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PERSPECTIVE PLANS FOR MAJOR PORTS.

1. INTRODUCTION

The national economic development of India requires a well functioning seaport system. In order to realize the economic growth potential, the attention needs to be given to development and modernization of economic infrastructure. To become globally competitive, utmost importance must be given for development of infrastructure in sectors like roads, airports, seaports, railways etc. in general and port sector in particular as the ports play the vital role in the overall economic development of the country. There has been sustained rise in volume of exports with revival of growth in the manufacturing sector and improved export competitiveness. About 95% by volume and 70% by value of the country's international trade is carried on through the maritime transport. There are 12 Major Ports, six each on the West and the East coast and about 200 minor ports along a coast line of over 7000 KMs.

The total volume of traffic handled by all the Indian Ports during 2006-07 was 649.90 million tonnes, of which 463.78 million tonnes i.e. around 71% was handled by Major Ports and remaining 186.12 million tonnes by the non Major Ports. During 2007-08 the total traffic was 739.16 million tonnes out of which 519.16 million tonnes (70%) were handled by Major Ports.

The Committee on Infrastructure in its meeting held on 12.5.2005 *inter-alia* decided that all Major Ports should prepare Perspective Plans with the help of international experts. The draft Terms of Reference were discussed and finalized in the Inter Ministerial Group constituted under the Secretary (Shipping) with participation from Planning Commission and Ministries of Finance and Law.

The overall goal of the development of Perspective Plans for Major Ports was:

“To transform Indian Ports into world class facilities suited to the requirement of the future economy of India”.

2. PORTS CONSULTANTS

Subsequently each of the Major Port engaged consortia of international and national Consultants to :

1. Prepare Perspective Plan of the Port that can be implemented without any government financial support;
2. Install a process for monitoring and reporting progress in achieving results;
3. Provide the capability to update the Plan annually to reflect changing circumstances.

The details of Consultants appointed by the Major Ports are given below:-

	Names of Ports	Names of Consultants
1.	Kandla	M/s KPMG, Meyrick Associates and Sai Techno Consultants.
2.	Mumbai	-do-
3.	Jawaharlal Nehru	-do-
4.	Mormugao	M/s Halcrow Consulting & Ernst Young
5.	New Mangalore	M/s Rotterdam Maritime Group & Tata Consultancy Services.
6.	Visakhapatnam	-do-
7.	Cochin	M/s Transcare Logistics & Pharas B.V.
8.	Tuticorin	-do-
9.	Paradip	-do-
10.	Chennai	M/s Deloitte Touche
11	Ennore	M/s Hamburg Port Consultancy & Consulting Engineering Services
12.	Kolkata	M/s Royal Haskoning & CRISIL

3. SCOPE OF WORK OF CONSULTANTS

The scope of work of Consultants was to develop a Perspective Plan that:

- States a long term vision for the Port that builds on its core strength;
- Establishes the goals to be achieved over the next seven years to satisfy this vision;
- Describes the strategy to be followed to achieve these goals;
- Provides a detailed plan of action to implement the strategy;
- Identifies sources of financing for all proposed investments.

The role of Consultants was to:

- Provide a fresh look on port development;
- Compare with international bench marks;
- Provide an independent validation of Perspective Plan;
- Involve counterpart personnel and transfer knowledge.

The Perspective Plan was to include

- A long term vision for the Ports;
- The goals to be achieved over the next 7 years;
- The strategy to achieve these goals;
- A detailed Plan of action;
- Financial projections;
- A foundation for an annual planning process (the financial model)

4. APPOINTMENT OF ADVISOR

The Indian Ports Association (IPA) appointed the Port of Rotterdam Authority as Advisor to co-ordinate the preparation of Perspective Plans for Major Ports.

5. SCOPE OF WORK OF ADVISOR

The Advisor was to coordinate the work performed by the Consultants engaged to develop Perspective Plans of each of the twelve Major Ports, including:

- Assist Ports in developing shortlist of Consultants
- Briefing Ports on approach and planning of the project
- Review of Reports of Consultants and participation in presentations
- Ensure involvement of counterpart personnel of Ports
- Prepare a Consolidated Port Development Plan

- Organize a seminar to present and discuss main conclusions and recommendations of the Consolidated Port Development Plan.

6. PHASES INVOLVED

6.1 The Consultants were required to submit the following Reports:

- * Inception Reports
- * Interim Reports
- * Draft Final Reports
- * Final Reports

6.2 The Advisor was required to review the Inception Reports, review and participate in presentation of Interim Reports, Draft Final Reports and Final Reports. The Advisor was to confirm that each Consultant has completed the scope of work. There were interactions between the Ports, Consultants, Advisor and IPA during these phases.

7. SUBMISSION OF FINAL REPORTS

The Consultants engaged by the Ports submitted the Final Reports in Feb. and March, 2007. A Seminar was organized in Delhi on 04.04.2007 in which the Advisor presented the main conclusions and recommendations of the Consolidated Port Development Plan. The Advisor prepared the Consolidated Port Development Plan based on the Perspective plans prepared by the Consultants of Major Ports. The Advisor has subsequently submitted the Consolidated Port Development Plan.

8. AGGREGATED SCENARIO

8.1 SWOT ANALYSIS

According to the Consolidated Port Development Plan the SWOT Analysis for Major Ports was as given below:

Strengths

- High growth
- High market Share
- Financial means available
- Some Ports located in strategic location

Weaknesses

- Old infrastructure

- Low drafts
- Old and inefficient cargo handling systems
- Poor hinterland connections
- Rigid institutional frame work
- High tariffs
- Poor quality of services / business attitude
- Overstaffing
- Lack of capacity
- Lack of extension possibilities

Opportunities

- Introduce competition
- Huge Indian markets, and land locked countries in the North
- Improve organization: training, IT, downsizing
- Port reform – more autonomy
- PPP other than BOT
- Invest in infrastructure, lower cost for port users
- Invest in total transport chain

Threats

- Private Ports
- Minor Ports
- Bureaucracy
- Time

8.2 COMPETITION

The Advisor made a comparison between the Indian Ports in general and the Northwest European Ports. In India there are 12 Major Ports in the Kandla-Kolkata range, over a coastline of about 7,000 KMs, while the Northwest European so called H-H range (Hamburg-Le Havre) covers 11 Major Ports over a coastline of about 1,000 KMs.

The Comparison is given below:

	KK-range (Kandla-Kolkata)	HH-range (Hamburg-Le Havre)
Coastline	7,000 km	1,000 km
Number of Major Ports	12	11
Cargo handled in 2006	420 M tonnes	1,020 M tonnes
Hinterland - population	1,100 million	200 million
Competition	Limited	Strong
Port Management	Public service ports with private terminals	Mostly landlord
Role of the private sector	Weak	Strong
Cargo handling equipment	Mostly outdated	Modern
Port infrastructure	(almost) at capacity	Spare capacity available
Marine services	Public, mostly old equipment	Mostly private
Hinterland connections	Road and rail, insufficient supply	Road, rail, IWT and pipeline, fierce competition
Industrial port clusters	Absent	Several (e.g. Rotterdam, Antwerp)
Logistic clusters	Coming up (SEZ's)	Available, also within the ports

Worldwide, the trends with respect to port infrastructure are:

- Port development takes place in deeper water due to the trend of larger vessels applied;
- Economy of scale is applied with the focus to decrease the costs per unit, which lead to larger projects;
- Industrial clusters are established to obtain synergy and achieve more efficiency;
- Logistic clusters are established in or near ports, also to achieve more efficiency;
- The role of the private sector is increasing.

8.3 CARGO FORECAST

The Consultants prepared Final Reports including cargo forecasts for the individual ports. The horizon of the cargo forecasts are the reference years 2025-26.

The methods of determining the cargo forecasts in the Final Reports have basically taken into account the following main factors:

- Historic and actual throughputs in terms of types and volumes of commodities;
- Growth of Gross Domestic Products of India and the region;
- Particular developments in the hinterland of ports.

Based on these factors the potential forecast of a region or a port was assessed.

In order to realize the potential forecasts possible limitations of the individual ports were assessed. These limitations can be of different nature.

- Physical limitations;
- Institutional limitations;
- Competition.

Examples of physical limitations are limited water depth, shortage of space, poor hinterland connections, environmental restrictions, surrounding urban areas. An example of institutional limitation is the possible restriction set by the Government of India on the exports of the highly demanded iron ore for the benefit of the steel producing industries in India. With the strong growth of the economy and of the potential forecast, it is logical that competition is introduced. Existing and / or new minor (state) and or private ports will be developed aiming at the same sources of cargoes and aiming at serving the Indian producers and consumers.

In these considerations, captive markets have been defined as those market segments of goods more or less forced to use the port for their supply chain of goods. The captive market determines the catchment area within which cargo will be routed via the port in general without hesitation.

The expected traffic scenarios for the individual ports are generated by the various Consultants taking into account these considerations to various levels.

According to the Consolidated Port Development plan the total traffic in Major Ports is projected to be 510.47 million tonnes, 739.41 million tonnes and 1595.07 million tonnes in 2007-08, 2011-12 and 2025-26 respectively.

The commodity-wise traffic projections are given below:

Traffic Forecast for Major Ports.

Commodity	2007-08	2011-12	(in million tonnes)
			2025-26
POL	160.66	216.51	335.95
Iron ore	95.64	108.97	139.52
Coal	74.49	126.68	189.61
Containers	83.88	161.38	679.97
Fertilizers	15.34	19.76	37.20
Other Cargo	80.46	106.11	212.82
Total	510.47	739.41	1595.07

Against the forecast of 510.47 million tonnes for the year 2007-08, Indian Major Ports actually achieved 519.16 million tonnes.

8.4 PROPOSED PROJECTS

The Consultants identified projects to be executed through internal resources and by private participation to meet the increase in traffic. The details of planned investments are detailed below:

Investments in Fixed Assets in Major Ports

(Rs. in Crores)

Year	Internal Resources		Private Sector		Total	
	Amount	%	Amount	%	Amount	%
2007-08	2380	15	5220	20	7600	18
2008-09	3723	23	4558	17	8281	20
2009-10	3611	22	9460	36	13071	31
2010-11	2699	17	4655	18	7354	17
2011-12	2068	13	742	3	2810	7
2012-13	1007	6	886	3	1893	4
2013-14	571	4	636	3	1207	3
Total	16059	100	26157	100	42216	100

8.5 FINANCIAL PERFORMANCE

An extract of projected financial performance for the 7 year period is given below:
Projected profit and loss of 12 Major Ports in Rs. Crores

Projected profit and loss account	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
Operating revenue	5,446	6,246	6,775	7,589	8,108	8,747	9,375
Operating costs	3,729	3,975	3,761	4,047	4,121	4,209	4,441
Operating margin	1,717	2,270	3,014	3,542	3,987	4,537	4,934
Other income	949	1,006	1,060	1,130	1,237	1,406	1,544
Depreciation	-369	-437	-546	-593	-629	-692	-699
Interest	-169	-220	-274	-262	-297	-348	-308
Profit before tax	2,129	2,619	3,255	3,817	4,297	4,904	5,470
Tax	-635	-747	-983	-1,084	-1,186	-1,362	-1,520
Profit after tax	1,494	1,872	2,272	2,733	3,112	3,542	3,950

8.6 FINANCIAL SITUATION

The projected financial situation for the 12 Major Ports for the period from 2007-08 to 2013-14 is given in the table below:

(Rs. in Crores)

	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
Assets							
Fixed assets	9,849	13,095	16,227	18,196	19,563	19,850	19,805
Investments	11,097	10,791	10,897	11,593	12,768	14,780	17,085
Current assets	5,415	5,783	5,787	6,162	6,458	6,840	7,256
Liquid means	3,587	3,485	3,576	3,806	4,404	5,250	6,623

Total assets	29,948	33,154	36,487	39,757	43,193	46,720	50,769
Equity and liabilities							
Equity	1,473	1,843	2,155	2,424	2,624	2,699	2,704
Reserves	17,808	19,752	22,129	24,755	27,878	31,456	35,529
Total own Equity	19,281	21,595	24,283	27,178	30,502	34,155	38,233
Provisions	2,522	2,667	2,717	2,766	2,933	3,108	3,267
Long term loans	2,278	2,848	3,364	3,538	3,432	2,956	2,605
Short term liabilities	5,868	6,044	6,123	6,275	6,326	6,501	6,664
Total equity and liabilities	29,948	33,154	36,487	39,758	43,194	46,720	50,769

8.7 FINANCIAL STRATEGIES

The financial strategies suggested by the Advisor is as follows:-

- Decrease the tariffs in order to improve the competitive position and to benefit the port users;
- Decrease the revenue share in BOT contracts in order to attract terminal operators;
- Invest in port infrastructure according to the landlord port model, in order to decrease the investment costs for port operators, therewith making the port attractive for additional operators as well (increase of competition). Terminal handling charges could then also be lowered, which is beneficial to the port users;
- Define and implement additional projects, especially in the period 2012-14.

8.8 A detailed Master Plan of Major Ports of India upto the year 2025-06 and Action Plan for each Port upto the year 2011-12 are Annexed vide Appendix I.

9. The salient features of Perspective Plan of each of the Major Port are described below:-

Kandla Port Trust

1) **Mission and Vision**

Kandla Port will emerge as a vibrant, world class, multi cargo port offering services at multiple locations and having a dominant share of regional cargo by virtue of its ability to effectively leverage its locations and land resources for facilitating growth of economic activities and investments, with the objective of developing mutually beneficial and sustainable linkages with port based industries and users, thereby making Kandla the driver of economic growth in the region

2) The SWOT analysis of the port is given below:

Strengths	Weaknesses
<ul style="list-style-type: none"> • Strategic location; 	<ul style="list-style-type: none"> ▪ Lack of mechanization;
<ul style="list-style-type: none"> • Hinterland; 	<ul style="list-style-type: none"> ▪ Restrictions arising from limited draft;
<ul style="list-style-type: none"> • Land availability; 	<ul style="list-style-type: none"> ▪ Sub-optimal utilization of space around the port;
<ul style="list-style-type: none"> • Ability to handle multiple types of cargo; 	<ul style="list-style-type: none"> ▪ Shortage of staff
<ul style="list-style-type: none"> • Cost effective; 	<ul style="list-style-type: none"> ▪ Lack of infrastructure to attract containers;
<ul style="list-style-type: none"> • Financial position 	<ul style="list-style-type: none"> ▪ Customer services
	<ul style="list-style-type: none"> ▪ IT connectivity;
	<ul style="list-style-type: none"> ▪ Constraints in night navigation;
	<ul style="list-style-type: none"> ▪ Storage area management;
	<ul style="list-style-type: none"> ▪ Lack of uniformity in operational efficiencies;
	<ul style="list-style-type: none"> ▪ Procedural delays.
Opportunities	Threats
<ul style="list-style-type: none"> ▪ New Cargo like Ro-Ro and LNG; 	<ul style="list-style-type: none"> ▪ Increasing competition from Gujarat Maritime Board ports;
<ul style="list-style-type: none"> ▪ Revenue potential; 	<ul style="list-style-type: none"> ▪ The presence of international players in

	Gujarat Maritime Board ports;
▪ Sustainability of revenues;	▪ The upcoming private ports.
▪ Resources allocated;	
▪ Growth Potential.	

3) **Cargo forecast**

As per the Perspective Plan the cargo forecast for Kandla Port is 70.63 Million Tonnes in 2007-2008 this is expected to grow to 98.13 million tonnes and 204.51 million tonnes in 2011-2012 and 2025-2026 respectively

4) **Proposed Projects**

In order to meet the increase in traffic the following major projects are proposed to undertaken with investment of Rs. 600 crores from internal resources and Rs. 5023 crores by private sector participation during the period upto 2013-2014.

Name of the Projects

- i) Container Terminal 1 (restructuring of berths 11 and 12
- ii) Container Terminals 2 & 3 (restructuring of berths 7 to 10
- iii) Multi Cargo Berths 13 to 16
- iv) Expansion of the existing Liquid Bulk Cargo Jetty
- v) Deepening of the access Channel (Kandla Creek)
- vi) Coal and Multi Cargo Berth at Tuna
- vii) Crude Oil Import facilities at Vadinar
- viii) Road and Rail connectively projects and programmes.

5) **Other recommendations**

- a) Administrative
 - i) Corporatisation of Port
- b) Organisational
 - i) Creation of Marketing Department
 - ii) Creation of Projects Cell
 - iii) Creation of Human Resources Department
 - iv) Outsourcing of Pilots

- v) Outsourcing of Tugs
- c) Information Technology

For the I.T systems to be more efficient and accurate data capture at various points can be automated instead of manual recording and entering into the system
- d) Long Term Strategies
 - i) Port and Maritime Consultancy Services
 - ii) Development of Maritime Institute
 - iii) Management of Other Ports
 - iv) Development of Dry Ports in the hinterland
 - v) Entry into logistics segment

Mumbai Port Trust

1) **Mission and Vision**

To be amongst the leading world class multipurpose city based ports in South East Asia by 2025.

2) The SWOT analysis of the port is given below:

Strengths	Weaknesses
<ul style="list-style-type: none"> • Multi-cargo handling capabilities; 	<ul style="list-style-type: none"> ▪ Draft constraints;
<ul style="list-style-type: none"> • location; 	<ul style="list-style-type: none"> ▪ lockgate constraints;
<ul style="list-style-type: none"> • Captive cargo of the two oil refineries; 	<ul style="list-style-type: none"> ▪ Outdated equipment;
<ul style="list-style-type: none"> • Sound financial position; 	<ul style="list-style-type: none"> ▪ High cargo-handling costs;
<ul style="list-style-type: none"> • Vast land estate and the port's proximity to vibrant mega-city. 	<ul style="list-style-type: none"> ▪ Rail/road evacuation problems;
	<ul style="list-style-type: none"> ▪ Ageing workforce;
	<ul style="list-style-type: none"> ▪ Delay in project implementation.
Opportunities	Threats
<ul style="list-style-type: none"> ▪ In order to supplement the existing projects in pipeline and fresh opportunities (such as vehicle exports), it would be necessary to create: 	<ul style="list-style-type: none"> ▪ Better productivity at competing ports;
<ul style="list-style-type: none"> ▪ Additional backup facilities such as CFS; 	<ul style="list-style-type: none"> ▪ Containerization of cargo;
<ul style="list-style-type: none"> ▪ Multi-level car parks; 	<ul style="list-style-type: none"> ▪ Fluctuating nature of break-

	bulk cargo;
<u>Empty yards and Distriparks.</u> ▪ Ample scope was identified for a lot of other value added opportunities like	▪ The extreme price sensibility of conventional cargo
Cruise Terminal	
Convention Centers	
Marina	
Development of the Western waterfront.	

3) **Cargo forecast**

As per the Perspective Plan the cargo forecast for Mumbai Port is 52.38 Million Tonnes in 2007-2008 this is expected to grow to 76.13 million tonnes and 128.61 million tonnes in 2011-2012 and 2025-2026 respectively

4) **Proposed Projects**

In order to meet the increase in traffic, the following major projects are proposed to undertaken with investment of Rs. 2896 crores from internal resources and Rs. 1634 crores by private sector participation during the period upto 2013-2014.

Name of the Projects

- i) Offshore Container Terminal 1 & 2
- ii) CFS's, Off-dock Container Yards and Empty Depots
- iii) 5th Oil Berth at Butcher Island
- iv) Cruise Terminal
- v) Second Chemical Terminal
- vi) Road and Rail connectively projects and programmes of main importance

5) **Other recommendations**

- a) Administrative
 - i) Corporatisation of Port
- b) Organisational
 - i) Redesign of Departmental Structure
 - ii) Creation of Business Development and Marketing division
 - iii) Creation of Projects Division

- iv) Creation of Research & Consultancy Division
- c) Financial
 - i) Joint venture with minor Ports
- d) Information Technology

Redesign of the Ports core Business process, upgrade IT infrastructures such as hardware and networks and procure new IT solutions and provide integrated system to the end users by merging all IT systems.

Jawaharlal Nehru Port Trust

1) **Mission and Vision**

To be recognised as India’s premier Container Port providing integrated logistics services to the best interest of trade and customers.

2) The SWOT analysis of the port is given below:

Strengths	Weaknesses
<ul style="list-style-type: none"> • Frequency of services; 	<ul style="list-style-type: none"> ▪ Distance from major shipping routes;
<ul style="list-style-type: none"> • Available port infrastructure; 	<ul style="list-style-type: none"> ▪ limited draft;
<ul style="list-style-type: none"> • Strong financial position; 	<ul style="list-style-type: none"> ▪ Shortage of staff in key areas;
Opportunities	Threats
<ul style="list-style-type: none"> ▪ Export-import container trade; 	<ul style="list-style-type: none"> ▪ Increasing pressure on road and rail connectivity;
<ul style="list-style-type: none"> ▪ Free trade zones; 	<ul style="list-style-type: none"> ▪ Private port developments in the region;
<ul style="list-style-type: none"> ▪ Ro-ro cargo ; 	
<ul style="list-style-type: none"> ▪ Distribution and logistics 	

3) **Cargo forecast**

As per the Perspective Plan the cargo forecast for Jawaharlal Nehru Port is 49.98 Million Tonnes in 2007-2008 this is expected to grow to 88.77 million tonnes and 305.99 million tonnes in 2011-2012 and 2025-2026 respectively

4) **Proposed Projects**

In order to meet the increase in traffic the following major projects are proposed to undertaken with investment of Rs. 4379 crores from internal resources and Rs. 10722 crores by private sector participation during the period upto 2013-2014.

Name of the Projects

- i) Completion of Container Terminal GTI
- ii) Expansion of Berth towards NSICT
- iii) Container terminal 4
- iv) Marine Chemical Terminal
- v) Port connectively through rail and road
- vi) Dredging
- vii) Free Trade Zone

5) **Other recommendations**

- a) Organisational
 - i) Strengthening of the Marketing Department
 - ii) Strengthening of Project management capabilities
 - iii) Training for double moves (twin lift and training for managerial staff)
- b) Information Technology
 - Automation between gate and terminal operators

Mormugao Port Trust

1) **Mission and Vision**

Mormugao Port Trust wishes to be the preferred port for the reason, recognised for its environmental policies, efficiency in cargo handling and services to customer, providing quality of life for the work force and support the community.

2) The SWOT analysis of the port is given below:

Strengths	Weaknesses
<ul style="list-style-type: none">• Partially natural harbour;	<ul style="list-style-type: none">▪ Lack of expansion space;
<ul style="list-style-type: none">• Bestowed inland waterways;	<ul style="list-style-type: none">▪ Lack of dedicated berth for non-cargo vessels;
<ul style="list-style-type: none">• Substantial captive traffic ;	<ul style="list-style-type: none">▪ Workforce not well motivated and inadequate qualified technical manpower
<ul style="list-style-type: none">• Private participation and investments;	<ul style="list-style-type: none">▪ Not able to fully attract the potential hinterland traffic

<ul style="list-style-type: none"> • Profitable; 	<ul style="list-style-type: none"> ▪ Not well maintained infrastructure
<ul style="list-style-type: none"> • Moderate Financial capability 	<ul style="list-style-type: none"> ▪ Inadequate road and rail facilities
	<ul style="list-style-type: none"> ▪ Union influences
Opportunities	Threats
<ul style="list-style-type: none"> ▪ Improve existing facilities; 	<ul style="list-style-type: none"> ▪ Iron ore vulnerable to Chinese demand and may reduce
<ul style="list-style-type: none"> ▪ Vasco Bay and Baina Bay development 	<ul style="list-style-type: none"> ▪ Competition from Panjim, New Mangalore, Ennore, Chennai and possibly Krishnapatnam.
<ul style="list-style-type: none"> ▪ Attract more coal and liquid bulk 	
<ul style="list-style-type: none"> ▪ Cruise traffic 	
<ul style="list-style-type: none"> ▪ Base for offshore supply vessels, Navy and Coastguard vessels 	
<ul style="list-style-type: none"> ▪ Industrial development in North Karnataka. 	

3) **Cargo forecast**

As per the Perspective Plan the cargo forecast for Mormugao Port is 49.15 Million Tonnes in 2007-2008 this is expected to grow to 52.25 million tonnes and 78.30 million tonnes in 2011-2012 and 2025-2026 respectively

4) **Proposed Projects**

In order to meet the increase in traffic the following major projects are proposed to undertaken with investment of Rs. 264 crores from internal resources, Rs.290 crores by debt, Rs. 140 crores by private sector participation and Rs. 2094 crores by National Highways during the period upto 2013-2014.

Name of the Projects

- i) Integration of Berth 8 & 9 for Iron Ore handling
- ii) Introduction of railway wagon tippler for Iron Ore transfer
- iii) Additional Iron Ore storage capacity
- iv) Additional mooring dolphin
- v) Mobile Crane for general cargo berth 11
- vi) New Coal Berth

- vii) Liquid Bulk Berth
 - viii) Cruise Vessel berth
 - ix) Port craft jetty
- 5) **Other recommendations**
- a) Administrative
 - i) Shortage of gangs for cargo operation needs to be resolved
 - ii) Redeployment and lateral job rotation to be implemented
 - b) Organisational
 - i) Identification of training needs and focused training efforts
 - c) Financial
 - Reduced tariff at mooring dolphin and midstream
 - d) Information Technology
 - Integrated computerisation for speedier response to issue and situations.

New Mangalore Port Trust

- 1) **Mission**
To become a leading liquid and multi cargo Port by adopting state of the art technology infrastructure and cargo handling systems complying with environmental, social, safety and security standards.
- 2) **Vision**
To be professional provider of port infrastructure and services of world class standards
- 3) The SWOT analysis of the port is given below:

Strengths	Weaknesses
<ul style="list-style-type: none"> • Geographical position in the Arabian Sea / Indian Ocean basin, and well suited for South Indian Cargo, 	<ul style="list-style-type: none"> ▪ Ships over 100,000 dwt cannot be handled in the port
<ul style="list-style-type: none"> • Hinterland area with 50 million people, a sound base for increasing container cargo (which is an opportunity) 	<ul style="list-style-type: none"> ▪ Manual cargo handling for Iron ore and coal
<ul style="list-style-type: none"> • Well maintained deep-water berths 	<ul style="list-style-type: none"> ▪ High turnaround times for vessels
	<ul style="list-style-type: none"> ▪ High costs of transport for shippers
	<ul style="list-style-type: none"> ▪ Environmental problems

	<ul style="list-style-type: none"> ▪ Private sector is forced to make use of Ports's dock labour for cargo handling, which is more expensive
Opportunities	Threats
<ul style="list-style-type: none"> ▪ Interest of private parties for PPP 	<ul style="list-style-type: none"> ▪ The Port Trust structure limits NMPT to operate as an independent and professional company
<ul style="list-style-type: none"> ▪ Available funds for infrastructure developments; 	<ul style="list-style-type: none"> ▪ The growth in vessel size
<ul style="list-style-type: none"> ▪ Development of SEZ 	<ul style="list-style-type: none"> ▪ Strong growth in cargo flows may result in increasing waiting times, even when mechanisation of cargo handling is introduced.
	<ul style="list-style-type: none"> ▪ Competition from nearby ports Cochin and Mormugao
	<ul style="list-style-type: none"> ▪ Shortage of certain skills within NMPT

4) **Cargo forecast**

As per the Perspective Plan the cargo forecast for New Mangalore Port is 37.41 Million Tonnes in 2007-2008 this is expected to grow to 52.17 million tonnes and 84.14 million tonnes in 2011-2012 and 2025-2026 respectively

5) **Proposed Projects**

In order to meet the increase in traffic the following major projects are proposed to undertaken with investment of Rs. 367 crores from internal resources, and Rs. 1320 crores by private sector participation during the period upto 2013-2014.

Name of the Projects

- i) Mechanisation of New Iron Ore berth 14
- ii) Berth 15 of New Western Dock for handling coal
- iii) Construction/Conversion of berth 13 for handling liquid berth cargo
- iv) Deepening of channel and turning basin
- v) Improvement of Marshalling Yard
- vi) Development SBM facilities for crude oil imports

- vii) LNG Terminal
 - viii) Container Terminal in Western Dock
 - ix) National Road and railway connectively plans
- 6) Other recommendations
- a) Organisational
 - i) Creation of Human resources Development department
 - ii) Strengthening of Marketing and Business Development Department
 - b) Financial
 - c) Apply activity based costing techniques
 - d) Information Technology
 - Integrate internal EDP systems, install EDI systems for port clearance and service suppliers.

Cochin Port Trust

1) **Mission**

The port of Cochin is the gateway to the west coast of India

2) **Vision**

The vision of Cochin Port is to see itself, over the next 20 years, serving the country as :

- a) A business enterprise
- b) An economic development facilitator
- c) An environmental conservator
- d) A public service provider

3) The SWOT analysis of the port is given below:

Strengths	Weaknesses
<ul style="list-style-type: none"> • Geographical location, close to the international East-West shipping route; 	<ul style="list-style-type: none"> ▪ Low labour productivity and strong labour unions;
<ul style="list-style-type: none"> • Available land for future development activities; 	<ul style="list-style-type: none"> ▪ Lack of industrial growth in the hinterland;
<ul style="list-style-type: none"> • Protection from monsoons, no cyclones, moderate wave conditions; 	<ul style="list-style-type: none"> ▪ Available draft on 4 berths
<ul style="list-style-type: none"> • Presence of the Kochi Refinery; 	<ul style="list-style-type: none"> ▪ Outdated layout of the port

<ul style="list-style-type: none"> • Presence of oil terminal able to receive large vessels of 115,000 dwt ; 	<ul style="list-style-type: none"> ▪ Poor condition of available infrastructure
	<ul style="list-style-type: none"> ▪ Low container productivity, limited backreach area and lack of storage area
	<ul style="list-style-type: none"> ▪ Lack of intermodal facilities / poor rail infrastructure
	<ul style="list-style-type: none"> ▪ Customs clearing time
	<ul style="list-style-type: none"> ▪ High transportation costs to the hinterland
	<ul style="list-style-type: none"> ▪ Poor financial health of CoPT
Opportunities	Threats
<ul style="list-style-type: none"> ▪ Vallarpadam terminal to become an international transshipment hub; 	<ul style="list-style-type: none"> ▪ Upcoming port of Vizhinjam as a transshipment hub
<ul style="list-style-type: none"> ▪ SEZ's at Vallarpadam and Puthu-Vypeen with food processing industries 	<ul style="list-style-type: none"> ▪ A possible new transshipment port at Kolachel
<ul style="list-style-type: none"> ▪ Kochi Refinery capacity increase 	<ul style="list-style-type: none"> ▪ Port expansion at Colombo
<ul style="list-style-type: none"> ▪ LNG terminal 	<ul style="list-style-type: none"> ▪ Government policy on imports of fertilizers.
<ul style="list-style-type: none"> ▪ Tourism 	<ul style="list-style-type: none"> ▪ Resistance from urban areas near proposed projects.
<ul style="list-style-type: none"> ▪ Cochin as liquid bulk centre for the region 	

4) **Cargo forecast**

As per the Perspective Plan the cargo forecast for Cochin Port is 15.36 Million Tonnes in 2007-2008 this is expected to grow to 24.63 million tonnes and 53.49 million tonnes in 2011-2012 and 2025-2026 respectively

5) **Proposed Projects**

In order to meet the increase in traffic the following major projects are proposed to undertaken with investment of Rs. 556 crores from internal resources, and Rs. 465 crores by private sector participation during the period upto 2013-2014.

Name of the Projects

- i) Development of SBM facilities for crude oil imports
- ii) LNG and LPG Terminals

- iii) Bunkering Terminal
 - iv) Vallarpadam Container Terminal
 - v) Cruise terminal
 - vi) Upgrading of Willingdon Island
 - vii) National Road and railway connectively plans
 - ix) Business District
- 6) **Other recommendations**
- a) Administrative
 - Advance towards landlord port and corporatisation organisation
 - b) Organisational
 - i) Reorganise personnel and departments into units such that achieving synergy amongst them is convenient
 - ii) Recruitment should be held coupled with voluntary retirement
 - Scheme to attain the right age & classwise distribution of employees
 - c) Others
 - Creation of a hinterland hub: There is a potential to develop a hinterland hub (rail bound container hub in South India preferably Erode to consolidate to railway volume from different ports in South, including the existing Cochin, Tuticorin Ports as well as the planned Vizhinjam and Colachal Ports.

Tuticorin Port Trust

- 1) **Mission**
 - TPT shall be South India's quality leader in General and Bulk Cargo and the high speed container pipe line provider for the Indian backbone
- 2) **Vision**
 - To be the preferred distribution hub of India
- 3) The SWOT analysis of the port is given below:

Strengths	Weaknesses
<ul style="list-style-type: none"> ▪ Geographic advantage <ul style="list-style-type: none"> ○ Close to main shipping lines, all weather port 	<ul style="list-style-type: none"> ▪ Infrastructure: <ul style="list-style-type: none"> ○ Draft limitations ○ High dredging costs due to rock and limestone

	<ul style="list-style-type: none"> harbour bed ○ Insufficient gate capacity ○ Evacuation problems, congestion ○ Old and outdated handling equipment “inefficiencies break bulk
<ul style="list-style-type: none"> • No maintenance dredging costs 	<ul style="list-style-type: none"> ▪ Poor rail connectivity to important hinterland industrial clusters
<ul style="list-style-type: none"> ▪ Availability of Land for future expansion / upgradation. 	<ul style="list-style-type: none"> ▪ Comparatively high port dues
<ul style="list-style-type: none"> ▪ High level of overall efficiency: <ul style="list-style-type: none"> ○ Especially in container handling operations ○ Only few labour problems ○ Fast and co-operative Customs operations 	<ul style="list-style-type: none"> ▪ Trade imbalance in containers
<ul style="list-style-type: none"> ▪ Proactivity <ul style="list-style-type: none"> ○ From Port in marketing and managing customers ○ From trade entrepreneurial trade community 	<ul style="list-style-type: none"> ▪ IT infrastructure <ul style="list-style-type: none"> ○ Poor with legacy systems delivering no real time information flow
Opportunities	Threats
<ul style="list-style-type: none"> ▪ Construction of Outer Harbour <ul style="list-style-type: none"> ○ Catering not only for domestic containers but also international transshipping 	<ul style="list-style-type: none"> ▪ Time <ul style="list-style-type: none"> ○ Actions must be taken soonest to develop advantage
<ul style="list-style-type: none"> ▪ Development of Tuticorin as Distribution Hub <ul style="list-style-type: none"> ○ Short term for South India ○ Mid and long term for Central and even Northern India ○ Integrating value added services 	<ul style="list-style-type: none"> ▪ Competition <ul style="list-style-type: none"> ○ Many ports in vicinity vying for same immediate hinterland area
<ul style="list-style-type: none"> ▪ Development of Tuticorin as “Power Hub” 	<ul style="list-style-type: none"> ▪ Dependence on “political” goods <ul style="list-style-type: none"> ○ Thermal coal, fertilizer, wheat, sugar
<ul style="list-style-type: none"> ▪ Proactive attitude of Tamil Nadu Govt <ul style="list-style-type: none"> ○ Industrial development and attracting FDI 	<ul style="list-style-type: none"> ▪ Shipping trends <ul style="list-style-type: none"> ○ Larger vessels ○ Direct shipments to and from other Indian ports
<ul style="list-style-type: none"> ▪ Development of Sethusamundram Channel 	

4) **Cargo forecast**

As per the Perspective Plan the cargo forecast for Tuticorin Port is 21.20 Million Tonnes in 2007-2008 this is expected to grow to 30.80 million tonnes and 71.80 million tonnes in 2011-2012 and 2025-2026 respectively

5) **Proposed Projects**

In order to meet the increase in traffic the following major projects are proposed to undertaken with investment of Rs.2318 crores from internal resources, and Rs. 318 crores by private sector participation during the period upto 2013-2014.

Name of the Projects

- i) Deepening of existing channel harbour basin to cater 12.80 Meter draught vessel
- ii) Development of outer harbour
- iii) Conversion of berth no. 8 into container terminal
- iv) North cargo berth 1 & 2 for thermal coal and dusty cargoes
- v) Construction of berth No. 9
- vi) Upgradation of Coal jetty 2
- vii) Ship building Yard

6) **Other recommendations**

- a) Organisational
 - i) Set up a Corporate planning cell
 - ii) Creation of a Human Resources Department
 - iii) Creation of Project Management cell
- b) Information Technology

All the departments in the port and stake holders should be seamlessly integrated with IT as the enabler to optimise the process time and recourses within the organisation

Others

Creation of a hinterland hub: There is a potential to develop a hinterland hub (rail bound container hub in South India preferably Erode to consolidate to railway volume from different ports in South, including the existing Cochin, Tuticorin Ports as well as the planned Vizhinjam and Colachal Ports.

Chennai Port Trust

1) **Mission**

Achieve excellence in Port operations with state of the art technologies. Enhance competence and enthuse workforce to maximise customer satisfaction. Anticipate and adapt to the changing global scenario. Act as a catalyst for sustained development of the region.

2) **Vision**

To be recognised as a futuristic Port with a foresight

3) The SWOT analysis of the port is given below:

Strengths	Weaknesses
The stakeholders consider Chennai's monopoly position because of its geographical location as its major strengths. Other strengths are:	<ul style="list-style-type: none"> ▪ The stakeholders consider the road connectivity and related traffic congestion as the major weakness of the Port. Others are:
<ul style="list-style-type: none"> • Dedicated facilities for handling all major cargo types; 	<ul style="list-style-type: none"> ▪ Traffic evacuation not allowed during the day time;
<ul style="list-style-type: none"> ▪ Good multimodal connectivity 	<ul style="list-style-type: none"> ▪ Restricted land availability
<ul style="list-style-type: none"> ▪ Long term agreements with users like Chennai Petroleum & Chemical and Hyundai 	<ul style="list-style-type: none"> ▪ Sub-optimal usage of rail connectivity
<ul style="list-style-type: none"> ▪ Best location on the East Coast for cruise operations in view of good air connectivity and proximity to cruise destinations 	<ul style="list-style-type: none"> ▪ Exposure to dust & saline environment
<ul style="list-style-type: none"> ▪ Sufficient reserves & surplus 	<ul style="list-style-type: none"> ▪ Perceived need for improvement in service levels
	<ul style="list-style-type: none"> ▪ Low efficiency and high traffic levels
	<ul style="list-style-type: none"> ▪ Surplus labour
Opportunities	Threats
<ul style="list-style-type: none"> ▪ Positive economic environment in the years to come with an anticipated 7% GDP growth rate 	<ul style="list-style-type: none"> ▪ Competition from major ports especially from Ennore and Tuticorin port
<ul style="list-style-type: none"> ▪ Increasing containerization and good forecasted demand 	<ul style="list-style-type: none"> ▪ Competition from minor ports mainly from Krishnapuran

▪ Strong forecasted growth in automobile exports	▪ Expected ban on export of minerals
▪ JV or strategic investment with minor / intermediate ports	
▪ Better road connectivity after construction of proposed road projects	
▪ Facilities cruise tourism	
▪ Public –private partnerships	

4) **Cargo forecast**

As per the Perspective Plan the cargo forecast for Chennai Port is 54.75 Million Tonnes in 2007-2008 this is expected to grow to 64.17 million tonnes and 87.11 million tonnes in 2011-2012 and 2025-2026 respectively

5) **Proposed Projects**

In order to meet the increase in traffic the following major projects are proposed to undertaken with investment of Rs.453 crores from internal resources, Rs. 20 crores from Govt. of India and Rs. 45 crores by private sector participation during the period upto 2013-2014.

Name of the Projects

- i) Development of Container Terminal 2,3,4 & 5
- ii) Off dock facility at Tondiarpet
- iii) Ennore Manali Road
- iv) Elevated express way to Poonamallee
- v) Railway Terminal at Tondiarpet & shuttle train connection between port and rail terminal
- vi) Cruise terminal
- vii) Car Terminal and Car parking facilities

6) **Other recommendations**

- a) Organisational
 - i) Set up a Marketing research/operational cell
 - ii) Review and design organisational structure
 - iii) Set a corporate planning cell

b) Financial

- i) Identify and implement cost reduction measures
- ii) Suggested ways for investment of surplus funds

c) Information Technology

Implement a very efficient customer interface Customer Relationship Management solution and very quickly implement balance moulds of the ongoing ERP custom developed software and there after undertake a comprehensive review of the same.

Ennore Port Limited

1) Mission

To execute the projects selected to meet the traffic demands and provide the supporting infrastructure.

2) Vision

Develop as a Mega Port with world class facilities to become the Eastern gateway Port of India

3) Cargo forecast

As per the Perspective Plan the cargo forecast for Ennore Port is 11.3 Million Tonnes in 2007-2008 this is expected to grow to 40.64 million tonnes and 136.40 million tonnes in 2011-2012 and 2025-2026 respectively

4) Proposed Projects

In order to meet the increase in traffic the following major projects are proposed to undertaken with investment of Rs.748 crores from internal resources, and Rs. 2576 crores by private sector participation during the period upto 2013-2014.

Name of the Projects

- i) Upgrading existing coal berths for handling Thermal Coal
- ii) Common users coal terminal
- iii) Common user Iron Ore terminal
- iv) Marine liquid Terminal
- v) Container Terminal
- vi) Dredging and reclamation works
- vii) National and state road and railway connectivity plans

5) **Other recommendations**

a) Organisational

i) Improvement of organisational structure to 3 layer organisation structure

b) Financial

i) to the extent possible obtain Government funds for basic infrastructure investment like capital dredging

ii) Mobilise additional funds through equity or loans for funding common infrastructure works

c) Others

Take action on priority to acquire about 1050 hectare of lands in the vicinity of the port before land becomes scarce in the region and to make sure that Ennore port growth is not affected to want of land

Visakhapatnam Port Trust

1) **Mission**

To be a major partner in meeting the logistics requirements of the imports and exports in the region

2) **Vision**

To be the most preferred port in South Asia offering services of global standards. The East coast gateway.

3) The SWOT analysis of the port is given below:

Strengths	Weaknesses
▪ Deep water port in outer harbour and on anchorage	▪ Entrance channel capacity
• Handling of VLCC's at anchorage	▪ A non-incentive tariffs structure
▪ Mechanised handling of iron ore handling complex	▪ Manual coal handling with low productivity
▪ Good railway connectivity	▪ Bureaucracy and inefficient use of facilities
▪ Healthy financial position (ex-pension liabilities)	▪ Close proximity to the city

Opportunities	Threats
<ul style="list-style-type: none"> ▪ Strong development of the Indian economy 	<ul style="list-style-type: none"> ▪ Strong inter-port competition on the hinterland of Visaakhapatnam. Substantial private investments in these new ports
<ul style="list-style-type: none"> ▪ Plans for investments in the industry and therewith growth potential in the hinterland of Visakhapatnam 	<ul style="list-style-type: none"> ▪ Relatively strong labour unions
	<ul style="list-style-type: none"> ▪ Long procedures, compared to private ports.

3) **Cargo forecast**

As per the Perspective Plan the cargo forecast for Visakhapatnam Port is 57.70 Million Tonnes in 2007-2008 this is expected to grow to 81.70 million tonnes and 146.80 million tonnes in 2011-2012 and 2025-2026 respectively

4) **Proposed Projects**

In order to meet the increase in traffic the following major projects are proposed to undertaken with investment of Rs.1098 crores from internal resources, and Rs.1831 crores by private sector participation during the period upto 2013-2014.

Name of the Projects

Inner Harbour

- i) Export facility for berth cargoes at West quay 1 & 2
- ii) Reorganisation of fertilizer handling at East Quay
- iii) East dock and strengthening of east quays
- iv) Deepening of entrance channel to inner basin

Outer Harbour

- i) Mechanisation of General Cargo berth
- ii) Upgrading Iron Ore jetty
- iii) Handling facility for crude oil and POL (SBM)
- iv) Extension of Container terminal

5) **Other recommendations**

a) Organisational

i) Modernisation/Commercialisation/Corporatisation of Port Administration, Operation and services

ii) Creation of Business development and marketing department

iii) Upgradation of marine services for night navigation and handling of VLCCs

iv) Setting up of a Human Resources Department

b) Information Technology

To be ready for integration with PCS

c) Others

Preparation of a detailed master plan with land use plan for port area for 20 years perspective.

Paradip Port Trust

1) **Mission**

To facilitate the trade with cost effective services while maximising the tax payer funds

3) The SWOT analysis of the port is given below:

Strengths	Weaknesses
<ul style="list-style-type: none">• Location near mineral reserves	<ul style="list-style-type: none">▪ Poor connectivity by road and rail to mineral reserves and steel plants
<ul style="list-style-type: none">▪ Potential to serve as gateway to landlocked regions	<ul style="list-style-type: none">▪ Low availability of port areas
<ul style="list-style-type: none">▪ Deep draft potential	<ul style="list-style-type: none">▪ Poor internal logistics system, long procedures and delay in capacity addition
<ul style="list-style-type: none">▪ Steel industry hub in the direct hinterland of the port	<ul style="list-style-type: none">▪ High costs of operation
<ul style="list-style-type: none">▪ The mechanized handling terminal for thermal coal	<ul style="list-style-type: none">▪ Poor organizational structure and inefficient port labour
	<ul style="list-style-type: none">▪ Low level of mechanisation

Opportunities	Threats
<ul style="list-style-type: none"> ▪ Potential to become a major bulk port in the world 	<ul style="list-style-type: none"> ▪ Competing ports like Visakhapatnam and Dhamra that might offer better value for money and a better work attitude;
<ul style="list-style-type: none"> ▪ Hub for liquid and petrochemical cargoes 	<ul style="list-style-type: none"> ▪ Dependency on 5 major customers
<ul style="list-style-type: none"> ▪ Clean and container hub for the East Coast 	<ul style="list-style-type: none"> ▪ Uncertainty w.r.t. availability of non-coking coal and routing of thermal coal.

3) **Cargo forecast**

As per the Perspective Plan the cargo forecast for Paradip Port is 45.60 Million Tonnes in 2007-2008 this is expected to grow to 71.55 million tonnes and 125.60 million tonnes in 2011-2012 and 2025-2026 respectively

4) **Proposed Projects**

In order to meet the increase in traffic the following major projects are proposed to undertaken with investment of Rs.1197 crores from internal resources, and Rs.1639 crores by private sector participation during the period upto 2013-2014.

Name of the Projects

- i) Deepening of entrance channel
- ii) Extension of breakwater
- iii) Iron Ore and Coal mechanised terminals
- iv) Container Terminal
- v) Fertilizer Terminal

5) **Other recommendations**

- a) Organisational
 - i) The organisation structure should be process based and system driven rather than people driven
 - ii) Strengthening of Marketing cell
 - iii) Develop a corporate planning cell
 - iv) Create a Human resources Development Department

- b) Information Technology
Project suggested to integrate the IT process and expedite the decision making process
- c) Others
 - i) Port should have an aggressive land acquisition strategy for long Term port development .
 - ii) Develop a consolidation centre or a logistics park with a focus on steel industry near the port premises

Kolkata Port Trust

1) **Mission**

To be at the top of 3 major ports of the county in terms of profitability starting by 2008 by highlighting the focus on efficiency along with high traffic volumes

2) **Vision**

Kolkata Port should be developed as a customer friendly self sustaining Port providing integrated quality services to its customers while retaining its position as a major sea river gateway for the eastern region of India

3) The SWOT analysis of the port is given below:

Strengths	Weaknesses
<ul style="list-style-type: none"> • Largest Hinterland 	<ul style="list-style-type: none"> ▪ Siltation in River
<ul style="list-style-type: none"> ▪ Riverine connectivity 	<ul style="list-style-type: none"> ▪ Draft limitation
<ul style="list-style-type: none"> ▪ Established Trade Flows 	<ul style="list-style-type: none"> ▪ Old infrastructure
<ul style="list-style-type: none"> ▪ Prime land 	<ul style="list-style-type: none"> ▪ Long approach Channel
<ul style="list-style-type: none"> ▪ WB Government Support 	<ul style="list-style-type: none"> ▪ Spread out resources
<ul style="list-style-type: none"> ▪ Connectivity and Railway corridor 	
<ul style="list-style-type: none"> ▪ Generating adequate Surplus 	
<ul style="list-style-type: none"> ▪ Principal Gateway 	
Opportunities	Threats
<ul style="list-style-type: none"> ▪ Booming economy 	<ul style="list-style-type: none"> ▪ Increased competition
<ul style="list-style-type: none"> ▪ Boom in Real Estate 	<ul style="list-style-type: none"> ▪ Increasing pension burden
<ul style="list-style-type: none"> ▪ Boom in Shipbuilding and Repair 	<ul style="list-style-type: none"> ▪ Delayed payment for Subsidy
	<ul style="list-style-type: none"> ▪ Import of Coal by TN

3) **Cargo forecast**

As per the Perspective Plan the cargo forecast for Kolkata Port is 45.01 Million Tonnes in 2007-2008 this is expected to grow to 58.47 million tonnes and 172.32 million tonnes in 2011-2012 and 2025-2026 respectively

4) **Proposed Projects**

In order to meet the increase in traffic the following major projects are proposed to undertaken with investment of Rs.895 crores from internal resources, and Rs. 551 crores from Govt. of India and Rs.608 crores by private sector participation during the period upto 2013-2014.

Name of the Projects

- i) Two Riverrine multipurpose jetties near Haldia Dock Complex
- ii) Three Riverrine Multipurpose jetties at Diamond harbour
- iii) Three Riverrine Multipurpose jetties at Saugor
- iv) Container Terminal capacity enhancement
- v) Upgrading handling capacity of existing berths

5) **Other recommendations**

a) Administrative

- i) Corporatisation of Port

b) Organisational

- i) Creation of Human Resources Department

c) Financial

By implementing land reforms and leasing out some portion of it additional revenue can be generated which can be used to fund pension liability and capital expenditure projects

d) Information Technology

Planning for convergence of applications and technology upgradation with adequate budgeting. Providing an interface to all stake holder with proper workflow and escalation so as to provide for quick response and services

e) Others

- i) Inland Waterways

Kolkata Port can harness the immense potential of to of the existing waterways

ii) Floating storage terminal/transshiper

The concept of floating terminals was enumerated as a part of strategy to overcome the draught limitation at Haldia Dock Complex and Kolkata Dock System

APPENDIX - I

MASTER PLAN OF MAJOR PORTS OF INDIA

A. **TRAFFIC**

(In million tonnes)

Commodity	2007-08 (Actuals)	2011-12	2025-26
POL	168.94	216.51	335.95
Iron Ore	91.97	108.97	139.52
Coal	65.19	126.68	189.61
Containers	92.05	161.38	679.97
Fertilizers	16.68	19.76	37.20
Other cargoes	84.33	106.11	212.82
Total	519.16	739.41	1595.07

B. **CAPACITY**

(In million tonnes)

Name of the Port	Existing	Planned	
		2011-12	2025-26
Kandla	62.20	122.20	265.90
Mumbai	50.65	91.91	167.20
Jawaharlal Nehru	52.40	95.60	397.80
Mormugao	30.00	66.96	101.80
New Mangalore	41.30	60.50	109.40
Cochin	20.15	54.75	69.50
Tuticorin	20.55	63.98	93.30
Chennai	50.00	72.30	113.20
Ennore	13.00	64.20	177.30
Visakhapatnam	58.50	108.15	190.80
Paradip	56.00	106.40	163.30
Kolkata	61.40	94.85	224.00
Total	516.15	1001.80	2073.50

C. MAJOR PROJECTS AND INVESTMENTS

1) KANDLA

<u>Name of the Projects</u>	(Rs. in crores)					
	<u>Investments</u>			<u>2012-13 to 2025-26</u>		
	<u>Upto 2011-12</u>			<u>Port</u>	<u>Private</u>	<u>Total</u>
	<u>Port</u>	<u>Private</u>	<u>Total</u>			
a) Dredging the Sogal Channel	186	----	186			
b) Container Terminal 2				-----	370	370
c) Container Freight Station	----	258	258			
d) Development of dedicated Coal berth at Tuna				-----	110	110
e) Creation of berthing and allied Facilities at Tuna - Stage I	----	587	587			
f) Creation of berthing and allied Facilities at Tuna - Stage II				-----	613	613
g) Development of 13 th to 16 th Multi Cargo berths	-----	440	440			
h) Development of Port Based SEZ	----	3900	3900			
Total		186	5185	5371	1093	1093

2) MUMBAI

a) Redevelopment of 18 to 22 ID Harbour Wall Berths	353	----	353		
b) Construction of 2 nd berth for for handling chemicals	116	----	116		
c) Dedicated Freight line between Wadala and Kurla	131	-----	131		
d) 5 th Oil Berth at Jawahar Dweep	212	----	212		
e) Multilevel Car parking facility				201	---- 201
f) Development of Bunder areas for Coastal shipping				86	---- 86
g) General Warehousing and storage				144	---- 144
h) Construction of two offshore container terminals – Phase I	----	1228	1228		
i) Container Freight station	----	415	415		
j) Development of the offshore Container terminal – Phase II				----	1554 1554
k) Distriparks				-----	248 248
Total	812	1643	2455	431 1802	2,233

3) JAWAHARLAL NEHRU PORT

a) Deepening and widening of main channel	800	----	800		
b) Increase RMRC moves to 24 moves / hr.	120	----	120		
c) 330 M extension of berth to the north of NSICT	----	552	552		
d) Development of 4 th Terminal - Phase I	-----	3238	3238		
e) EPZ on Port land				----	2472 2472
f) Marine Chemical Terminal	-----	93	93		
g) Development of 4 th Terminal – Phase II				-----	2000 2000
Total	920	3853	4803	-----	4472 4472

4) MORMUGAO

a) Integration of berths to handle Iron Ore	107	----	107
b) Replacement of all equipments of Mechanical Ore Handling Plant	184	----	184
c) Deepening of approach channel and berth No. 9 by 1 Meter	161	----	161
d) Development of finger jetty at Vasco Bay	----	90	90
e) Development of terminal for handling bulk / break bulk cargo at Berth No. 7	----	200	200

Total

452 290 742

5) NEW MANGALORE

a) Construction of Liquid Cargo Jetty	50	----	50
b) Multipurpose berth at Western Dock Arm	50	----	50
c) Iron Ore Mechanization facility at Berth No. 14	----	197	197
d) Development of Coal Terminal at Western Dock	----	194	194
e) SBM for POL	----	250	250
f) Development of LNG Terminal			----- 2600 2600
g) Container Terminal for transshipment at Western Dock			----- 700 700

Total

100 641 741 ----- 3300 3300

6) COCHIN

a) International Container Transshipment Terminal	1295	2118	3413		
b) Upgradation of Wellington Island		75	----	75	
c) Reclamation for streamlining of flow in the port Channel for reducing siltation and for future development works		120	-----	120	
d) LNG Terminal		-----	2200	2200	
e) Bunkering Terminal		----	95	95	
f) Cruise Terminal		----	303	303	
g) SEZ development		-----	750	750	
h) Business District		-----	281	281	
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Total		1490	5747	7237	
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7) TUTICORIN

a) Deepening of basin and channel to Cater 12.8 m draft vessels	442	-----	442		
b) Conversion of berth No. 8 as container terminal		----	150	150	
c) Development of Outer Harbour				-----	4350 4350
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Total	442	150	592	-----	4350 4350
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8) CHENNAI

a) Ennore-Manali Road Improvement Project	309	-----	309			
b) Dedicated Elevated Road from Chennai Port to Mudhuravoil	1000	----	1000			
c) Development of 2 nd container Terminal at Modernised East Quay and South Quay III	-----	492	492			
d) Developing Multilevel Car park and construction of Ro-Ro berth	-----	90	90			
e) Container Terminal (3 rd) at Jawahar Dock East				----	750	750
f) Container Terminal at ore berth stage 3 extension of CCTPL Terminal				----	200	200
g) Container Terminal (4 th) at West Quay				----	1000	1000
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Total	1309	582	1891	-----	1950	1950
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9) ENNORE

a) Capital Dredging – Phase I	91	-----	91	
b) Capital Dredging – Phase II	150	----	150	
c) Capital Dredging – Phase III	170	----	170	
d) Marine Liquid Terminal	-----	196	196	
e) Coal Terminal	-----	400	400	
f) Iron Ore Terminal	-----	480	480	
g) Container Terminal – Phase I	-----	1300	1300	
h) Installation of additional unloaders in the existing coal berth	-----	200	200	
i) LNG Terminal				----- 2700 2700
Total	411	2576	2987	----- 2700 2700

10) VISAKHAPATNAM

a) Upgrading of Iron Ore handling facilities to handle 2 lakh DWT vessels	185	----	185
b) Development of stacking area in place of existing Fishing Harbour	100	----	100
c) Deepening of entrance channel and Turning circle from draft 12.5 M to 14.00 M.	----	150	150
d) Development of SBM facility for Crude Oil	----	540	540
e) Mechanised handling facilities at General Cargo Berth at outer Harbour	----	272	272
f) Procurement of 4 Nos. Mobile Cranes	----	100	100
g) Mechanisation facilities at Inner Harbour	----	100	100
h) Extension of Container Terminal by another 300 meters	----	130	130
i) Development of East Docks in Inner Harbour	----	207	207
j) Development of tank farms for liquid cargoes	----	50	50

Total

285 1549 1834

11) PARADIP

a) Deepening of channel to handle 125,000 DWT vessels	253	-----	253
b) Deepening of channel to increase draft from 16 M to 18.5 M to handle 185,000 DWT vessels	90	----	90
c) Construction of Breakwater	328	----	328
d) Construction of Deep Draft Iron Ore berth	-----	505	505
e) Construction of Deep Draft Coking Coal berth	-----	388	388
f) Development of Southern Dock System	-----	530	530
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Total	671	1423	2094
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12) KOLKATA

a) Construction of 1No. reverine jetty upstreaming of 3 rd Oil Jetty	100	----	100		
b) Scheme for River Regulatory Measures for improvement of Draft in Hooghly Estuary	421	----	421		
c) Construction of three cargo handling reverine jetties at Diamond Harbour	----	361	361		
d) Transloading Dry Bulk cargo at Sand heads / Konica sands	----	345	3 45		
e) Construction of three reverine jetties at Saugor				-----	665 665
Total	521	706	1227	-----	665 665

D. PROFIT AND LOSS ACCOUNT OF 12 MAJOR PORTS

(Rs. in crores)

Projected profit and loss account	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2025-26
Operating revenue	5,446	6,246	6,775	7,589	8,108	8,747	9,375	17,139
Operating costs	3,729	3,975	3,761	4,047	4,121	4,209	4,441	7,576
Operating margin	1,717	2,270	3,014	3,542	3,987	4,537	4,934	9,563
Other income	949	1,006	1,060	1,130	1,237	1,406	1,544	4,024
Depreciation	-369	-437	-546	-593	-629	-692	-699	-1209
Interest	-169	-220	-274	-262	-297	-348	-308	-107
Profit before tax	2,129	2,619	3,255	3,817	4,297	4,904	5,470	12,271
Tax	-635	-747	-983	-1,084	-1,186	-1,362	-1,520	-3,813
Profit after tax	1,494	1,872	2,272	2,733	3,112	3,542	3,950	8,458

E. BALANCE SHEET OF 12 MAJOR PORTS

(Rs. in crores)

	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2025-26
Assets								
Fixed assets	9,849	13,095	16,227	18,196	19,563	19,850	19,805	38,836
Investments	11,097	10,791	10,897	11,593	12,768	14,780	17,085	45,691
Current assets	5,415	5,783	5,787	6,162	6,458	6,840	7,256	2,589
Liquid means	3,587	3,485	3,576	3,806	4,404	5,250	6,623	28,738
Total assets	29,948	33,154	36,487	39,757	43,193	46,720	50,769	125,854
Equity and liabilities								
Equity	1,473	1,843	2,155	2,424	2,624	2,699	2,704	3,419
Reserves	17,808	19,752	22,129	24,755	27,878	31,456	35,529	108,900
Total own Equity	19,281	21,595	24,283	27,178	30,502	34,155	38,233	112,319
Provisions	2,522	2,667	2,717	2,766	2,933	3,108	3,267	5,316
Long term loans	2,278	2,848	3,364	3,538	3,432	2,956	2,605	120
Short term liabilities	5,868	6,044	6,123	6,275	6,326	6,501	6,664	7,099
Total equity and liabilities	29,948	33,154	36,487	39,758	43,194	46,720	50,769	125,854

