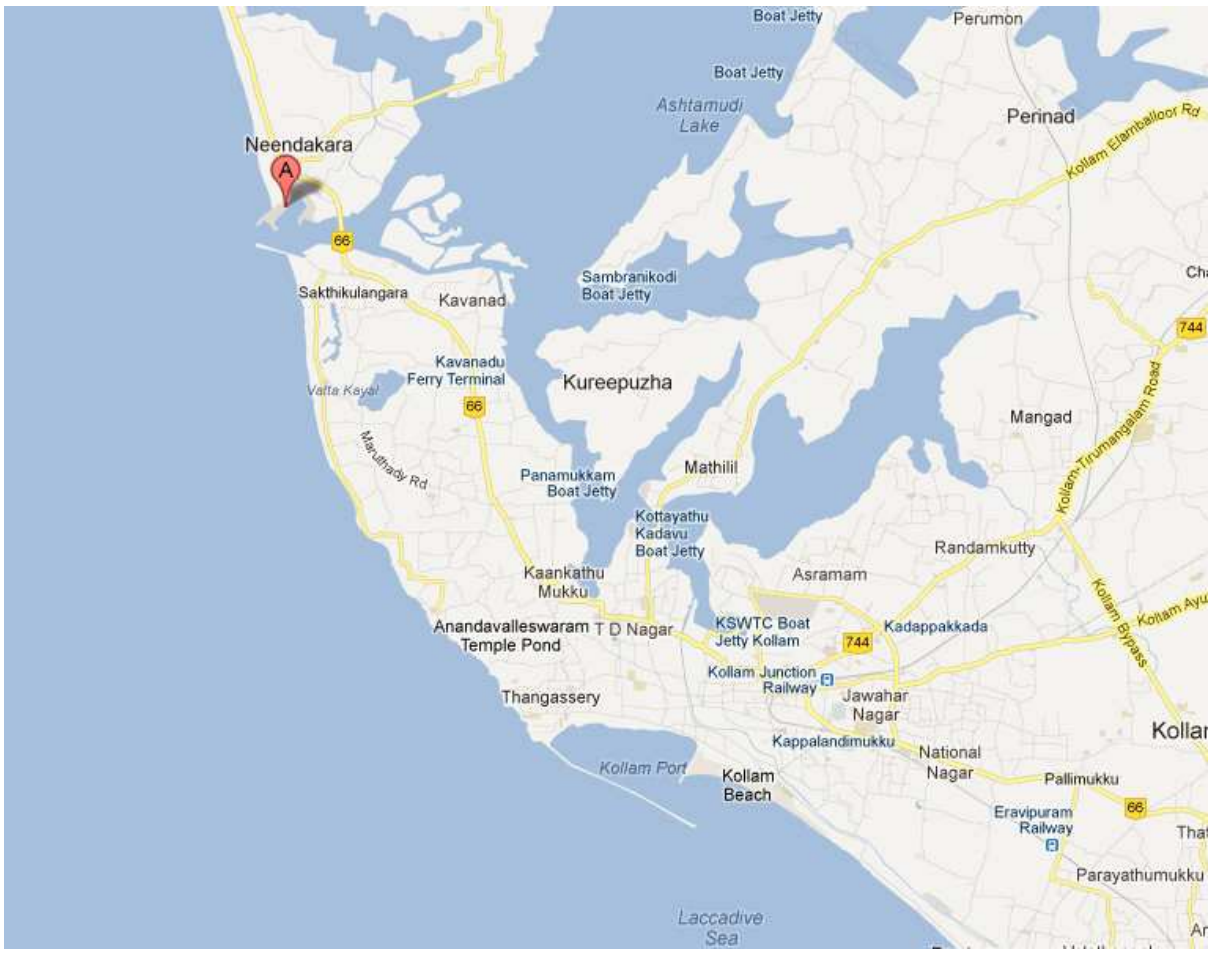
The personnel engaged in ship chandling activity in Fujairah are companies mostly manned by Indians, specifically from Kerala. If a thriving ship chandling activity comes up in Kollam or Kochi, many

of these persons would be happy to shift back and bring their critical experience for increased efficiency.

In an interaction with ship chandlers, feedback was obtained that the ship chandling business is estimated to have a gross profit margin of 25% and after allowing for administrative and logistics costs, the net margin is in the region of 12 to 15%. These are very variable margins. The basic price competitiveness supply of Indian origin is a big winning factor for the ship chandler.

7. Competition

Sri Lanka is planning large bunkering facilities at Hambantota which is being developed a major bunkering hub.
Since both shipping routes to Far East i.e from Persian Gulf and from red Sea pass close to this point, this location has potential for higher volumes. However, it may be noted that Sri Lanka does not have refining facilities now and is dependent on imports and re export of bunkers with consequent higher logistics costs, until its own refinery comes up.



8. Infrastructure required for developing Kollam as a port for bunker and other supplies

Kollam is located on the Persian Gulf to Far East shipping route. It is closer to Red Sea to Far East shipping route than Kochi and thus requires lower deviation. Beypore is north of Kochi and on the shipping route PG to Far East.

- Bunker tankage onshore is required.
- Custom bonded warehouse for stores, frozen and non frozen provisions.
- Custom clearance arrangements for export of supplies.

- Possibility of a helicopter borne crew change and provision supply service.
- Crew change facilitation by boat.
- Fresh water storage onshore and barge berthing .
- Designated anchorage and markings.
- Build a breakwater for serving vessels in SW monsoons in due course.

Garbage boat: Most vessels have garbage compactors and they also incinerate garbage. Only plastics are retained for landing ashore. This service is provided by many ports free of cost and this service is not expected to have high volumes since vessels can usually retain plastics for up to 2 months and await a free or cheap port. The operator has to equip his boat to receive roughly 5 cbm of plastics from each vessel and arrange for further disposal to municipal facilities.

Cruise vessels

Currently cruise vessels do not call Kollam port. Depending on the states plans, it may or may not happen in the future. It may be pointed out that Kochi has a tourism brand value and attracts cruise vessels for visitation. However, the charges are high and as on today there is no large cruise vessel home porting at Kochi.

Kollam or Beypore may attempt to attract smaller cruise vessels, with its current drafts, if it offers lower port charges to cruise vessels.

Colombo has adopted this strategy of economical port charges to cruise vessels, to capitalize on the larger economic benefit and the money multiplier effect of the tourist rupee.

9. Supplies and crew change

Crew change : Crew change immigration formalities can be done at Kochi for Kollam since it will be the gateway for the crew to fly in and out. Beypore is near Calicut airport and connectivity to the west is good since Calicut is well connected to Persian Gulf. The connectivity towards East will be via Chennai or Kochi. This requires a boat that complies MS act in order to step outside port waters if need be or effect crew change in mildly rough weathers. In monsoon, the crew change by boat may not be easy but heli operations can continue.

By Helicopter

This activity has tremendous potential. The crew change is effected and essential provision is supplied by helicopter to passing vessels. The main USP of this service is that, these vessels only slow down for a very short while and do not stop, anchor or drift for much time for crew change or provision supplies. Considering that a port call can involve a lot of paperwork and port charges, this method has tremendous economic benefits even if the helicopter service is more expensive than the boat service.

The basic requirement is for a twin engine helicopter and pilots' familiarity and experience with ship structures and ship behaviour at sea. The helicopter usually does not land on the ship and only winches above the vessel for the operation.

The benefit of this mode of transfer is the vessel does not lose voyage time and the higher cost of helicopter logistics is made up by the huge economic benefit of less disruption to vessel voyage and earning times.

The helicopter winching operation can be done in adverse weather which is not suitable for store transfer by boat.

When senior officers change, the handing over protocol is very stringent and can take from one to two days. Often this cannot be done within a port call that lasts just 24 hours. Considering the sailing period for large tankers between ports of call is long, keeping the senior officer onboard until the next port entails a lot of unnecessary expenditure. By helicopter logistics, this redundant stay of the relieved officer onboard is cut short and a lot of money is saved by the company.

A large proportion of senior officers on worldwide merchant ships are Indians. Most of these ships do not touch India and these officers have to be flown down to various foreign ports to join or return home after the contracted service term. By operating heli logistics on Indian coast, an additional cost is incurred on heli operations, but the international ticket is now not required to repatriate these officers.

The costs in case of Indian officer signing off by helicopter off Kollam :

Helicopter charges for under 1 hour slab – roughly Rs.100,000/-.

Opportunity cost of slowing down and deviation – less than 30 min steaming time, assuming a 50,000 usd per day Time Charter rate, this amounts to USD 2100 or Rs.115,000/.

Cost of domestic air ticket in India Rs.6000/-

The costs in case of Indian officer signing off at Fujairah

Cost of slowing down and deviation - 4 hours – 8400 USD or Rs.4,60,000/.

Cost of boat at anchorage 1000 USD – Rs.55,000/-

Cost of one way air ticket to India Rs.20,000/-

It is apparent that the deviation of the vessel imposes the maximum opportunity costs in the vessel. The logistics cost has a lower bearing on the decision.

In both of above cases, the trip is two way exchange of crew and supplying provisions to the vessel.

Annexure I Notification Kerala VAT Bunkers

KERALA GAZETTE
EXTRAORDINARY
PUBLISHED BY AUTHORITY
Vol.LV Thiruvananthapuram, 19th November, 2010 No.2597
GOVERNMENT OF KERALA
Taxes (B) Department

G.O.(P) No.269/2010/TD. *Dated, Thiruvananthapuram, 19th November, 2010*
S.R.O.No.1064/2010.— In exercise of the powers conferred by Section 92 of the Kerala
Value Added Tax Act, 2003 (30 of 2004), the Government of Kerala hereby make the following rules further to amend the Kerala Value Added Tax Rules, 2005 issued by notification under G.O.(P) No.42/2005/TD dated 31st March, 2005 and published as S.R.O.No.315/2005 in the Kerala Gazette Extraordinary No.675 dated 31st March, 2005, namely:--

Rules
1. *Short title and commencement.*— (1) These rules may be called the Kerala Value Added Tax (Fourth Amendment) Rule, 2010.

"FORM No.47
[See sub-rule (4) of rule 12C]
DECLARATION AND UNDERTAKING
[For concessional rate of tax on sale of fuel and lubricants to foreign going vessels other than fishing vessels under-sixth proviso to sub-section (1) of section 6.]

Explanatory Note

(This does not form part of the notification, but is intended to indicate its general purpose.)

Government have decided to operationalise the concessional rate of tax on sale of fuel and lubricants to foreign going vessels other than fishing vessels granted to bunker fuels by providing adequate statutory safeguards. The Petroleum Companies have represented pointing out the practical difficulty in the existing procedure for obtaining declaration from foreign going vessels. The administrative instructions regarding the extension of dates of compounding under section 8, renewal of registration, filing of returns under the Kerala Value Added Tax Act has to be given statutory validity. The Government have examined these matters also and decided to amend the Kerala Value Added Tax Rule, 2005, suitably. The notification is intended to achieve the above object.

Annexure II Typical provision supply to a vessel

Sl.No.	Particulars	Qty	Rate	Amount
1	Cauliflower	60	44.00	2640
2	Lauki[Bottle Guard]	20	13.00	260
3	Green Chilly	5	23.00	115
4	Brinjal	20	23.00	460
5	Cabbage	30	17.00	510
6	Capsicum	15	56.00	840
7	Carrot	30	30.00	900
8	Coriander Leaf	5	42.00	210
9	Cucumber	30	20.00	600
10	Curry Leaf	1	26.00	26
11	Ginger Root	4	47.00	188
12	Long Beans	15	42.00	630
13	Onion Dry	150	16.00	2400
14	Potato	100	23.00	2300
15	Drumstick	5	40.00	200
16	Lady Finger	20	42.00	840
17	Tomato	60	24.00	1440
18	Lemon	10	105.00	1050
19	Raddish White	20	26.00	520
20	Chicken Frozen	130	182.00	23660
21	Fish Fresh Mackrell	20	170.00	3400
22	Apple Fuji	40	133.00	5320
23	Sweet Melon	20	62.00	1240
24	Banana	20	42.00	840
25	Turai	10	34.00	340

26	Orange Imported	30	89.00	2670
27	Water Melon	50	21.00	1050
28	Ice Cream 100 ML Cup	162	12.00	1944
29	Cornetto Ice Cream	156	25.00	3900
				60493

Annexure III Tamp Land lease policy for major ports

(iv). For lands at South End Reclamation, Fort Cochin, Ernakulam Foreshore and at Palluruthy lease $rentals have not been fixed. Based on the average registered price available for commercial activity at Palluruthy for the years 2003 to 2005, a rate of Rs.13, 66,068 per hectare per annum has been proposed for the lands at South End Reclamation. Considering the average registered price for the years 2003-2005, the per annum per hectare rates of Rs.18,27,305 and Rs.13,66,068 have been proposed for the lands at Fort Cochin and Palluruthy respectively. Stating that the lease rent, if calculated based on the market value, would be very much on the higher side, rental for lands at Ernakulam Foreshore has been proposed at Rs. 45,36,756 per hectare.

Bibliography

Growth of Cochin port data source www.cochinport.com [2]

Supplies and crew change by helicopter photo http://www.chrs.org.au [3]

*******END*******

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