

PORT DEVELOPMENT IN SRI LANKA

Opening New Horizons with Age - Old Traditions

INTRODUCTION

Sri Lanka, located in the middle of the Indian ocean and to the south of the Indian peninsula, has been the favourite port of call for the ancient mariner sailing from West to East and vice versa. Fleets of Chinese ships carrying silk and ceramic ware to trading posts on the East African coasts and the Arabian craft taking spices to European markets, invariably called the ports of Sri Lanka as it was half way in the long and arduous voyage. Centuries have gone by but the geographical importance of Sri Lanka, especially for maritime trade, has not changed.

The Emerald Isle maintains the strategic advantage as it is located in close proximity to the shipping lane linking the East and the West and the East Coast of Africa, the rim of countries in the Indian Ocean and Australia. Colombo, for a period spanning 120 years, had been the main port of call handling almost all commercial cargo for the island nation. In addition there are four other regional ports in Galle, Trincomalee, Kankasanturai and Point Pedro.

Today, a major expansion project is underway in the Port of Colombo, which, once completed, will be a state-of-the-art maritime facility meeting all requirements in the shipping trade. Development work at Port of Galle too is progressing and two brand new ports are under construction - Port of Hambantota and Port of Oluvil.

Port of Galle in the south of the country, functioned as the main port of entry to the island until the Colombo development commenced in 1875. Trincomalee Port, situated on the East Coast, is a deep water natural harbour which has had little commercial impact owing to the deviation from major shipping routes. Kankasanturai Port was developed as a facility for Kankasanturai Cement Factory. It was later handed over to the Sri Lanka Ports Authority.



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PORT OF COLOMBO

The Port of Colombo has three breakwaters and completed during the period 1875 to 1912. Thereafter, major development schemes were undertaken over the years and finally the first container terminal was built on the Queen Elizabeth Quay (QEQ) and completed in 1980. Around 200 TEUs were handled in the port in 1973 and this volume rose to 57,800 TEUs in 1981 with about 15 percent transshipment. The Colombo Port container handling gradually increased and to cope with the growing demand for container traffic, a new terminal, the Jaya Container Terminal I, II, III, & IV was constructed during 1983 to 1997.

After the completion of Jaya Container Terminal, a proposal was made by South Asia Gateway Terminals (SAGT) Ltd. to develop QEQ (Queen Elizabeth Quay) on BOT terms. Accordingly, after signing the concession agreement, QEQ was handed over to SAGT in 1999 to develop a fully-fledged container terminal.

Meanwhile, the North Pier, used as an oil handling facility, became vacant. It was widened and converted into a feeder container terminal in 2002 and named the Unity Container Terminal (UCT).

With the construction of the terminals JCT, SAGT and UCT, the number of containers handled in 2008 recorded 1.75 million TEUs, 0.2 million TEUs and 1.72 million TEUs respectively. The above figures show the improvement gained in world rankings since 1983.

It was soon realized that the existing basin, designed more than 130 years ago, could not be developed to cater to the future Mega Container Ships and the terminal space was also not sufficient. Accordingly, it was decided to construct another new port adjacent to the existing port.

COLOMBO PORT EXPANSION PROJECT

The Government of Sri Lanka, to cater to the increasing demands of services in the international shipping industry, decided to expand the Port of Colombo. After a very comprehensive study of the Port of Colombo, it was identified to develop the southern part of the existing port area.

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The expansion project is a timely need to meet the future demand of the container transshipment and to accommodate Mega Container Carriers. This massive development endeavour is called the Colombo Port Expansion Project and it comes under two stages.

I. Construction of 6.83km length breakwater, dredging a new harbour basin and the navigation channel (Harbour Infrastructure work):

The construction of the harbour infrastructure commenced in April 2008 and is scheduled to be completed in April 2012. Further expansion is also possible according to the situation and accordingly, the breakwater can be further extended and it is also shown in the Master Plan.

II. Construction of terminals and other related services:

Three container terminals, each with 2.4 million TEU capacity, are planned to be established within the sheltered water area. Each terminal will have a 57 ha. of yard area. The infrastructure facilities to the container terminals such as road access, passage to obtain services, etc., will be provided by the Sri Lanka Ports Authority. The South Container Terminal is planned to be constructed initially under BOT terms and expected to be ready by the time of the completion of harbour infrastructure works.

HARBOUR INFRASTRUCTURE WORKS

The key elements of the ongoing harbour infrastructure project are breakwater construction and dredging. The cost of the project is US\$ 345 million and the Asian Development Bank (ADB) is funding 85 percent of the project cost. The details of the items are as follows: -

- a. Approximate length of Breakwaters:
 - i. Main breakwater 5,140 m
 - ii. Secondary breakwater 1,090 m
- b. Extent of the harbour basin: 285 ha
- c. Draught of the harbour basin: 18 m
- d. Length of the approach channel: 9 km
- e. Width of the approach channel: 570 m
- f. Draught of the access channel: 20 m
- g. Small Craft Harbour for the services with accommodation to the tug operators
- h. Navigational Aid
- i. Control Tower and Pilot Station
- j. Replacement and deepening of 36" crude oil pipe line across the main channel in order to cater to large vessels of higher draught.

PRESENT PROGRESS OF THE PROJECT

I. The breakwater has reached up to 2,000 Km and replacement and deepening of 10 km long existing crude oil pipe line is in progress. The access road to the project site is also under construction and the site is ready to be handed over to a selected developer of the South Container Terminal under Build, Operate and Transfer (BOT) terms.

II. The Expression of Interest has been called to select a terminal operator and negotiations are in progress with a possible terminal operator to finalize the package. The terminal construction is also expected to commence soon and complete at the time of the completion of the breakwater in April 2012.

FUTURE PLANS FOR THE PORT OF COLOMBO

The existing Port of Colombo is expected to reach its full capacity of 4.5 million TEUs with the available port facilities in 2012. Replacement of old container handling

Ongoing constructions at Colombo Port Expansion Project



equipment, providing additional yard space for domestic container handling improving and converting an existing jetty and yard for feeder vessels operation, increasing productivity, are the main strategies which are planned to each the capacity of 4.5 million TEUs in the present Port of Colombo.

The South Container Terminal is planned to commence operations in 2012 with a capacity of 2.4 million TEUs. Accordingly the existing port capacity of 4.5 million TEUs and New South Container Terminal capacity of 2.5 million TEUs will become a total of 6.9 million TEUs. As the expected demand forecast in year 2015 is 6.25 million, it could be easily met without any congestion. In year 2020 the forecast demand is 10.6 million TEUs. The West and East container terminals will be developed to meet this demand. The West

Container Terminal is planned to be developed under BOT terms and East Container Terminal will be developed by the Sri Lanka Ports Authority.

HAMBANTOTA PORT DEVELOPMENT PROJECT

In the medium and long term, Sri Lanka needs a new port to cope with the ever increasing volumes of port traffic, and based on past analysis of financial, economic, geological, environmental viability and financial sustainability, Hambantota has been identified as the most suitable location for a new port.

The upcoming Port of Hambantota is located at 6°07' North and 81°06' East facing the southern ocean, with direct access to the main international shipping routes, linking Asia Pacific region with Europe and North America.

Furthermore, the short transit time to India, Africa and Upper Gulf creates an opportunity to access the expanding markets of the Indian subcontinent Hambantota is planned as a Multipurpose, Industrial and a Service Port. The design provides facilities for transshipment, value addition business, storage and distribution in the international transportation network, among other port facilities.

As the Port of Colombo Expansion Project is also in full swing targeting to cater container transshipment, the Hambantota is basically aiming for a Services and Industrial Port in Phase I construction. But in future demand for container handling, which Colombo cannot cater to, the final phases of the Hambantota Port Project will cater to this need on a much bigger scale.

The entire project is planned for





implementation with a few stages of construction and Phase I of the Master Plan commencing on 15th January in 2008 and contractual completion date is 15th April 2011. As the contractor is ahead of construction schedule, there is a good possibility of commencing the commercial operation of the Phase I of the port before end 2010.

After completion of Phase I of the project, 100,000 DWT ships could be easily berthed. The unique feature of the Port is that the whole port is constructed inland by excavating towards the land. Dredging is necessary only for the approach channel with shorter breakwaters.

PROJECT FEATURES OF PHASE I:

- Project Duration - 39 months
- Commencement Date - 15th January 2008
- Project Cost - US \$ 361 million
- Design Vessel Size - 100,000 DWT
- Breakwater Lengths - West Breakwater 920m East Breakwater 310m
- Approach Channel - 210m width at 16m depth
- Service vessel Berth - 105m long
- Oil Terminal Berth - 310m long at 16m depth
- Quay wall (General Cargo) - 600m long at 17m depth
- Administrative complex - 14 Stories with 10,400 m² floor area

PRESENT PROGRESS OF THE PROJECT

At the end of February 2010, the total physical progress of the Project Phase I was nearly 67 per cent. A coffer dam was constructed demarcating

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the Phase I area and the whole area of the lagoon was de watered. Excavation commenced thereafter and almost nearly 9 million m³ of soil have to be removed by excavating.

To construct the breakwater, tetra pods (Chinese call these Chinese Pods) of varying the sizes of 8t, 12t, 18t, 21t, 27t & 30t, were needed, 11,500 in total. Constructing of these units are

now complete and placing is in progress.

East Breakwater (310 m) has already been completed and of the West Breakwater (920m) 75 per cent is complete. The shorter breakwaters reduces the cost of construction of the Port. As the harbour basin is inland and as the deeper contours are in the vicinity of the shoreline, it also reduces the cost of entrance channel. Compared to the Colombo Port Expansion Project, where the total breakwater length is nearly 6 km, in Hambantota, it is not more than 1.3 km. The approach channel of Hambantota is 1.1 km but in Colombo, it is 9 km. Instead of dredging the harbour basin as done in Colombo, in Hambantota it is being excavated in dry conditions. Those are the main factors in reducing the project cost in Hambantota. Quay construction has almost been completed comprising 310 m length services berth, 600 m length main quay and 310 m length oil berth. Except for the fixing of fittings and providing





services, the concrete work of the quays has been completed. These quays are also being constructed in dry conditions.

PROPOSAL OF PHASE II

The feasibility study of the Phase II has been done and accordingly two alternatives were considered. Finally, the most economical alternative was selected and it is also categorized as Step I and Step II. In the Step I development, it may have approximately 840 m berth length and 778,00 m² backup land area. In this proposal 460m long feeder berth, ship yard, underwater tunnel across the approach channel connecting old main highway, Flyover Bridge within the port internal roads, are the main features of the Phase II step I proposal.

In the Step II of the Phase II proposal it has another 840 m length berth and 837,000 m² back up yard.

Possibilities of getting the harbour basin to -18 m of Phase II area and accordingly approach channel expansion are also under consideration.

Funding of the Phase II is under discussion

and if everything is on the right track, there is a possibility of commencing the Phase II construction by end of 2010.

FUTURE PLANS FOR HAMBANTOTA PORT

According to the Master Plan of Hambantota Port, berthing capacity will be 33 large ships and total quay length of around 10 km. To cope with the traffic congestion, it has been planned to widen the approach channel for two-way traffic in future.

According to the forecast demand, in the year 2020, container demand for Colombo will be 10.6 million TEUs and it may be maximum capacity in Colombo. By that time Hambantota will be ready to cater to the container demand to take over the excess of Colombo. Hence part of the Phase I and Phase II will be aiming at the container traffic and accordingly, in the long run, Hambantota Port will become a Container Port in addition to Industrial and Service Port.

This Port has another specific feature other than building in dry conditions, which has more

than 1500 ha of land reserved at the very beginning of the Project. Hence no more land acquisition will be needed and no reclamation is necessary for future expansion of the Port. With the development of the sea port, the Government of Sri Lanka has taken action to develop Hambantota City in a very large scale, with the objective of making it the second capital of the country. Using the excavated material of the port, it has been planned to make an artificial island in close proximity of the port to improve tourism industry. Land has been reserved to develop 6-lane roads to ease future traffic congestion due to operational work of the port.

In addition, extending the Southern Highway crossing Hambantota Railway Line, Inner and Outer Circular roads are also on the drawing boards of Mega Hambantota Development Plan. An Internal Air Port and an International Cricket Stadium are among the other major constructions which have already commenced and are in progress now.

PORT OF GALLE

Galle was the Port of Call during the 1800s when ships were anchored in mid-stream berths and cargo was loaded and unloaded using small boats utilizing basic port facilities at the Galle Fort end of the bay. The late 1960's saw the development of two alongside berths at Clossenburg with ancillary infrastructure. An additional pier was constructed between the alongside berths of the commercial port and fishery harbour at the turn of millennium.

A Master Plan for the development of Port of Galle was undertaken in 1990 to develop the entire Galle bay with a three berth container harbour. Several efforts had been taken since to develop the Port of Galle even on BOT terms. But none of the efforts could get off ground. Even the latest effort to develop the Port of Galle as a Regional Port also does not seem to be realistic as the lowest bidder price was almost





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double the engineers' estimates.

In the meantime, a decision was taken to develop Hambantota as a Mega Port, which offered key advantages such as: Deeper Contours close to the shore; Closest Point to Main Shipping Line; Construction in lagoon in dry conditions; Availability of Land; Less Developed area; Low contribution to GDP; etc. Hence the viability of developing the Port of Galle, which is in between Colombo and Hambantota, was questioned in many quarters.

As such, considering the heritage value of Galle, it was decided by the present government to develop the Port of Galle as a Tourism Port. As the city of Galle is gifted with remarkable records of history with many tourist attractions such as archaeological artifacts, clear sand coastal beds, pure blue ocean, Colossal Dutch Fortress, etc., Galle is the best Port in the island to develop as a Tourism Port.

The Galle Port is the only Sri Lankan

harbour that provides facilities for pleasure yachts. The average yacht arrival for the past three years was around 100. The International Yacht Society has recognized the Galle Port as one of the world's best Ports. This recognition came mainly due to the location advantage other than the facilities provided to cruise vessels and yachts. To grasp the natural geological location and remarkable historic significance of Galle, it was decided to provide fully fledged facilities to Yacht Berthing. Considering the costs that have to be borne, it has been decided to develop the Yacht Marina in several phases.

PROPOSAL OF PHASE I

In the Phase I of Yacht Marina, it has been decided to provide initial essential facilities. At present there are no elaborate services dedicated for yachts in the Galle Port. Despite this major drawback, the Port of Galle still attracts a considerable yacht traffic. With the

construction of Phase I, an alluring atmosphere will be created to market Port of Galle as a popular port of call for yacht. The proposed facilities provided in Phase I are:

- a. Safe and adequate berthing facilities for 50 yachts at a time
- b. Services and repair facility with a workshop
- c. Duty free facility
- d. Club house for entertainment
- e. Toilets, showers and launderette facilities
- f. Dedicated Zone for the Yacht Community with Information Center

Preliminary work for construction has



already been commenced and the estimated cost for the above-mentioned facilities is around US\$ 1 million. It is planned to provide maximum facilities mentioned earlier within this year (2010).

PROPOSAL OF PHASE II

In Phase II, berthing of passenger ships will be provided with the improvement of access channel, construction of a new pier with berthing draught of at least 9m. The partly completed Yacht Marina developed in Phase I will be extended to accommodate 30 more yachts with yacht lifting facilities. An area will be developed for dry berthing of yachts and as a car park. This Phase II development will cost around US \$ 29 million and is planned to commence with the success in Phase I.

OLUVIL PORT DEVELOPMENT PROJECT

The South Eastern Region of Sri Lanka is comparatively less developed compared to the other regions mainly due to lack of infrastructure facilities. The Government of Sri Lanka, in its plans to give impetus to economic development in this area, has decided to build a brand new port at a site in Oluvil.

Coastal shipping in Sri Lanka is an integral

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part of our country. Our harbours abound with promise for economic growth by unfolding a whole array of opportunities.

This port will form the south-eastern link in the developing chain of coastal harbours in the country and will provide more convenient and cost effective access to and from the south-eastern region for goods and cargo originating on the west coast. The new port will cater to general cargo vessels required to supply the current needs of the area, including coastal passenger transport, with provision for expansion into a bigger harbour in the future.

The harbour will also cater to the requirements of the current and projected

fishing activities and its shore-based services and industries with the shore-based modern facilities for the fishing vessels to avoid constraints faced by the fishing community in the region. It will also encourage the development of a mechanized fishing fleet in the east coast where fish-related resources have been only partially explored. Moreover, the port will attract the investors to set up Port & Fishery related industries which will generate more employment opportunities for the people in the region. Hence the benefits from the project would certainly reach all seaborne industries of the region, thereby helping to boost employment opportunities in local and foreign countries through the exposure that would be gained with the opening to the world shipping and to uplift the standards of living of the people. Its impact is also bound to impress upon the national shipping industry as a whole.

The Oluvil Port Development Plan comprises the construction of a commercial port and a basin for fishing craft. The port will be located at Oluvil on the East coast of Sri Lanka, approximately 370km from Colombo. The location of the harbour covers a land area of 60ha. in the first stage and 105ha in the final stage. The harbour basin would cover an area of 16ha of the sea and it would spread 1.2 km along the coastline.

PROJECT FEATURES OF PHASE I:

Project Duration - 27 months
Commencement Date - 01st July 2008
Project Cost - Euro 46 million
Breakwater Lengths - Northern
Breakwater 475 m
Southern Breakwater 740m

Commercial Harbour

Design Vessel Size - 5,000 DWT
Berth Length - 300 m
Depth of the Basin - 8m depth
Total Water Area - 10 ha
Other Facilities - Pilot Station,
Prefabricated Warehouse,
Administration Building and
infrastructure facilities

Fishery Harbour

Small Craft Basin Depth - 3 m
Quay wall (small crafts) - 220 m
Total Water Area - 06 ha
Other Facilities - Ice Plant & Cold
Storage Facilities, Fish
Auction Halls, Refrigerated storage, Net
Mending facilities & Administration
Building and infrastructure facilities

PRESENT PROGRESS OF THE PROJECT

Permanent Buildings, access road and internal road constructions in Commercial & Fishery Harbour areas are in progress. Sheet piling and quay wall constructions at Fishery Harbour have been completed and quay wall constructions, sheet piling works are in progress at Commercial Harbour.

Land development works are in progress. Land/Marine dredging works of Fishery & Commercial Harbour and beach nourishment in northern side are in progress. Construction of southern & northern breakwaters, internal

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groin and rivetments are in progress and average 55 per cent of works have been completed.

Total quantity of 500,000 T. stones have been produced at quarry and transported to Olivil Project site.

Construction of Ice Plant has commenced.

EXPECTED ACHIEVEMENTS

The South Eastern Region comprising the districts of Ampara, Batticaloa and Moneragala are comparatively less developed compared to the other Western Regions due to less developed facilities, mainly the poor highway access and the absence of essential infrastructure facilities. Olivil Port

Development Project will no doubt be an economic and infrastructure catalyst for the growth of the Eastern Region of Sri Lanka. In addition, the port would also help create about 1,000 employment opportunities in 2010 and about 10,000 direct and indirect employment opportunities by 2015. People in the region will also be benefited by the introduction of industries such as cement, sugar, fertilizer and fisheries related industries in the Olivil Port premises, and also by providing a value added market for the regional industries in the East.

PORT OF TRINCOMALEE

Trincomalee is a natural asset possessing the enviable capability of many economic resources including port activity, tourism, agriculture and industries including heavy industries benefiting from the waterfront location. Trincomalee, despite being one of the largest deep water natural harbours in the world, has not been able to derive maximum benefits, both economically and socially, due to drawbacks in security aspects that had lasted for nearly three decades. However even within the said period, development activities such as wheat in-bulk and cement handling industries and piers operated by the private sector went ahead. Meanwhile, in 2001, a 13 m deep 257 m. long alongside berth was constructed with SLPA's own funds. The Master Plan for land use has already been identified and ready in the near future. Sufficient infrastructure is ready for business opportunities such as new logistics development, port related industries, separate industrial zone, ship repair & ship building facilities, tourism related activities, etc. With the availability of ample land, infrastructure such as 13m draught alongside berth, when proposals for business ventures are called on BOT terms, based on Lease of Land, Equity Share, and Royalty, a large number of bidders is expected. ■

