

**THE WORKING GROUP REPORT**

**ON**

**SHIPPING AND INLAND WATER  
TRANSPORT**

**FOR**

**THE ELEVENTH FIVE YEAR PLAN**

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# **WORKING GROUP REPORT ON SHIPPING AND IWT**

## **1. SHIPPING SECTOR**

### **1.1 INTRODUCTION**

1.1.1 Shipping plays an important role in the transport sector of India's economy. Approximately, 95% of the country's Exim merchandise trade by volume (70% in terms of value) is moved by sea. India has one of the largest merchant shipping fleet among the developing countries and is ranked 20<sup>th</sup> in the world. Indian maritime sector facilitates not only transportation of national and international cargoes but also provides a variety of

other services such as cargo handling services, shipbuilding and ship repairing, freight forwarding, light house facilities, training of marine personnel, etc.

1.1.2 The Indian Shipping tonnage which was stagnating between 6- 7 million Gross Tonnage(GT) till June, 2004 has increased to 8.42 million GT by December,2006. The major share of Indian tonnage belong to Shipping Corporation of India, a Public Sector Undertaking under the Department of Shipping whose share is 33%. Average age of the Indian vessel is 17.9 years.

## 1.2 REVIEW OF TENTH PLAN :

1.2.1 The Government had set up a target for acquisition of 156 ships aggregating 3.26 million GT during the 10<sup>th</sup> Plan Period. In view of poor performance with regard to ship acquisition during the previous Plan periods, the Working Group on Shipping had suggested this modest acquisition target, details of which are as under :

Sr. No.	Type of vessels	Nos.	GT (Mil)
1.	Dry Cargo Liners	20	0.10
2.	Cellular Containers	5	0.12
3.	Dry Bulk Carriers	40	1.00
4.	Crude Tankers	20	1.50
5.	Product Tankers	15	0.30
6.	Chemical tankers	3	0.06
7.	LPG Carriers	3	0.06
8.	OSVs	30	0.04
9.	Specialised OSVs	20	0.08
<b>Total :</b>		<b>156</b>	<b>3.26</b>

1.2.2 The period of the 10<sup>th</sup> Plan did indeed see a change in the fiscal regime applicable to shipping. Tonnage tax was introduced in 2004-2005, after a long and hard battle by the sector, as an alternative to regular corporate tax, thereby reducing tax to a nominal rate,

The unprecedented growth of 23.6% in shipping tonnage happened only after 2004-2005; and the country's tonnage grew thereafter from 7.05 million GT on 01.07.2004 to 8.42 million GT as on 01.01.2007.

1.2.3 The Shipping Corporation of India had proposed acquisition of 31 vessels of 1.49 million GT of various types during the X Plan period with an investment of US \$ 1122 million. The Government has approved an outlay of Rs.5800 crores( Rs.1290 crores as IR and Rs.4510 crore as EBR/ECB) for the ongoing and new projects during 10<sup>th</sup> Five Year Plan. The SCI could acquire 2 VLCCs only till 2005 due to uncertainty regarding disinvestment of SCI. However, they have placed orders for the construction of 12 more vessels till January, 2007.

### **1.3 RESPONSE TO INTRODUCTION OF TONNAGE TAX**

1.3.1 Mainly due to decrease in taxes, coupled with an increased availability of domestic cargo due to the upturn in the economy, and an increased availability of low cost capital due to foreign exchange and ECB relaxations announced on macro policy liberalization, raised Indian tonnage by 23.6% from 7.05 million GT as on 1.7.2004 to 8.42 million GT as on 1.1.2007. This led immediately to an increase in share of cargo carriage by Indian ships, rising from 12.8% to 13.7% as well as to a freight revenue retention of Rs.5962 crs, higher by Rs.1646 crs over the previous year.

### **1.4 ADVANTAGES OF INCREASED TONNAGE**

1.4.1 The draft policy for the Maritime Sector specifies increase in tonnage as the main objective in Shipping. Increase in tonnage for the growing economy is important for the following reasons:

- (a) **Freight Revenue remains within the Country**

Overall Indian freight bill is US \$ 16.3 billion or Rs.73300 crores. Out of this, over \$ 14.2 billion or Rs.63900 crore is paid out of the country, because the mercantile fleet under the Indian flag is only 1.17%

(b) **National tonnage gives the negotiating power to control freight costs**

- It is important to have a certain percentage of tonnage in every cargo sector to guard against undue freight charges by cartels and monopolies (e.g. Dredging).
- Transchart and 'right of first refusal' policy tamps down undue freight increases.

(c) **National tonnage spawns shore based services**

The Shipping sector contributes 2.5% to 3% of GDP as per Rakesh Mohan Committee Report; 25% of this from associated industry and services that spring up to meet the requirements of a shipping company.

(d) **National Security Concerns**

National tonnage maintains the supply line for essential cargo

- eg.100% of the total crude imports from the Middle East during the Iraq war came on Indian ships.

1.4.2 The main issues and bottlenecks confronting the sector are lack of clear policy approach, restrictive fiscal regime, inadequate support to coastal shipping and regulatory issues including restrictive manning policies.

## **1.5 TARGET FOR 11<sup>TH</sup> PLAN**

15.1 The Shipping Industry have presented three scenarios of 5-year tonnage growth targets as hereunder:

### **Ist Target (10 million GT)**

To achieve a target of 10 million GT (approx. 830 vessels based on existing tonnage per ship) at the end of next 5 years would involve further addition of 279 ships of 4.16 million GT to the Indian fleet over and above the new acquisitions/replacements of 560 ships of 4.67 million GT.

### **2<sup>nd</sup> Target( 12 million GT)**

To achieve a target of 12 million GT (approx. 955 vessels) at the end of next 5 years would involve further addition of 404 ships of 6.16 million GT to the Indian fleet over and above the new acquisitions/ replacements of 560 ships of 4.67 million GT

### **3<sup>rd</sup> Target (15 million GT)**

To achieve a target of 15 million GT (approx. 1160 vessels) at the end of next 5 years would involve further addition of 609 ships of 9.16 million GT to the Indian fleet over and above the new acquisitions/ replacements of 560 ships of 4.67 million GT

## **1.6 INVESTMENT REQUIREMENTS**

1.6.1 The investment required for this under the three scenarios referred to above is estimated to be as under:

TARGET – I: RS. 35000 CRORES

TARGET – II: RS.55000 CRORES

TARGET – III: RS.80000 CRORES

1.6.2 Subgroup on shipping made two projections, a conservative target of 10 million GT based on a conservative and slow policy change and a target of 15 million GT with innovative and supportive policy.

1.6.2 The Shipping Corporation of India Ltd. has proposed to acquire 62 vessels of various categories during 11<sup>th</sup> Plan period. The SCI has proposed an outlay of Rs.13,135 crores (Rs.3705 from IR and Rs.9430 crore from EBR/ECB) for the ongoing and new schemes including the requirement for joint ventures.

## **1.7 POLICY MEASURES**

1.7.1 The Indian responses has been more cautious. Tonnage tax was introduced but more as a concession to the industry than a part of a concession policy of promotion. The 11<sup>th</sup> Plan needs also to respond to increase in tonnage with a focused policy, that will

- (1) see the return of the flagged out tonnage and hold the existing tonnage from flagging out to more attractive registers;
- (2) make the investment in Shipping at least as profitable as any other service industry;
- (3) attract new investors and greater investment; and
- (4) provide special incentives aimed at natural energy security needs.

## **1.8. CARGO SUPPORT**

The existing government policy to import on FOB basis and shipping arrangements through the Chartering Wing (TRANSCHART), Department of Shipping in respect of government owned and controlled cargoes should continue. This policy has

proved to be advantageous for development of Indian ships through cargo support. This also helps the buyers/receivers to retain control over shipping arrangements and shipment schedules in accordance with their import requirements. The assurance of such cargo support encourages new entrants and also helps the exiting shipping companies to expand their tonnage/fleet with a lower degree of risk.

## **2. DIRECTORATE GENERAL OF SHIPPING, MUMBAI**

2.1 The Director General of Shipping is a statutory authority appointed under the Merchant Shipping Act, 1958 and is responsible for implementation of the Act. The Directorate assists the Ministry in the formulation of plan for the development and expansion of the Indian Shipping Industry. The Director General of Shipping is responsible for administering MS Act, 1958 on all matters relating to shipping policy and legislation, implementation of various International Conventions relating to safety requirements, prevention of oil pollution and other mandatory regulations of International Maritime Organization, promotion of maritime education and training, examination and certification, etc

2.2 During the 10<sup>th</sup> Five Year of Plan the approved outlay for DG Shipping Sector was Rs.288.84 crore for implementation E-Governance, execution of civil works, etc. Out of this Rs.200.00 crore was under I.E.B.R. for acquisition of simulators under grant-in-aid from government of Japan for maritime training institutes under IIMS. However, Government of Japan did not support the proposal posed by Government of India and no headway could be made as such. Out of Rs.88.84 crore under GBS, the total anticipated expenditure would be Rs.63.94 crore.

2.3 The major achievements are focused headway to establish an Indian Maritime University, implementation of E-Governance with the endeavour that the activity and

commitments should be more pro-active and cater to the needs of a modern Shipping Industry, make required information available to Public and increase transparency in working.

2.4 Minor Ports Survey Organization (MPSO) is the agency under Director General of Shipping for carrying out hydrographic surveys in Ports. In the recent past, there has been considerable modernization in the surveying process. This has resulted in carrying out the surveys at a faster rate and up-grade precision. Now-a-days, the intending authorities are insisting to carry out the surveys by using modern position fixing equipment, which gives higher accuracy and greater turnout. The navigational survey results are to be submitted to the Chief Hydrographer to the Government of India, National Hydrographic office for utilizing in producing and updating navigational charts. To keep with the modernization and requirement of accuracy, it is necessary to procure modern survey instruments for MPSO.

2.5 An allocation of Rs.66 crores is proposed for Directorate General of Shipping in 11<sup>th</sup> Five Year of Plan for 2007-12 including Rs.16 crore for MPSO.

### **3. MARITIME TRAINING**

3.1 Government is responsible for creation of the trained manpower required for the merchant navy fleet of the country and also facilitate training and employment of our seafarers in foreign flag vessels. This national obligation is being met through the Government training institutes and number of other approved training institutes in private sector. The training institutes established by the Government are Training Ship 'Chanakya' Marine Engineering and Research Institute (MERI), Kolkata, Marine Engineering & Research Institute (MERI), Mumbai, and LBS College of Advance

Maritime Studies & Research, Mumbai. These institutes are presently functioning under the umbrella of Indian Institutes of Maritime Studies, Mumbai which was established in the year 2002 as a Society under the Society Registration Act, 1860.

3.2 In addition to the above, there are about 124 training institutes in the private sector approved by the Director General of Shipping, imparting pre-sea and post-sea training in various disciplines. The Directorate General of Shipping maintains a system of inspections to ensure the quality of training.

3.3 India is globally recognized as a very important source of mercantile manpower. Our trained maritime personnel are much sought after by other maritime nations. They have established their credentials in the world market due to their robust attitude, hard work, competence and skills. At the end of 2005, India's share of global maritime manpower rose to 26,950 officers and 75,650 ratings comprising an estimated 6% of the world's seafarers.

### **3.4 TARGETS AND OBJECTIVES:**

3.4.1 The target for the maritime training programme for the 11<sup>th</sup> Plan is to capture 6.6% share of the global seafarer's employment apart from supplying an additional 20% manpower of the current estimated shortages of 44,000 officers' world wide. The intake capacities of officers of all training institutes have risen from 2185 in 2000 to 5263 in 2006. The intake at pre-sea cadet levels, with overages of approximately 30% to cater to drop-outs and failures, has reached the necessary target. Further creation of training capacities will be necessary only perhaps to tweak the figures to balance nautical or engineering demands within the overall. In respect of ratings the present capacity of 4726 per annum is intended to be utilized fully before further increasing trainee induction.

3.4.2 There is a shortage of sea-time berths to absorb the number of pre-sea officers and ratings trainees. In the coming five years, the quantitative focus needs to shift off increasing cadet intake in pre-sea training institutions to creating more sea time training slots, and for this purpose devising an effective strategy. In order to create more sea time berths it is felt to approach the International Maritime Organisation with a proposal to make it mandatory for ships to have 10% of their manning added on as trainee/internee crew, to make provision accordingly. Further as a training obligation under Tonnage Tax the member lines of Indian National Shipowners' Association should be co-opted into allocating 10% of each ship's manning scales exclusively for sea training berths at the cost of future employers and not by the individual trainees. There is also a need to increase the training obligation of tonnage tax shipping companies. The training institutes also should ensure with the Shipowners directly for providing sea time berths.

3.4.3 A data base of seafarers to be built up. Biometric identity cum smart card, capable of storing the individual's professional record in electronic form must be issued to every seafarer. This will finally put an end to the allegation that India is a repository of fake certificates.

### **3.5 INDIAN MARITIME UNIVERSITY:**

3.5.1 In the backdrop of fierce competition prevailing everywhere, training has become the buzzword as on today. Adequate quality training actually makes the difference between mediocrity and excellence. Being live to the situation and our role and status in providing excellent manpower to the marine world and following the recommendation of COMET the Government has established a Society namely Indian Institute of Maritime Studies (IIMS) on 6<sup>th</sup> June 2002 placing the four Government run maritime institutions within the domain of this Society.

3.5.2 An Expert Committee was constituted by this Ministry, which included representatives of University Grants Commission to look into the feasibility of formation of an IMU. The committee has recommended formation of IMU by an Act of Parliament under the aegis of this Ministry. The Expenditure Reforms Commission in its 9<sup>th</sup> Report has also recommended that IIMS should be given the status of a deemed University or of an IIT and should become totally autonomous. The Parliamentary Standing Committee attached to this ministry has also been recommending for establishing IMU by an Act of Parliament.

3.5.3 The Government has, therefore, decided to introduce the IMU Bill in Parliament. The Bill envisages establishing IMU at Chennai with campuses at Kolkata, Mumbai and Visakhapatnam and other places as it may deem fit.

3.5.4 Formation of IMU will facilitate and promote maritime studies, research and extension work with focus on emerging areas of studies including marine science & technology, marine environment, socio-economic, legal and other related fields, and also to achieve excellence in these and connected fields. It will promote advanced knowledge by providing institutional and research facilities in such branches of learning as it may deem fit, make provisions for integrated courses in science and other key areas of marine technology and allied disciplines. As we have a sizeable number of private institutions imparting maritime education and training, the University will standardize the quality of such education and training through affiliation and academic supervision.

3.5.5 The proposed Indian Maritime University will focus on the higher academic programmes and advanced training programmes for the maritime sector. At present

training institutions in the Government as well as in the private sector offer various certificate of competency courses and modular courses. The Maritime University will provide the required directional support, bring about further standardization of the syllabus and ensure improvements in the quality of delivery of these programmes. Apart from this, the University will also augment capacity to cover the projected global shortage so as to improve further the country's share in the pool of qualified merchant navy personnel.

3.5.6 The maritime training and education has been at present limited to providing training for personnel working in the port industry and the marine training for the merchant navy personnel. Considering the requirement of the industry, the University is to plan the academic programmes in various disciplines. The areas where the academic courses need to be developed are Nautical Science, Marine Engineering, Port Management, Transport and Logistics (Business School), Naval Architecture and Ship Building, Marine Science, Maritime Law and Inland Water Transport.

3.5.7 An outlay of Rs.300 crore is proposed for IMU and Rs.400 crore for acquisition of two training ships.

### **3.6 ENHANCEMENT OF TRAINING SLOTS FOR OBC:**

**3.6.1** The Government has decided to implement the recommendation of the Oversight Committee so as to introduce reservations for the socially and educationally from the backward classes in institutions of higher learning from the academic session 2007-08. It is accordingly to be implemented in institutes under the administrative control of this Ministry. In order to ensure that there is 54% expansion of seats to provide 27% reservation to OBCs, the corresponding increase in infrastructure and academic faculty is to be done in the respective institutes. There shall be a requirement of additional fund of Rs.15 crore in this regard.

#### **4. SEAFARER'S SAFETY**

4.1 Keeping in view the increased incidents of accidents and crime against Indian Seafarers measures are required to strengthen the setup for investigation of accidents. An Indian Casualty Investigation Bureau (ICIB) is proposed to be setup for the purpose. Measure are also required to be taken to reduce incidents of crimes against Indian Seafarers and also to take effective action against the criminals. This involves enhanced international cooperation treaties and legal framework. An outlay of Rs. 25 crores is proposed for this purpose.

#### **5. COASTAL SHIPPING**

5.1 Coastal Shipping is eco-friendly, cost effective and energy efficient mode of transport. The development of coastal shipping assumes greater significance as the other land-based modes of transport like rail and road transport are at their near saturation point. The prospects of their expansion to cater to the requirement of a growing economy are limited and come with very high social cost whereas coastal shipping can be developed with very little cost. In short, due to tremendous potential, coastal shipping needs to be treated as a priority thrust area.

5.2 With a view to protect and preserve coastal shipping, the Govt. have given certain concessions to it. The present concessions include: (i) Coastal ships have been exempted from filing a bill of coastal goods at load ports and bill of entry at the discharge port (ii) Coastal ships are exempted from light dues (iii) Dedicated terminals have been provided for coastal shipping at various major ports in India (iv) Vessel related charges for coastal vessels and cargo related charges for coastal cargoes have also been reduced and now these are charged 60% of what is charged from other(foreign going) vessels (v) Now tonnage tax is available to coastal ships registered under Merchant Shipping Act.

5.3 For promotion of coastal shipping, the following two schemes are proposed in the 11<sup>th</sup> Plan:

- (i) Coastal Shipping Development Fund(CSDF) for soft lending for the purpose of acquisition of coastal vessels.
- (ii) Centrally Sponsored Scheme(CSS) for development of coastal shipping infrastructure.

#### **5.4 COASTAL SHIPPING DEVELOPMENT FUND (CSDF)**

5.4.1 Conventional financing through established financial institutions is lacking, perhaps, in view of the low rate of return. It is, therefore, necessary to set up a dedicated fund for advancing loans for investment in infrastructure with low debt-servicing rates to promote coastal shipping without looking into return in the short run for the purpose of acquisition of vessels for cargo and for creation of other related infrastructure by private sector.

5.4.2 To begin with, it is proposed to have a corpus of Rs.500 crore to be funded by budgetary support for extending loans at soft terms for coastal ship acquisition and coastal shipping related development. It is estimated that for acquisition of coastal vessels an investment of Rs.10,000 crore would be required in the next five years. The funding pattern would be Rs.500.00 through budgetary support, Rs. 1500.00 crore from reputed Financial Institution and Rs.8000.00 crore from private investment. The fund is proposed to be administered through a Fund Manager to be selected from amongst established financial institutions having expertise in the field. It is estimated that there would be an additional demand for about 200 vessels for coastal shipping initially. Once coastal shipping picks up, more such vessels would need to be pressed in the sector.

#### **5.5 CENTRALLY SPONSORED SCHEME (CSS)**

5.5.1 Non-major ports fall in the Concurrent List of the Constitution of India and the primary responsibility for their development and management rest with the concerned State. Major ports are already facing congestions with containers clogging all over the ports and spiraling costs never relenting, it will be non major ports that can sustain the growth of coastal shipping. Tata Consultancy Services(TCS) has also identified infrastructure gaps at certain non-major ports under Maritime States and has recommended for their development. The development includes capital dredging, breakwater, berths, back up areas and wharves. It is therefore necessary to encourage State Governments to take up infrastructure works at non-major ports that would promote coastal shipping and would generate interest of private sector to come forward and make investments. As a result, it will be desirable to put in place a Centrally Sponsored Scheme(CSS) for promotion of coastal shipping by assisting the Maritime States in undertaking requisite infrastructure projects.

5.5.2 Initially, one non-major port in each Maritime State is proposed for development. The non-major ports selected for development are:- (i) Gopalpur(Orissa), (ii) Azhikkal(Kerala), (iii) Malpe(Karnataka), (iv) Dharamtar(Maharashtra), (v) Magdalla (Gujarat), (vi)Cuddalore(Tamil Nadu) and (vii)Gangavaram(Andhra Pradesh). The total estimates for development of these seven ports is Rs.1519 crores and a grant of Rs.501 crores is proposed for their development.

## **6. MULTIMODAL TRANSPORTATION**

6.1 For the past 50 years there were several drivers and factors viz. shipping, economies of scale and globalisation including containerisation, impacting the growth of multimodalism globally. In India, Multimodalism is still in a preliminary stage due to the slow growth of containerisation. It is difficult to over emphasis the importance of

multimodal transportation the Sub-Group after deliberations on various issues relating to multimodal transport, the lacunae and hinderances affecting it, submitted various suggestions and recommendation such as amendments of MMTG Act, 1993, evolving a suitable mechanism for Co-ordinating of various agencies/entities involved in multimodal transport and issues relating to infrastructure and operational aspects.

6.2 Presently, the Multimodal transportation in India is government by the provision of the Multimodal Transportation of Goods Act, 1993 as amended in the year 2000. Prior to the enactment of the MMTG Act, only Ocean Bill of Lading issued by Carriers were being accepted as negotiable document. The Freight Forwarders or Multimodal Transport Operators were not recognised. In the post MMTG Act era, the MTOs can now issue their own Multimodal Transport Document. In spite of enactment of the MMTG Act the progress of Multimodal Transportation in India has been rather slow mainly because of lack of adequate and efficient port infrastructure, hinterland connectivity and lacuna in Port-Rail-Road interfaces as also Institutional and Legal issues. Despite the amendments in the year 2000, there are many short comings still remaining in the MMTG Act, such as unclear liability regime.

6.3 Multimodal Transport is a vital sector with considerable growth potential for the country in the 11<sup>th</sup> Plan. Despite many constraints and impediments the following steps could be considered to ensure steady growth of multimodalism in the country.

- (i) MMTG Act, 1993 to be suitably amended and made more trade friendly.
- (ii) The MMTG Act, 1993 to be amended such that there is no reference to any particular document (i.e. MTD or CTD of FIATA) in the Act itself, so

as to avoid any possible conflict of liabilities arising from references to different Documents in the Act.

- (iii) Development of Port Infrastructural Facilities & Services for Multimodal Transport.
- (iv) Impetus to Coastal Shipping and integration of Transfer Nodes.
- (v) Policy on Rail connectivity – urgent need to dedicate freight corridor between major destinations/ports.
- (vi) Road Infrastructure and Connectivity – urgent need to promote hinterland connectivity and better quality of trucks and trailers designed to carry more loads.
- (vii) Setting up of an active high powered National Co-ordinating Agency to rationalise and coordinate the transport policies through a closer relationship between the different players.
- (viii) Simplification on Customs procedures and formalities.
- (ix) Management of Supply Chain Security Costs.

6.4 In an effort to enhance the growth of multimodalism in India the following amendments to the existing MMTG Act, 1993 are under consideration of the Government.:

1. include the import leg after the goods have landed in India
2. a person registered to carry or any person who commences the business of Multimodal Transportation shall quote the registration number on every Transport Document (TD) and produce the proof of registration to the custodian concerned.

3. the prescribed TD so issued bearing registration number may be negotiable or non-negotiable at the option of the consignor.
4. only the transport document like Bill of Lading or TD bearing registration number would be allowed in order to avoid illegal transportation/contracts of carriage.

6.5 A sum of Rs. 20 crores is proposed for promotion of multimodal transport through studies, consultations etc.

## **7. Lighthouses and Lightships**

7.1 The Directorate General of Lighthouses & Lightships (DGLL) provides marine Aids to Navigation (ATON) along the Indian coast. The term “Lighthouse” represents all marine Aids to Navigation including Light Vessels, Sound Signals, Buoys, Beacons and also Radio aids like Radar Transponder Beacon (Racon) and Vessel Traffic Service (VTS) etc. used for guidance and safe passage of ships. At present there are 169 Lighthouses, 01 Lightship, 22 Differential Global Positioning System(DGPS), 48 Racons and 22 Deep Sea Lighted Buoys available as aids to marine navigation. The DGLL is a revenue earning Directorate and derive its income from light dues from ships entering and leaving Indian ports. During 10<sup>th</sup> Plan, the anticipated revenue earning is Rs.507 crore. The technology adopted by the Directorate in the field of aids to navigation is at par with the international standards. DGLL is a member of International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) and in this endeavour, the Directorate continuously interacts with IALA.

7.2 Against the 10<sup>th</sup> Plan outlay of Rs.185.00 crore, the expenditure in this sector is expected to be about Rs.85 crore. There were as many as 12 spillover projects in the 10<sup>th</sup>

Plan, which has since been completed. 23 new projects were proposed in the 10<sup>th</sup> Plan, out of which 5 projects have been completed. 4 projects are likely to be completed by the end of 10<sup>th</sup> Plan and 14 projects will spill over to 11<sup>th</sup> Plan. To some extent, the progress of projects got affected due to Tsunami damages along the East coast and Andaman & Nicobar islands for which restoration became a priority.

7.3 The major achievements during the 10<sup>th</sup> Plan are placement of work order for establishment of Vessel Traffic Service for Gulf of Kachh, installation of Racons and introduction of DGPS.

7.4 In the 11<sup>th</sup> Plan, the proposed outlay for this sector is Rs.282.45 crore, which includes Rs.112.85 crore for spillover schemes and Rs.169.60 crore for new projects such as Visual Aids (Rs.34.60 crore), Radio Aids (Rs. 78.00 crore), Development of Information Technology (Rs. 2.00 crore), Replacement of assets (Rs. 5.00 crore) and Flotilla (Rs. 50.00 crore).

7.5 Besides, the Directorate is also going to take new initiatives like rendering assistance for improvement of local lights, beatification of Lighthouses for attracting tourists, Establishment of National Automatic Identification System (AIS) network and establishment of Vessel Traffic Service in the Gulf of Khambat.

## **8. INLAND WATER TRANSPORT**

8.1 The subject matter relating to Inland Water Transport falls in all the three lists of the Seventh schedule of the Constitution of India. The exclusive jurisdiction of the Central Government is only in regard to shipping and navigation on inland waterways declared by an Act of Parliament to be national waterways. Shipping and navigation on other waterways with respect to mechanically propelled vessels falls in Concurrent list whereas navigation by vehicles other than mechanically propelled vessels is exclusive jurisdiction of State Government.

8.2 India has got about 14,500 km of navigable waterways which comprise of rivers, canals, backwaters, creeks, etc. About 45 million tons of cargo (2.50 billion ton-Km) is being moved annually by Inland Water Transport (IWT), a fuel-efficient and environment friendly mode. Its operations are currently restricted to a few stretches in the Ganga-Bhagirathi-Hooghly Rivers, the Brahmaputra, the rivers in Goa, the backwaters in Kerala, the Barak River and the deltaic regions of the Godavari-Krishna rivers. Besides the organized operations by mechanized vessels, country boats of various capacities also operate in various rivers and canals.

8.3 The concept of National Waterways was introduced in 1982 to give a boost to the development of inland water transport in the country. At present, there are three waterways that have been declared as National Waterways. These are Ganga, from Haldia to Allahabad (1,620 km), the Brahmaputra, from Dhubri to Dadiya (891 km) and the West Coast Canal from Kottapuram to Kollam including Champakara and Udyogmandal canals (205 km). Action is being taken to declare East Coast Canal along with rivers Brahmani and Mahanadi delta Kakinada-Pondicherry Canal alongwith Godavari and Krishna rivers and Barak river as National Waterways.

8.4 The responsibility of development of these waterways rests with the Inland Waterways Authority of India (IWAI). This authority, alongwith Central Inland Water Transport Corporation (CIWTC) as the principal operator, are the two Central agencies engaged in the country. The efforts of these organizations are supplemented and supported by inland water organizations of various States and private operators.

8.5 In continental Europe, out of 26,000 km of navigable waterways, 17,000 km length is having depth more than 2.75 m. The European Union (EU) has launched a

specific modal shift programme called “Marco Polo” in 2003. In China, out of 119,000 km of navigable waterways, 5000 km length is having depth more than 2.75 m. Besides, 2000 inland ports exist in China. In USA, out of 41,000 km of navigable waterways, 24,000 km length is having depth more than 2.75 m. The IWT modal share in Netherlands is 42%, France 15%, Hungary 15%, Germany 14%, Belgium 13% and in US 15%. India has 14,500 km of navigable waterways, of which about 5700 km is navigable by mechanized vessels, however the modal share of IWT in India is 0.28% only.

## **8.6 REVIEW OF THE TENTH PLAN**

8.6.1 Against the 10<sup>th</sup> Plan proposal of Rs 5665 crores (Rs 4998 for IWAI schemes, Rs 450 crores for CSS and Rs 217 crores for CIWTC schemes), an outlay of Rs 903 crores was approved. An expenditure of Rs 275 crores was made till August, 2006. The approved Tenth plan outlay (GBS) for IWAI is Rs.626.73 cr. In the first four years of 10<sup>th</sup> Plan (2002-03 to 2005-06) expenditure by IWAI is of the order of Rs. 275 cr.

8.6.2 The expenditure was incurred mainly on maintenance of fairway including procurement of vessels for channel development (dredgers, survey launches etc), setting up of terminals, provision of navigational aids, procurement of cargo vessels for demonstration purpose etc for the three national waterways, techno-economic feasibility studies on other waterway systems, assistance to States under Centrally Sponsored Scheme (CSS) and Inland Vessel Building Subsidy Scheme (IVBSS) to entrepreneurs for procurement of IWT vessels.

8.6.3 An increased trend in cargo movement was observed during the Tenth Plan as shown below:- (in btkm)

	<u>NW-1</u>	<u>NW-2</u>	<u>NW-3</u>
2002-03	0.128	0.004	0.019
2003-04	0.160	0.029	0.022
2004-05	0.312	0.025	0.015
2005-06	0.411	0.032	0.017

8.6.4 In the IWT Sector (country as a whole) there was an increase in cargo movement from 1.5 btkm in 2000 to 2.82 btkm in 2006. On the front of utilization of National Waterways, there have been some encouraging developments. Demonstrative voyages/Fixed Schedule Sailings are being carried out on National Waterway No. 1 between Haldia and Patna since January, 2004 using CIWTC's as well as IWAI's own vessels. 13 vessels of CIWTC have been leased out to the private sector and these are being used for cargo transportation. There have been regular transportations of POL products of Numaligarh Refinery by private sector, passenger vessel of a private company is successfully running tourist service in NW-2 for last two years between various points in the Dhubri - Dibrugarh stretch and two new passenger vessels for river tourism have been constructed for NW-1 and 2.

8.6.5 While national waterways are developed by the Central Govt. through IWAI, for overall development of IWT sector, it is necessary that State Governments also develop waterways. For encouraging states to develop IWT sector, funding pattern of CSS was revised in Nov 2002. In the revised pattern, 100% grant for NE States including Sikkim and 90% grant for other States is provided. Response of States to the CSS has been encouraging. 31 projects of 13 States (Andhra Pradesh, Assam, Bihar, Goa, Himachal Pradesh, Karnataka, Kerala, Maharashtra, Madhya Pradesh, Orissa, Tripura, Uttar

Pradesh and West Bengal) at a cost of Rs94.86 cr have been sanctioned and fund of Rs 40.84 cr has also been released to these States.

8.6.6 The Govt. has approved an Inland Vessel Building Subsidy Scheme (IVBSS) under which 30% subsidy is payable to the entrepreneurs for construction of inland vessels built in India for operation in national waterways, Sunderbans and Indo Bangladesh protocol routes. Considering that while basic infrastructure will be provided by the Government, the IWT fleet which is most critical component for IWT sector becoming effective, will come from private sector, IVBSS was conceptualised basically to encourage private sector in creating more and more IWT vessels taking advantage of this scheme. Initially there had been good response to this scheme and in-principle approvals for constructing 33 vessels were accorded. However, most of the applicants did not start construction of their vessels hence 28 approvals were to be withdrawn. It is reported that remaining 5 vessels are under construction. It is however felt that it will take some more time for the private sector to become interested and start investing in creating IWT vessels and in due course the scheme will yield good results.

8.6.7 With a view to provide an impetus to development of inland water transport mode, the Government of India had approved Inland Water Transport Policy which includes several fiscal concessions, and policy guidelines for development of this mode and to encourage private sector participation in development of infrastructure and ownership and operation of inland vessels. IWAI is also authorized for joint ventures and equity participation in BOT projects.

8.6.8 For exploring possibility of joint ventures and BOT projects in IWT sector, interaction was held with many interested firms. Thereafter, through a consultant, bids

were invited for 11 projects which include 5 projects for construction and management of jetties on NW-1 and 6 projects for acquisition and operation of barges in NW-1, NW-2 & NW-3. Out of these three projects for jetties for fly ash handling at Bandel, Budge-Budge and Kolaghat in West Bengal are at advanced stage of finalization. Some bids have also been received for projects for barges in NW-1, NW-2 and these are under process. Through another consultant a turn key project for transportation of 3-4 million tonnes NTPC coal per year is being developed as a Public Private Partnership project.

8.6.9 As per the projections, the requirement of trained IWT man power will be of the order of 50,000 by 2025 i.e. at the end of 11<sup>th</sup> Plan period, it will be about 12,500. This does not include the manpower required for country boats. There is thus a need for imparting qualitative and standard training.

8.6.10 The Central Inland Water Transport Corporation is a loss making Public Sector Undertaking of the Department of Shipping. It was engaged in the activities of Shipbuilding and ship repair and also operated a fleet of vessels. Since it was making continuous losses since its inception, the Cabinet in its meeting held on 1.12.2005 took a decision that Rajabagan Dockyard along with its existing manpower, assets and liabilities will be handed over to Garden Reach Ship Builders & Engineers (GRSE) or to any other PSE on outright purchase/long term lease/management contract basis. Disinvestment of CIWTC minus RBD will be undertaken in favour of private parties after financial restructuring of CIWTC and reducing manpower of CIWTC through VRS. Financial restructuring includes Write-off of Interest (as on the date of actual write-off) and conversion of outstanding principal amount as on 31.3.2005 into equity and, thereafter, reducing the same against the accumulated losses.

8.6.11 In pursuance of the Cabinet decision the Rajabagan Dock yard (RBD) of CIWTC stands transferred to GRSE w.e.f. 1.7.2006. The order for conversion of outstanding principal amount as on 31.3.2005 into equity and writing off of outstanding interest is in process. VRS has been introduced in CIWTC through which manpower has been reduced to 501 by December 2006. Possibilities of disinvestment are being explored.

## **8.7 POLICIES AND PROGRAMMES IN THE ELEVENTH PLAN**

8.7.1 By the end of 11<sup>th</sup> Plan, three new Waterways are likely to be added to the existing 3 NWs, taking the total coverage to 4500 Kms. Two bills for declaring East Coast Canal and Kakinada-Pondicherry Canal alongwith Godavari and Krishna rivers as national waterways have already been introduced in the Parliament. The focus in 11<sup>th</sup> Plan will be to put requisite infrastructure on the existing waterways, make them fully functional, take up second phase of development and get on with development of new NWs on fast track. Once the sector develops and reaches a threshold level, private funding/ extra budgetary resources will start flowing automatically. All riverine States should develop waterways as feeder routes to National Waterways by adopting the fish-bone model of development. Major waterways of the States should be identified and classified as “State Waterways” for priority funding. More funds will be required during 11<sup>th</sup> Plan as response of CSS during 10<sup>th</sup> plan has been encouraging.

8.7.2 Modernization/ improvement of country boats (Bhut-Bhutis) in the North East area and other areas of the country will be taken up under a new scheme. It will improve the efficiency of the small vessels and thereby increase employment opportunities and efficiency of IWT sector as a whole. It will also help in poverty alleviation and remote area connectivity. To meet the trained manpower requirement for the vessels, it is necessary that all riverine and coastal States set up state level Crew Training Institutes to

be networked to NINI. For ensuring quality and standard training, it should be modeled on STCW 95 pattern.

8.7.3 Modal Share of 2% by 2025 will require 2500 new vessels. The strategy suggested in this regard is (i) Extension of IVBSS upto 2025 and increasing its scope and (ii) Formation of a Vessel Leasing Company on JV basis by IWAI involving a private partner. A modal shift programme on the lines of “Marco Polo” of the European Union (EU) needs to be implemented in the Indian context to effect targeted modal shift. A package of incentives for

IWT operations including a specific incentive scheme of providing @20 paise per ton-km of cargo moved through identified IWT routes is proposed.

8.7.4 The passenger transport sub-sector has remained neglected. During 11<sup>th</sup> Plan, due emphasis will be laid on promoting passenger transport on rivers/ inland waterways by making appropriate policy intervention.

8.7.5 For achieving higher exports and better connectivity to NER, new emphasis on co-operation with Bangladesh is envisaged during 11<sup>th</sup> Plan period. This will be perused by adding more Protocol routes, more Ports of call and improved cargo handling facilities on Protocol routes.

8.7.6 The I.V. Act needs to be amended to facilitate uniformity in legal regime and conducive hassle free inter-state IWT operations. Re-writing of IV Act may also be considered. The State Govts have to formulate IV Rules for implementation under IV Act keeping in view the operational requirements of the respective States. This should be based on Model IV Rules framed by IWAI.

## **8.8. SUMMARY OF 11<sup>TH</sup> PLAN PROPOSALS FOR IWT SECTOR**

8.8.1 Sub group on IWT has proposed to promote vessel acquisitions through JV route and further proposed an outlay of Rs. 500 crore (Budgetary support) and corresponding

EBR of Rs.2625 crore on this account. on this account. The working group feels that initially Rs 100 crore may be kept for this scheme during the 11<sup>th</sup> Plan. Therefore, corresponding EBR for this will be reduced to Rs.525 crore Accordingly, the plan projections will be reduced to Rs 9000 crore as per the summary given below :

(Rs. in crores)

Schemes/ Projects	BS	EBR	Total
Ongoing Schemes/ projects	3642	2170	5812
New Schemes	1938	1250	3188
Total	5580	3420	9000

8.8.2 At the end of the 9<sup>th</sup> Plan period the IWT share was 1.5 billion ton-km. The present throughput of IWT is 2.82 billion ton-km. An increase of 1.32 billion ton-km has been achieved during the 10<sup>th</sup> Plan period. With targeted investment of Rs 9000 crores during 11<sup>th</sup> Plan, the targeted throughput envisaged is 5 billion ton-km by the end of 11<sup>th</sup> Plan period  
( i.e by 2012).

## SUMMARY

9.0 To summarize the outlay proposed in the XI Plan is as under:-

(Rs./crore)

		GBS	IEBR	Total
<b>1.</b>	<b>SCI</b>		13,135	13,135
<b>2.</b>	<b>DG (Shipping)</b>	66	--	66
<b>3.</b>	<b>IMU &amp;</b>	715	--	715

	<b>Training</b>			
<b>4.</b>	<b>Maritime Safety</b>	25	--	25
<b>5.</b>	<b>Coastal Shipping</b>	1000	10500	11,500
<b>6.</b>	<b>Multimodal Transport</b>	20	--	20
<b>7.</b>	<b>Lighthouses &amp; Lightship</b>	283	--	283
<b>8.</b>	<b>IWT</b>	5580	3420	9,000
	<b>Total</b>	<b>7689</b>	<b>17055</b>	<b>24744</b>

9.1 Although the XIth plan outlay indicates a requirement of Rs.1000 crore for Coastal Shipping and Rs.5580 crore for Inland Water transport through General Budgetary Support. Since both the above activities are commercial in nature the possibility of getting investment through Public Private Partnership will be explored. In case some common facilities are required to be built up the same may be done through Viability Gap Funding.

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# **EXECUTIVE**

# **SUMMARY**

**EXECUTIVE SUMMARY**

**OF**

**SUB-GROUP REPORT**

**ON**

**SHIPPING**

**FOR**

**ELEVENTH FIVE YEAR PLAN**

**(2007-2012)**

*11<sup>TH</sup> 5-YEAR PLAN – EXECUTIVE SUMMARY - SHIPPING*

1. The export target in the Foreign Trade Policy 2004-09 announced by the Government of India is to double the existing share in world trade by 2009 and achieve about 1.5% share of the world trade, thus aiming for export to grow to around US \$ 195 billion. Published overviews of the global economy present a

global backdrop of opportunity that enhances the chances for India achieving these targets.

2. Given that 90% exports are sea borne and the private sector is gearing itself up for increased throughput, the merchant shipping sector has a rosy forecast. The world fleet increased by 4.12% in the 10th Plan period, and is expected to continue to grow during the next 5 years at an average rate of 1% per annum.
3. Indian tonnage was practically stagnant till 2004, and did not take advantage of the growth in trade. At present, India has a share of only 1.19 % of the world fleet. The share of Indian ships in carriage of India's overseas trade has shown a continuously declining trend, and has now fallen to only 13.7%.
4. Reforms in the sector by way of introduction of tonnage tax in 2004-2005, thereby reducing tax to a nominal rate, and making profits from shipping exempt if they were put away in a fund for use only as investment in acquisition of new tonnage, encouraged a growth of 23.6% in shipping tonnage after 2004-2005; and the country's tonnage grew thereafter from 6.94 million gross tons (m.gt) on 01.04.2004 to 8.46 m.gt by 01.04.2006.
5. Studied with reference to size in different sectors of the Indian fleet as on 01.01.2006, it is noted that Oil Tankers account for 60.61% of the total Tonnage followed by Bulk Carriers with 29.63%. All the other vessel types, viz., Liner Vessels, Others, Offshore Supply Vessels etc, account for the remaining 9.76% of the tonnage. Significantly, Container Ships comprise only 3% of the fleet.

6. Studied sector by sector, predictions for growth in the LPG sector anticipate an increase of 7million metric tonne (m.mt) or 70% in the next five years over the existing levels of demand. Demand has been growing at 12% per annum, and is expected to keep to this rate in the next five years as well, unless there is change in the policy to withdraw subsidy for the domestic sector. Shipping has ample and steady opportunity in LPG transport. Demand for natural gas in India is also estimated to jump by about 100% by 2010, and grow at 5% per annum during 2002-2025. However, the country possesses no LNG tankers under its flag, raising active concerns about energy security.
7. In the petroleum sector, movement may well be higher, given that the addition of refining capacity in the country is poised to generate a surplus for export of about 44 m.mt per annum over the growing domestic demand of about 53 m.mt more by 2013-2014. Thus, despite the fact that tanker tonnage constitutes 60.61% of the existing Indian tonnage, it is estimated that existing tonnage will be at best able to cater to about 30 to 32 m.mt. The need and scope to add tonnage in the tanker segment will continue to ride high.
8. The trend of orders for rig constructions and other off shore related equipment would suggest a market expectation of stability in the future of oil and gas prices, and therefore a long term commitment to exploration and the use of petroleum production. Thus, in offshore services, there are clear opportunities for Indian shipping in services that have a high level of value addition, relatively less volatility, and a strategic multiplier effect on the national economy.

9. In India, growth in containerization has been 5% p.a., and is expected to jump from a level of 3.9 m teus to 20.95 m teus. Presently, 61% of the containers are transshipped from Colombo, adding up to US\$ 200 per TEU to freight costs, and raising freight paid by Indian shippers to 11.4% of CIF value of goods, from the world average of 6.1%, and much above the overall sea borne trade average for India of 9%. Until larger ports can be developed in India, it is expected that growth in the container fleet will be limited, and confined to the smaller sizes.
  
10. A study at the behest of INSA by TERI has established that the economy benefits from growth in its shipping fleet, not only by yardsticks of national security but also in economic terms. As much as 0.0068% or Rs 2212 is added in a given year to the economy for every additional gross ton. The Rakesh Mohan Committee Report estimated that the associated sectors contribute at least as much as 75% of the shipping industry's turnover to the national economy. As to employment, it identified as many as 75 shore-based sectors which searched for marine qualifications for their requirements. Having regard to the combined impact, it put the net aggregate contribution of the sector at 2.5-3% of the national GDP, and advanced the policy guideline that for foreign trade and for industrial growth to support our expected rate of growth, it was unexceptionable that shipping tonnage must grow concomitantly to trade to reap the optimum benefit for the country.
  
11. The Indian shipping industry is globally competitive in terms of financial and operating costs and does not lack the entrepreneurial spirit that distinguishes the Indian industrialist or service provider. If it has failed to grow commensurate to opportunity, it is mainly because competitors operate from tax free or low tax

jurisdictions, while in India the opening up of the sector by rationalization of the fiscal and regulatory policy is still an ongoing process.

12. As a maritime nation, India should take the mature approach of looking beyond national trade needs to become a global player in the maritime arena, and to provide global conditions of trade. Rather than merely regulating and controlling our national fleet, we must have policies in place that will proactively encourage and promote investments in international shipping services that go beyond ship operations and extend to the entire logistics chain.
13. The 11th Plan needs to deviate from the approach of the 10th which did not fix any tonnage target, and fix targets for the shipping sector that will guide the development of a well defined strategy for growth, and enable the monitoring and assessment of its contribution to the GDP.
14. The draft maritime policy announced by the National Maritime Programme ((NMDP) in August 2004 set a tonnage target of 10 m.gt to be achieved in the next 3 to 5 years. The Sub-Group therefore agreed to make two projections. One, taking into account of the likely scrapping of 374 vessels of 3.79 m.gt over the next 5 years due to their crossing 25 years of age, a modest and conservative target of 10 m.gt (projected in case-1above) by the net addition of 5.33 m.gt to be achieved by the end of 11th Plan, even in an 'as is' position, without further reform. The second, with a progressive policy in support, a higher target of 15 m.gt over the same period. Depending on how innovative and supportive the policy, it could also be fixed at twice the present share of the world fleet, at 2.6%, or 17.55m.gt.

15. The strategy for the 11th Plan needs to be preceded by a clear policy statement that supports the growth of tonnage under the Indian flag. This is the outcome of an open debate that looks at the reasons behind the shipping-friendly policies of other countries and sets at rest the doubts that are often raised about the benefits of a national fleet, both for security concerns and economic growth. This applies both to global cross trade and coastal shipping.

16. The strategy for the 11th Plan should be a strategy for growth under the Indian flag and should have the following elements:

- (i) Increasing tonnage under the National Register.

During the 11th Plan, it should be necessary to effect the reforms that put the national fleet on an even level with global competition. Fiscal rationalization is of the essence, as is evidenced by growth in tonnage under flags which have recently brought in more liberal regimes to compete with the flags of convenience. Indeed, the standards here are set by the flags of convenience, and other countries are left with little option but to match concessions on loose tonnage. There is need also to attract additional investors to invest in shipping. For this purpose, the Bare Boat Charter-cum-Demise policy needs to be made less insular, the tonnage tax rules regarding chartered tonnage less discouraging for new entrants.

Until fiscal reform is effected, the policy for 'cabotage' for coastal shipping and 'right of first refusal' for cross trade should not be reviewed. It is

somewhat obvious that tonnage would leave the Indian flag but for these instruments.

The regulatory regime should be reviewed so as to dismantle any overhang of the previous 'licence' regime that may still be lingering, and to bring regulation in line with international codes and practices. In this regard, a quicker and more response regulatory mechanism would be necessary. Manning controls would also need to be reviewed to take note of and respond to manpower shortages at the senior officer levels.

(ii) Opening a Second Register.

The distinction between Indian-owned tonnage and tonnage under the Indian flag needs to be reviewed. The national advantage to control a larger fleet in line with both our growing global economic dependence and role is acknowledged. Given the opportunities offered by our economic growth, and the 100% FDI policy, it should be possible to attract other foreign-flagged tonnage to the Indian flag once an open and competitive fiscal and regulatory regime established. This could be done by opening a second register, in which conditions equal to the national flag are provided, but the distinction between the two is maintained by offering the national flag cabotage protection and the second register greater relaxation in manning controls. The first one or two years of the 11th Plan should be spent in policy and physical preparation for this move and appropriate legislative amendments.

In view of the increasing traffic in territorial waters, and the needs of a larger fleet, the 11th Plan should attempt to make provision for -

- A Marine Disaster and Emergency Response System by way of setting up an autonomous Casualty Investigation Bureau and a national disaster response mechanism.
- Environment protection measures, for Waste Disposal Facilities in Ports and Ballast Water Management.
- Regulatory controls for safe operations in the Offshore Supply Vessel sector.
- Coastal and Port surveillance systems to increased security
- Permanent representation in the IMO, in order to guard the interests of trade and industry at the formulation stage of international marine codes and conventions, and influence international thinking.
- Capacity building in the Directorate General of Shipping, with greater technological tools, training, manpower availability and greater autonomy for authorising Surveyor movement to ships on foreign shores and deciding on delegation of powers to Mercantile Marine Departments. Making legal expertise available is also important if the DG Shipping is to become responsive to the changing phase of the global shipping industry.

Financial requirements for taking tonnage up to the conservative target of 10 m.gt and for the plan requirements have been estimated at Rs 35,340 crores over the next five years.



**EXECUTIVE SUMMARY**

**OF**

**SUB-GROUP REPORT**

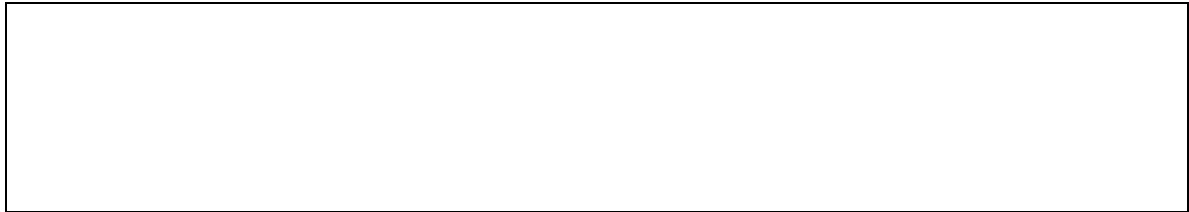
**ON**

**MARITIME TRAINING**

**FOR**

**ELEVENTH FIVE YEAR PLAN**

**(2007- 2012)**



## ***11<sup>TH</sup> 5-YEAR PLAN – EXECUTIVE SUMMARY – I.M.U. & TRAINING***

I Since liberalization of Marine education in 1998 when, hitherto a preserve of the public sector, was thrown open to private investment, new colleges were encouraged to come up; new nautical and engineering courses for marine cadets designed; a system of inspections and approvals put in place; and checks and balances devised to ensure the quality of education. The number of marine training institutions rose to 128 in 2005. India's share of maritime manpower, rose to 27000 and 78500 to comprise an estimated 6% of the world seafarers.

## **II World wide Projection**

2.1 The 2005 BIMCO/ISF Update estimates that there will be a requirement for an additional 23,000 officers and 21,000 ratings over the next decade. With a higher fleet growth rate of 1.5% per annum, the requirement increases to 44,000 officers and 44,000 ratings over the same period. In the largest demand scenario, with 1.5% increase p.a., the requirement increases to 62,000 officers and 69000 ratings, and the total estimated workforce to 5,38,000 officers and 6,55,000 ratings

## 2.2 **Indian Seafarers' Population**

2.2.1 The Indian National Database of Seafarers (INDOS) indicates a share of roughly 6% of the current maritime manpower in the world, comprising about 27,000 officers and 78,500 ratings. It would suggest that the infrastructure built up has not been able to push as many seafarers into the profession as first glance at the increasing intake strength would suggest. An examination of the figures would isolate three main reasons – firstly, the intake capacity of pre-sea candidates in the new private colleges has increased substantially only in the last three years, and their candidates have not yet been processed out in sufficient numbers; secondly, the shortage of sea time training berths creates a bottleneck in the throughput that makes the intake capacity or the numbers graduating irrelevant; and thirdly, the attrition rate, which has been estimated at 15%, sees a large number of Indian seafarers quitting the sea at about the age of 45 years.

## III **Target**

3.1 The target for the marine training programme for the Xth Plan was, besides our retaining our share of the global seafarers' employment market (i.e. 6% of officers and ratings), to supply 20% of the additional manpower requirement, so as to be able to reach an overall 6.6% Given that the aim is still not fulfilled, we may decide to retain the same target, of maintaining our share unchanged of the total workforce, while

supplying an additional 20% of the current estimated shortages. In the case of officers, this would range from 32,560 (6% of 466000 plus 20% of 23000) to 40360 (6% of 466000 plus 20% of 62000) and for ratings from 39360 (6% of 586000 plus 20% of 21000) to 48960. This translates to an annual output of say 3500 officers and 4400 ratings at the outside. In addition, for replacement of the annual retirement or attrition estimated by the BIMCO report for the Indian subcontinent at 15% in respect of officers and 8.3% of ratings, this output would require to increase to approximately 4000 officers and 4750 ratings annually for the next decade. It may be noted that the figure of officers should further be divided into the requirement at the cadet, the junior and the senior levels of officers. About 25% of the senior or management level of officers in the world fleet are in the age group where they would retire in the coming decade. Demand at the senior management level may be put at about 20% of the shortages

- 3.2 The intake capacities of all officer-training institutes have risen steadily from 2,185 in 2000 to reach 5,263 in 2006. The intake at pre-sea cadet levels, with overages of approximately 30% to cater to drop-outs and failures, has reached the necessary target. Further creation of training capacities will be necessary only perhaps to tweak the figures to balance nautical or engineering demands within the overall.

3.3 In 2006, calculating by the length of each course and the admission figures in the relevant years, superimposed by an estimated pass percentage, we may surmise that, about 3,000 Indian officer pre-sea trainees emerged from the colleges and set out in search of sea time training slots aboard ships. The combined absorption of these officers by all shipping companies and manning agents operating in India for that year was put at only about 1,750 in nautical and about 1,000 in engineering streams, indicating that about 250 officer trainees were unable to complete the sea-going module of their training. In 2007, this figure will rise, and 2008, it will grow further, creating a wasteful, two-fold over-capacity in pre-sea cadet courses, unless something is done to increase the sea time training slots commensurate with the pre-sea capacities.

3.4 In respect of ratings in 2005, India's intake capacity was 4,726. Against this, about 3400 were expected to be trained and available for employment by the end of 2006, and exact numbers of pre-sea trainees in the pipeline are not known. In order to replace the 8.3% retirement rate among ratings, an annual fresh induction of about 4,750 seafarers is necessary. Judging by the consistent drop in recruitment of ratings by employers, it would be a challenging task to successfully reverse this trend and then capture increasing market share in the global fleet.

Therefore, it will be advisable to fully utilize existing capacity before increasing trainee induction.

From the above, it is clear that there is a disturbing shortage of sea time berths to absorb the number of pre-sea officer and rating trainees. This has had two negative effects: i) a clandestine system has emerged of fleecing more money from financially stressed career-seekers for being granted a sea time berth, and ii) quality high school graduates are no longer attracted to a sea-going career despite the growing opportunities and pay packets.

Despite the establishment of many training institutes, well publicized recruitment drives by prestigious shipping companies, the continued shortage of sea time berths suggests that the approach to the problem needs to be changed. In any event, in the coming five years, the quantitative focus needs to shift off increasing cadet intake in pre-sea training institutions to creating more sea time training slots, and for this purpose devising an effective strategy.

Qualitatively, while a great deal has been done, the truth is that the focus since 2000 has been on setting up a system; the time has now come to consolidate the gains of these years, and to shift the focus on quality. More specifically, to

- the process of admissions, currently left to the selection of the colleges with broad guidelines by the DGS;
- the inspections by the Academic Councils, caving in under the pressure of quick creations into an inspection for ticking off infrastructure against a checklist;

- provision of resource support to faculty for improving the learning achievement of candidates, through attention to teacher training, improvement of communication skills, improvement of curriculum design, creation of relevant text-book material or modular e-courses, question banks, simulator or practical training modules, etc;
- the process of examinations, left again to the institutions to conduct on their own. The centralized system introduced for the GP rating courses has shown the tremendous gains of quality consciousness and accountability to the system due to this change;
- a systematic monitoring of the admissions, results and learning processes in the DGS with repercussions on the colleges with high failure or non-conformity rates
- to the rating of colleges with adequate publicity to their rating, so that students can make informed choices in selecting the institutions in which to seek admissions.

#### IV **Creation of Additional Sea time berths.**

4.1 The following strategy is recommended to bring about a match between intake capacity in colleges and sea time training berths:-

- For the time being, at least till the backlog of trainees on the INDOS register is reduced to a figure not more than twice the sea time berths available, no further increase in intake capacity should be encouraged.

- Training institutes, who take accountability only for the class room education of pre-sea candidates, should be given the responsibility to take the student through the end of his compulsory sea time or afloat training.

It is strongly recommended that the existing colleges, together producing 5,263 students annually, should be put under notice of one year to take responsibility to put the candidate through onboard training, and to arrive at long term and firm tie ups and MoUs with ship owners directly or through their duly registered manning agents for sea time berths.

4.2 The number of sea time berths should be fixed at 80% of intake strength. Colleges should either obtain the tie up or reduce intake for the batch. The MoU signed should be subject to satisfying the Directorate General of Shipping (DGS) of its authenticity, reliability and quality. The DGS should satisfy itself by a process of cross verification.

- To ensure that the colleges do not over estimate their ability to obtain berths, the sea time training should be embedded in the course, not at the end, as now, but after the first 6 months to one year of class room training.
- Only such colleges as can find tie-ups for sea time berths in excess of their existing intake capacities – generally due to their reputation for excellence or the investment in their creation of some shipping line – should be considered for increased intake, or expansion, which should be given, other requirements of infrastructure facility, etc. being met, by reduction from defaulting colleges or lateral tie-ups with them.
- The accounts of training institutes will have to be brought under an independent audit scheme in order to prevent financial malpractice. In

addition, over the space of the next year, the DGS should progress towards a nationwide benchmark structure for course fees.

- The marine training programme would need to put in place a system for centralized selection through a common test that includes a psychometric screening test, and students are allotted colleges according to their preference by a centralized computer system.
- The system of sponsored candidates can be easily married to a common selection process where candidates are selected by employers and put through their pre-sea and sea time course.
- To enable the un-sponsored students to take informed decisions as to the best colleges, it is strongly recommended that with wide publicity, DGS should list on its web site the names of colleges by their grading and fee charged, so that competition for the better candidates can add to the motivation of colleges to keep fees low and quality of learning at the highest.

4.3 Simultaneously, Indian National Shipowners' Association (INSA) members should be co-opted into allocating 10% of preferably ship's actual crew employment exclusively to post-sea training berths.

V **Proposal to IMO for Compulsory Training Slots aboard all ships.**

5.1 It is felt that the time is ripe to approach the IMO with a proposal to make it mandatory for ships to have 10% of them manning added on as trainee/internee crew, to make provision accordingly.

VI **Creating a Data Base**

- 6.1 It is strongly recommended that this position should be remedied at the earliest. The proposal of the DGS to -
- (a) Obtain seaman wise data from all registered manning agents of seamen placed aboard ships should be seen also as an imperative from this aspect and implemented as soon as possible, so that the data base can begin to be built up. On an appropriately designed application, it should be possible to derive very useful planning data from this primary information. Of course, at the same time, it would become essential that unregistered manning agents be stopped by liaison with the Visa Authorities from sending seafarers out, to all kinds of dubious ships, and to the detriment of a complete data base.
  - (b) In addition to INDOS, a biometric identity cum smart card, capable of storing the individual's professional record in electronic form must be issued to every seafarer. This will finally put an end to the dubious distinction that India has of being a repository of fake certificates.

## VII **Monitoring and Control**

- 7.1 The quality, management and performance of training institutes, including their faculty and passing trainees should be continuously monitored. This is most urgently required for modular courses, where the institute independently conducts all assessments, and frequent doubts have been expressed in the proper conduct of courses.

This anomaly will be corrected under the proposed nation-wide consolidation and re-organization of training systems under the Indian Maritime

University (IMU), but the DGS should begin even under the present arrangement to put systems in place which the IMU can adopt or build upon.

#### 7.1.1 Rating of Training Institutes: Closure of Sub-Standard Ones and Transfer of Students / Faculty to More Efficient Institutes

In 2004, the Directorate General of Shipping made it mandatory for all training institutes to be rated by accredited rating agencies. The scope was later narrowed down only to pre-sea training institutes. It is advised that the rating be done by an 'Advisory Group' empowered to closely monitor and continuously rate the performance of every training institute. Those establishments that repeatedly fail to attain benchmark performance standards will be ordered to shut down and the trainees/faculty transferred to other superior institutes.

#### 7.2 Impact of Indian Maritime University on Training, Academic Support Processes

7.2.1 The establishment of the Indian Maritime University (IMU) is nearing realization. It should play the role of a centralized nodal agency for coordinating and controlling maritime training throughout India. In due course, IMU must get affiliated to the World Maritime University, and become a centre of excellence in the content and quality of maritime training.

It is also hoped that the visibility and reputation of this University will regularly attract large numbers of high quality entrants to select a career in shipping, in a way similar to prestigious institutions like IIT's and IIM's.

### 7.2.2 Reconstitution of Academic Council Into an Advisory Group

The important role presently being played by the Regional Academic Councils should be further strengthened by reconstituting them to form the Advisory Group, as suggested above. This group must be headed by a domain expert and comprise professional and technical bodies and organizations, industry veterans, trainers and Government officials.

Besides absorbing the existing roles of the Academic Councils, including inspecting institutes, this group will regularly review the entire training and certification processes, including rating of institutes, implementing timely changes in syllabi, training and assessment methods. It will be empowered to advise the Government on policy matters relating to training and manpower supply, and eventually to conduct all seafarers' examinations independently, thus freeing the Directorate to concentrate on core issues.

Initially, it is proposed that this team is established by volunteers, but once fully functional, it can be institutionalized and a central corpus, jointly funded by institutes, maritime education trusts and the Government, can pay a reasonable honorarium to the members and reimburse expenses. The structure of the Advisory Group and a financial proposal on this issue are at Chapter VI.

### 7.2.3 Regional and National Support Resource Centre

There is also a dire shortage of skilled faculty. The IMU and the Advisory Group should form a Regional and National Support Resource Centre, comprising a core team of expert faculty drawn from leading training institutes by invitation and rotation. Expert members of this body will create a comprehensive library of audio-visual training modules consisting of lectures, demonstrations and exercises, covering the entire syllabus of each IMO model course. Secure copies of these programmes could be then marketed to training institutes to supplement course delivery in classrooms. Such distance-learning methods have been very successfully used by the Open University in the United Kingdom and IGNOU and other educational institutions in India. Besides ensuring a uniformly high level of learning, this mode could overcome periods of faculty shortage. The details are available in Chapter VI.

#### 7.2.4 Faculty Competence Improvement Schemes and Support Systems

A system of providing all faculty with academic and practical training in teaching, and regular refresher courses, including sea-going opportunities, be instituted for achieving and maintaining the desired levels of competence.

In order to attract and retain the best faculty talent, the IMU should ensure that the wage levels in training institutes are fixed at comparable levels to the earnings in appropriate sea-going ranks.

### 7.3 **Review of Examination and Certification Processes**

7.3.1 Examination and Certification: The prevailing system is rather tedious with undue emphasis on lengthy, theory-based written answers and subjective oral

examinations. Very effective and efficient objective-type assessment techniques can be used to reliably determine the level of knowledge, while simulator-based exercises can demonstrate the candidate's practical skills. Orals could be reviewed and replaced by practical.

There is also need to make the entire process of assessment and certification more transparent, user-friendly, speedy and effective.

#### 7.3.2 Controller of Examinations:

It is proposed that a Controller of Examinations be appointed, one each for the Nautical and Engineering branches, who will be responsible for selecting, orienting and training the question setters, examiners, invigilators and interviewers and generally directing and controlling the examination system, as centrally as practicality will allow, and with a greater degree of security and lower probability of leaks. Under his/her guidance, a comprehensive question and answer bank can also be created, drawn on, and regularly reviewed, and updated, as appropriate.

#### 7.4 Shore Based Careers: Training Needs, Lateral Movement of Seafarers to these Positions

With India's continuing economic growth, job opportunities for seafarers will proportionately rise in the wider shipping industry, e.g. Port Management, Agency Services, Maritime Law, Maritime Economics and

Finance, Marine Insurance, Logistics, Cargo Surveying, Freight Forwarding, Recruiting, Training, Travel and Tourism etc. In addition, there is promising scope for higher studies and research in areas like Marine Biology, Marine Ecology, Ballast Water Management, Oceanography, Hydrography, Meteorology, Shipbuilding and Repair, Naval Architecture, Marine Electronics/Engineering, Material Sciences and several others. Hence, a lateral movement of seafarers to these positions and activities is inevitable, but this should be seen not as a drain of seafarers, but as an expansion and development of the industry in general and consolidation of knowledge and skills.

#### 7.5 **Goal of at Least One Indian National on Every Foreign Flag Ship**

With the assured volume of job opportunities over the next decade, India's goal should be to place at least one Indian seafarer on board every merchant ship in the world.

#### 7.6 **Working Conditions**

Employers will also be monitored for providing seafarers with a safe and conducive work environment, favourable employment conditions, fair treatment and continued in-service training. Although seafarer's trade

unions and associations may take on this role, the Directorate and the Seamen's' Employment Office will vigorously pursue cases of gross violation of seafarers' rights.

VIII The Financial proposals are furnished in Chapter VI.

**EXECUTIVE SUMMARY**

**OF**

**SUB-GROUP REPORT**

**ON**

# **COASTAL SHIPPING**

## **FOR**

### **ELEVENTH FIVE YEAR PLAN**

#### **(2007- 2012)**

#### *11<sup>TH</sup> 5-YEAR PLAN – EXECUTIVE SUMMARY – COASTAL SHIPPING*

1. Coastal Shipping serves India's domestic and overseas trade, and is thus an integral part of the supply chain in India's total merchandise trade. With the continuing high growth phase of the country's economy, it is imperative to put in place an efficient, cost-effective, world class integrated transport system for carrying India's burgeoning trade. As an environment friendly, more energy efficient and cheaper mode compared to rail and road transport, Coastal shipping

has great potential to relieve the pressure on these already over stretched land based modes. Out of the total Major Ports traffic of 383.75 million tonnes (mt) in 2004-05, coastal traffic was 109.80 mt. During 2000 - 2005, it grew at 5.81% CARG at the Major Ports with a share of 25% - 31% of the total traffic. India's Coastal traffic is estimated to increase from 116 million tonnes (2002-03) to 220 million tonnes by end of the 11<sup>th</sup> Plan period (2012). The country's Coastal vessels Tonnage as on 31.03.2006 comprised 497 vessels of 8,17,453 GT (8,52,309 DWT). Over the last decade it grew at 8% CARG in terms of Number of Vessels but only at 1.5% in GT, witnessing a remarkable growth in smaller size vessels (Liner, Passenger-cum-Cargo & other types viz. Tugs, Ro-Ro, Dredgers, Pilot / Survey launches etc.) with the coastal Bulk carrier & Tanker fleet declining. Today, Coastal Shipping also comprises other activities viz. Offshore Supply & Multipurpose Support for the Oil / Gas E & P industry, Port and Harbour Services, Dredging etc.

2. Internationally, Coastal shipping is also known as Short Sea Shipping (SSS), forming a vital link in the overall transport network in developed countries, especially in Europe, where it handles 43% of cargo while in India it represents less than 10% of the total domestic traffic. The US Maritime Administration (MARAD) also places considerable emphasis on increased utilisation of SSS (inland / coastal waterways) to manage projected trade growth and also create jobs in ports, terminals & merchant marine, enhance national security etc. In China too, the Ministry of Communications has announced massive growth and development plans, inter alia, for its coastal shipping & ports through to the year 2020.

3. In addition to its economic advantages, Coastal Shipping can ease traffic congestions and arrest loss of human lives caused due to accidents, which occur quite frequently in road transport mode. Annual losses due to road congestion in the country are reported to be in the range of Rs. 200 – Rs. 300 billion and the cost on account of accidents Rs. 100 billion, together aggregating to Rs. 300 – Rs. 400 billion annually. Thus, diverting just 5% of road cargoes to coastal shipping would result in savings of Rs. 15 - 20 billion. annually; and larger quantum of diversion would obviously increase this benefit to the nation proportionately. Besides, Coastal Shipping has comparatively lower emissions of harmful chemicals such as carbon dioxide, carbon monoxide, hydrocarbons, particulates and nitrogen oxides compared to road / rail transport thereby considerably reducing pollution related ecological and health hazards and the consequential socio-economic costs.
  
4. Unfortunately, despite having the lowest unit transportation cost for the sea leg, the overall end-to-end cost by coastal shipping escalates due to inadequate port & land side infrastructure (capacity, connectivity etc), resulting in a preference for road / rail modes by the Trade. Burden of Customs duties, cumbersome Customs / other procedures, low port productivity with high tariffs aggravate the problem. Thus, a major reason for the slow growth of Coastal Shipping in India is its wafer thin margins for investors. Coastal Shipping had not been receiving sufficiently high priority for the support that it deserves as the Indian “Shipping” sub-sector accounted for hardly around 5% of the funds allocated by the Government to the entire “Transport” sector under the Five Year Plans (average of the first eight Plans), of which the share of Coastal Shipping is minuscule.

5. Thus, in addition to effectively addressing the above issues, adequate incentives & level playing field are required to be extended to encourage the growth of Indian coastal shipping companies in the face of stiff competition from foreign lines.
6. The salient features of the suggestions for development of Coastal shipping and for relieving the pressure & congestion on land based surface modes of transport are highlighted below.
  - 6.1 Amendment of Definitions / Sections pertaining to Coastal Shipping in the Indian Merchant Shipping Act, 1958 to widen the scope of “coasting trade of India” to include any service / activity performed within the coastal / territorial waters of the country up to the Exclusive Economic Zone (EEZ) as defined in the Maritime Zones Act, 1976 and also make a provision that various activities within “coasting trade of India” will be exclusively for Indian registered ships. Accordingly, consider amendment of Definitions of “Coasting Trade of India”, “Ship” and “Vessel” and Application of Part (Sec 20 under Part V) and Application of Part (Sec 405 under Part XIV).
  - 6.2 In case “Shipping” cannot be granted infrastructure status, applicable benefits accorded to Infrastructure industries to be extended to Coastal Shipping in particular and, to Shipping in general viz. Tax benefits for those Indian Companies not opting (or not eligible) for Tonnage Tax, (i.e. Automatic exemption from Minimum Alternate Tax, Tax holidays, Quasi Equity Support from Government / Financial Institutions as also Relaxation of ECB Guidelines.
  - 6.3 Instituting / operationalisation of the Coastal Shipping Development Fund (CSDF) proposed by the Government may be expedited. The proposed corpus of Rs. 500 crore to be funded through Government Budgetary Support and may be

increased by an additional Rs. 500 crore initially, aggregating to a total Government Budgetary Support of Rs.1,000 crore in the next five years towards part financing of the estimated investment of around Rs. 10,000 crore required for acquisition of Coastal Vessels. Further, norms / parameters for the funding by Banks / Financial Institutions to be based on the following lines:

Loan amount 90% of cost of vessels with promoters contributing remaining 10% of margin money to procure / build ships for coastal operation; Interest rate 5.5% - 6% p.a.; Loan tenure 15 years and above.

The corpus may be utilised for Government Counter Guarantee for raising the Loan and bridging / funding Interest differential on the soft Loans.

- 6.4 Vessel building subsidy on the lines of Inland Vessel building subsidy (30% of the ex-yard price of the vessel). The subsidy may be administered indirectly through the banks to have better control on disbursements.
- 6.5 Waive Customs / Excise Duty on Bunkers & Stores. Alternatively, substantially reduce effective rate of total Customs / Excise Duties / other Taxes to say 20% (of basic cost) by suitably linking / utilising proposed CSDF corpus for bridging the differential in Duties / Taxes.
- 6.6 Accord Ship Repair Unit (SRU) status to coastal vessel to extend benefit of no duty / charges etc. for import of spares to Indian coastal vessel / Indian coastal shipping company. Alternatively, exempt import / custom duties on spares and stores for coastal vessels.
- 6.7 Instituting / implementation of the Centrally Sponsored Scheme (CSS) proposed by the Government for Coastal Shipping & Port Infrastructural development may be expedited. Initially, under the CSS the development of seven Minor (non-major) ports has been proposed at an estimated total cost of around Rs. 1,500 crore for which a grant-in-aid of Rs. 500 crore (33%) would be provided by the

Central Government through Government Budgetary Support with the remaining 67% to be contributed by the respective State Governments.

- 6.8 CSS not to be restricted to development of Minor (non-major) ports only, but extended for developing all kinds of infrastructure for promotion of Coastal Shipping - modelled on the lines of CSS for IWT development viz. 90% funding by Central Government and 10% by concerned State Government(s).
- 6.9 Consider advising States with non-functional ports to expedite development of such ports; and Central Government to approve / provide requisite Funds for basic infrastructure development. Also, draft at Non-Major Ports to be increased to 6 Metres.
- 6.10 Indian Dredging companies to be provided adequate encouragement to attract private investment in this area by adopting facilitative policies, e.g. "Use Industry First" Policy as followed in USA by the Dredging Contractors of America (DCA).
- 6.11 Create Dry-docks & Ship Repair Yards at existing / new Non-Major Ports to accommodate only smaller (coastal vessels) by providing draft of around 4 to 5 metres only. Needs allocation of requisite land and water frontage exclusively earmarked for this purpose. Small dysfunctional Dry-dock at Mumbai could be upgraded / converted into a suitable Ship Repair facility.
- 6.12 Shifting the process of (overseeing) setting up the Dry dock / Ship Repair yards from D.G.Shipping to the Indian Register of Shipping (IRS) to obviate adherence to archaic Rules / Procedures and enable creation / development of requisite facilities expeditiously.
- 6.13 Identify suitable Indian ports as feedering hubs to attract transshipment traffic to Indian shores.

- 6.14 Enhanced / adequate connectivity for ports with Rail / Road transport. All Non-Major Ports to be also adequately connected to highways with four lane roads for speedy cargo evacuation.
- 6.15 Separate tariff to be formulated for coastal vessels (i.e. not using a discounted structure based on foreign-going vessels tariff). As several Minor (non-major) ports have indicated interest in assisting in the development of coastal shipping, the Central Government policy adopted for Major Ports to be mirrored by the Maritime States and applied to Non-Major Ports as well.
- 6.16 Introduce simpler manning scale and adequate training facilities for floating staff. Special Training programme specifically for coastal shipping - produce more cadet officers for employment only on Near Coastal Voyages (NCVs) - requisite Government funding and a suitable policy to be formulated - Evolve suitable course of action basis recent training initiatives at Barcelona, Spain.
- 6.17 Make certain elements of Crew wages tax free; Dispensation for manning requirements as relief to coastal vessel operators
- 6.18 Introduce a Modal shift programme initiative on the lines of European Union's "Marco Polo" Programme comprising the two components: (a) Modal Shift action and (b) Catalyst action. Contours of such Programme could be worked out by consensus in the "Working Group on Shipping and IWT". Complement above initiative by (i) Central Government to consider diverting its own / its agencies' cargo to Coastal Shipping; (ii) Due non-availability of cargo for Return Voyages, extend appropriate incentives to Trade (Multimodal Transport Operators and shippers etc.) for adopting coastal shipping mode for sizeable domestic cargoes in preference to rail / road mode: Deduction from taxable income based on traffic diverted.

- 6.19 Strict adherence to Cabotage with relaxation to be considered only on a case-to-case basis.
- 6.20 Assigning work of surveying to Classification Surveyors to avoid delays to vessels.
- 6.21 Reinstate as a status-quo-ante, the previous position / procedure i.e. a foreign registered vessel to first seek a No-Objection Certificate (NOC) from Indian Coastal Conference (ICC) and Indian National Shipowners' Association (INSA) before it could ferry cargo anywhere along the Indian Coast (Recommended especially in the interest of small Indian shipowners).
- 6.22 While granting specified licence for large vessels, e.g. in mega marine projects, D.G. Shipping to consider obtaining entire project details, duration of entire project, number of vessels, period of requirement etc., from project owner / developer first, before issuing licence to operate identified (large) foreign flag vessel(s). No licence to be granted for small vessels, until process of obtaining NOC from ICC / other relevant bodies / organisations duly completed.
- 6.23 Provide at least 10% reduction in scantling of new building vessels for coastal shipping. Also, as these vessels would be plying close to the coast, logical relaxation to be granted in respect of keeping Safety Equipment on board, adherence / compliance to ISPS Code, etc.
- 6.24 Waiving the requirement of keeping certain High Value Equipments on board coastal vessels.

- 6.25 Formulate comprehensive list of separate rules regarding Design, Construction, Operation, Safety, Pollution aspects etc. for Coastal Vessels / Shipping incorporating specific relaxations.
- 6.26 Landing Fees structure and related charges including Service Tax to be rationalised / levied only once either at loading or discharging port as in case of rail / road transport.
- 6.27 Create / provide adequate facilities & requisite infrastructure at ports for developing and encouraging new / emerging areas in Coastal Shipping sector with promising growth potential.
- 6.28 Organic integration of Coastal Shipping and IWT modes / operations by bringing the two modes under a single organization for their development in a focused manner. Suitably institute concerted R&D activity for designing low draft (3m) vessels of 3,000 DWT to facilitate this integration in the Eastern region and Goa region. Areas identified for possible combined operation with 3,000 DWT vessels are Coal movement between Paradip and Farakka (coastal-NW1); Container movement between Paradip and Narayananj (coastal-NW1-Bangladesh Protocol route); Iron ore movement from hinterland to Goa port region (IWT-coastal mode).
- 6.29 Create a Coastal Shipping Cell in Ministry of Shipping, RT & H on the analogy of D.G. Shipping, Mumbai as work in Coastal Shipping sector would increase tremendously.
- 6.30 Explore possibility of carving out a new Class of vessels in the Merchant Shipping Act, 1958 to extend benefit of Tonnage Tax also to comparatively smaller vessels, which are presently covered / registered under the Inland Vessels (I.V.) Act. Suitable guidelines may be issued by Directorate General of Shipping

stipulating relevant Design, Construction, Safety and Operational specifications / parameters for this new Class of vessels.

**EXECUTIVE SUMMARY**

**OF**

**SUB-GROUP REPORT**

**ON**

**MULTIMODAL  
TRANSPORTATION**

**FOR**

**ELEVENTH FIVE YEAR PLAN**

**(2007- 2012)**

*11<sup>TH</sup> 5-YEAR PLAN – EXECUTIVE SUMMARY – MULTIMODAL TRANSPORTATION*

1. The developed economies have witnessed an increasing thrust towards containerisation over the past five decades, which eventually became one of the key drivers in the growth of multimodal transport sector in those countries. In India, the accelerated growth in containerisation in the nineties and the increasing container transport intensities in India's EXIM trade, especially between the hinterlands and the sea ports, have given an impetus to multimodal transportation. However, the development of multimodal transport has been adversely affected on account of various constraints and reasons. Nevertheless, with the level of containerisation of cargoes and container trade in the country expected to leapfrog in the coming years, Multimodalism is poised to occupy "centre-stage" in the gamut of logistics services. While several initiatives and

measures have been adopted by the Government for promoting multimodal transportation, further efforts and improvements would be required for realising the true potential of multimodalism in India.

2. The inadequacy of port infrastructure / superstructure and road, railhead, coastal shipping and IWT connectivity with ports are major constraints that are hampering the growth of Indian container shipping sector and multimodalism. There are also other institutional impediments relating to Customs, Excise, Insurance and a lack of a clear liability regime, that affect the smooth and seamless flow of goods. These impediments impose a high cost burden on trade, apart from congesting the already over-burdened land based transport infrastructure.
3. With constantly increasing competitive pressures, exporters and shippers have become increasingly demanding, looking for better and innovative goods and services at ever lower prices. The challenges before the domestic container logistics sector is, thus, to acquire and integrate efficient and cost-effective technologies, solutions etc. into their systems for providing Indian Shippers with truly integrated multimodal transport / logistics value chain with the benefits of visibility, control and seamless flow of goods along the supply chain.

4. With increasing security concerns since 9/11, most companies and the governments recognise the need to implement comprehensive and integrated end-to-end security that extends beyond asset protection. There has been a proliferation and multiplicity of security initiatives and legislations internationally, especially originating from the USA, EU, and the International Maritime Organisation (IMO), and complying with these initiatives entails significant levels of investments. Further, it may be worthwhile to note that as regards financing of transport security, there is little transparency in terms of what money was raised for security, the levels of charges or taxes levied, and how the money was actually spent. The heterogeneity of approaches in funding the implementation of security measures and the lack of transparency mean that there is also a possibility of some distortion of competition. This is particularly relevant in cases where certain ports require additional, more stringent measures than those imposed by relevant legislation.
  
5. There has been an increased recognition of, and commitment to, social inclusion with a specific focus on addressing the needs of the poor and marginalised communities. Physical access to economic and social opportunities is one of the contributions that a truly integrated transport network can make towards this commitment.

6. The salient features of the suggestions / recommendations for promotion of Multimodal Transportation made by the Sub-Group are highlighted below.
- 6.1 Amendment of Multimodal Transportation of Goods (MMTG) Act, 1993 and the proposed Shipping and Trade Practices Act; and harmonisation of a liability regime in India with internationally prevailing norms and practices.
- 6.2 Development of Port Infrastructural Facilities and Services well before throughput volumes reach optimum capacity and easing congestion at Nhava Sheva / Western Region through improved infrastructure / measures in the Eastern Ports and dedicated, competitive container ports.
- 6.3 Impetus to the development of coastal shipping and integration of transfer nodes - Grant of 'Export' status to feeder containers connecting with main line vessels at Indian ports etc; Coordinated development of port related linkages (road / rail connectivity etc.); Strengthening of IWT infrastructure.
- 6.4 Formulating a policy on rail connectivity: Improving and augmenting quality / capacity in tandem with port development; Establishing more dedicated freight corridors between major destinations and ports; Improvement in rail connectivity to non-major ports; Level-playing field for already Licensed Operators for privatisation of Running of Container Block Trains; Fast tracking National Rail Vikas Yojana projects.
- 6.5 Improving & augmenting quality / capacity of Road Infrastructure and Connectivity for effective back-end integration in ports infrastructure; Allowing multi-axle trucks / incentives for fleet expansion; Permitting sealed trucks to operate without en-route inspections to reduce border crossing delays (European T.I.R); Improved safety; Combination of Administrative / Technical / Legal measures to: (i) improve axle load controls, (ii) resolve day to day operations

issues and those related to approach roads that service the ports, (iii) improve & ensure performance of ICDs / CFSs and their capabilities to handle projected incremental traffic; Fast tracking NHDP projects; Higher Outlay for development of Road infrastructure etc.

6.6 Impetus for developing requisite port side infrastructure at suitable locations and acquisition of Ro-Ro ships, compatible trucks etc. on a comprehensive scale.

6.7 Explore the possibility of captive power plant for all major ports

6.8 Encourage the concept of “Port City Complexes”, where feasible.

6.9 Revive / re-activate National Coordinating Agency for expeditious promotion of Multimodal Transport.

6.10 Simplification of Customs procedures and formalities: Extensive computerisation of Customs formalities & procedures; Innovative systems for Customs clearance (applying Risk management technique); Reducing transaction costs – waiving Customs examination of Export goods shipped under free Shipping Bill - with small percentage of random / surprise checks on suspicious shipments, etc.

6.11 Appointment of officials handling government owned Port Trust and other shipping related establishments for longer tenure; Encouraging / creating an environment of trust with public servants; Additional power to Chairmen / Boards of Port Trusts.

6.12 Balanced approach for managing the huge costs anticipated in securing the Supply Chain in acquiring and implementing new security technologies / solutions / initiatives, while maintaining competitiveness of Indian exports. Similar principles to be applied to domestic transport industry, as is the case with competitors in third countries for financing transport security: Alternatively,

security taxes and charges to be explicitly explained to users with proper break down.

- 6.13 Easier norms for movement of bonded goods from domestic locations allowing MTOs to set up bonded warehouse, simplified coastal movement of bonded goods, duty free import containers; Free movement of cargoes between ICDs, CFSs and ports without separate bond and Bank Guarantee; Transparent / Time-bound systems and procedures for swift disposal of uncleared goods; Allow loading in multiple ICDs; Develop single EDI platform for all CFSs, ports, Customs, shipping lines, forwarders, shippers; Permit movement of Groupage containers from port to port and ICD to ICD similar to ICD-gateway ports.
- 6.14 Minimising Revenue loss and expenditure to carriers due to delayed auctioning process for imported cargoes deemed as abandoned by the consignee by stipulating appropriate procedures.
- 6.15 Develop ICDs as complete logistic hub - with Public Private Partnerships.
- 6.16 Incentives to investments in infrastructure for developing multimodalism.
- 6.17 Limit Road movement of cargoes / containers to short-hauls for optimal utilisation of Rail Freight Corridor being developed by suitable incentives to shippers / trade.
- 6.18 Similar rules, penalties in each jurisdiction, Port through appropriate laws towards overloading as per Supreme Court order.
- 6.19 Rationalize Service tax issues and explore uniformity in taxation to avoid confusion, misuse, undirected penalties.
- 6.20 Opening more ICDs especially in export zones; uniformity in application of Customs laws across these ICDs; Stringent norms / annual approval mechanism / safety & quality audits of Ports & ICD - building a level playing field for all operators.

- 6.21 Streamlining documentation requirements in EXIM trade & avoiding / minimising bottlenecks such as Octroi, multiple checks, hold ups at port gates etc. and trade facilitative measures.
- 6.22 Clear definition of the liability of ICD / CFS operators, road transport providers and Container Corporation.
- 6.23 Developing requisite HRD strategies

7. **Conclusion and Way Forward**

- 7.1 The country's transport system needs to be optimised by means of advanced logistics solutions with accelerated development of Coastal Shipping / Inland Waterways etc. and enhanced connections between deep-sea shipping and hinterland areas through an optimal multimodal network resulting in efficient co-modality and sustainable utilisation of resources.
- 7.2 There is a need to integrate logistics thinking in the National Transport Policy with market-oriented approach and including social and environmental dimensions. It is, therefore, felt that after due consultations on the present Sub-Group's Report, and based on a framework strategy for freight transport logistics that could arise from the same, the Planning Commission could present an Action Plan for Freight Transport Logistics covering both pure uni-modal logistics and multimodal logistics, in the 11<sup>th</sup> Plan Document. The above mentioned Action Plan could set a landmark for advanced freight transport logistics development in the country, and may, if appropriate, be accompanied by specific proposals.

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**EXECUTIVE SUMMARY**

**OF**

**SUB-GROUP REPORT**

**ON**

**LIGHTHOUSES**

**AND  
LIGHTSHIPS  
FOR  
ELEVENTH FIVE YEAR PLAN  
(2007- 2012)**

*11<sup>TH</sup> 5-YEAR PLAN – EXECUTIVE SUMMARY – LIGHTHOUSES & LIGHTSHIPS*

An outlay of Rs 340.45 crore is proposed for the 11<sup>th</sup> Plan 2007-2012 for the spill over and new projects as per details below:-

**(A) Spillover Projects -**

An outlay of Rs.112.85 crore is proposed for the spill over projects of 10<sup>th</sup> Plan period as listed below:-

<b>(Rs in lakh)</b>		
<b>Sl No</b>	<b>Name of the Scheme</b>	<b>Plan Outlay</b>

(i)	Establishment of Coastal Vessel Traffic Service in GOK	4000.00
(ii)	Establishment of a lighted beacon at Chidiya Tapu at AandN Islands	20.00
(iii)	Establishment of a lighted beacon at Sister Island in AandN Islands.	20.00
(iv)	Establishment of a lighted beacon at Cape Edinburg Island at AandN	25.00
(v)	Establishment of a lighted beacon at Tries Islet at AandN Islands	25.00
(vi)	Establishment of a lighted beacon at North East tip of Minicoy Island	30.00
(vii)	Establishment of a Major Lighthouse at Chilka	100.00
(viii)	Establishment of a Major Lighthouse with Racon at Rava Port	110.00
(ix)	Establishment of a Major Lighthouse at Iskapalipalem	65.00
(x)	Establishment of a Major Lighthouse with Racon at Honavar	40.00
(xi)	Establishment of Coastal Vessel Traffic Service in Gulf of Khambat	6100.00
(xii)	Remote Control and Automation of Lighthouses Port Blair LH Dist.	400.00
(xiii)	Remote Control and Automation of Lighthouses Mumbai LH Dist.	250.00
(xiv)	Replacement of MV Deep Stambh	100.00
	<b>Sub Total (A)</b>	<b>11285.00</b>

**(B) New Projects**

New projects in respect of the Directorate have been split in five sub-groups –

- a) Visual aids consisting of lighthouses, buoys etc.
- b) Radio aids
- c) Development of Information Technology.
- d) Replacement of Assets
- e) Flotilla

**(a) Visual Aids**

The sub committee of the CACL, while going through the proposals for the 10<sup>th</sup> plan marked certain locations and advised to take up the work in subsequent plans. The scheme of lighthouses at Pumpoohar, Malipatanam, Markanam,

Baruva Port, Maipura Point, etc. is outcome of this decision. After Tsunami, Andaman administration have requested for lighthouses at Kota-ta Pain in Campbel Bay harbour, Hoiniph Rock Point in Katchal harbour, Somberreo Point in Pillowmillow Island and Murray Point in Kondul harbour. It is proposed to mark a new deep-water channel for VLCCs coming from Middle East to reduce the voyage time. The Directorate has been entrusted with the activities of marking wrecks for which separate provision has been made. Given the conditions of local light, which form a vital infrastructure in present day coastal shipping and lifeline for the fishermen, it has been planned to improve the condition of local lights. Also, keeping the world trend and the recommendations of Parliamentary Committee on Transport and Tourism, it is planned to beautify the lighthouses. The Directorate is having its own administrative buildings and staff quarters at regional centres where central pool accommodation are not available except at Vishakhapatnam where the Directorate is presently functioning from the Port premises. It is proposed to construct office building complex and staff quarters at Vishakhapatnam. A provision of Rs.34.60 crore is proposed for all these projects in the 11<sup>th</sup> Plan period.

**(b) Radio Aids**

The Automatic Identification System (AIS) has been accepted as a new tool for safety and security all over the world. The Directorate has proposed to network the entire Indian Coastline, similar on the lines of most of European, Latin American and North American countries. During 10<sup>th</sup> Plan period Directorate has increased the number of Racons from 30 to 48. It is now proposed to increase the number to about 80. The scheme of Automation is presently under implementation in two regions. One region is already under operation. It is

proposed to cover the remaining regions during the 11<sup>th</sup> Plan. It is proposed to establish a DGPS station at Rameshwaram for providing accurate position fixing system for the vessels traversing Sethusamudram ship channel. A provision of Rs 78.00 crore has been proposed for Radio Aids during the 11<sup>th</sup> Plan period.

**(c) Development of IT**

As a part of intelligent information gathering and interacting system, it is proposed to connect the headquarters and regional offices through a wide area network. The existing Local Area Network at regional offices and headquarters too shall be revamped. An outlay of Rs 10 crore is proposed for the 11<sup>th</sup> Plan period.

**(d) Replacement of Assets**

Based on the Capital Base of the inventory, the Directorate maintains Depreciation Reserve Fund which is Rs 65.51 crore. The Directorate carries out replacement of old assets out of this fund. A provision of Rs 5 crore has been made in the 11<sup>th</sup> Plan under replacement of assets for replacing the old assets.

**(e) Flotilla**

The Lighthouse tender vessel MV Pradeep caters to the need of lighthouses located in AandN islands. The vessel was built in eighties and has become aged. After Tsunami, a need has been felt for a faster and more agile vessel. It is proposed to replace the existing vessel. The manifold increase in number of aids, development of new deep water channels and wreck marking and the need of routine monitoring has necessitated the acquisition of a new Lighthouse Tender Vessel. It has been planned to induct a new vessel in the fleet of large ocean

going vessels of the Directorate. A provision of Rs 100 crore is proposed for the flotilla during the 11<sup>th</sup> Plan period.

Total (B) = B (a+b+c+d +e) = 227.60 crore

Total Outlay proposed – (A)+( B) = Rs.112.85+227.60 = Rs.340.45 crore

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**EXECUTIVE SUMMARY**

**OF**

**SUB-GROUP REPORT**

**ON**

**INLAND WATER  
TRANSPORT - I & II**

**FOR**

**ELEVENTH FIVE YEAR PLAN**

**(2007- 2012)**

*11<sup>TH</sup> 5-YEAR PLAN – EXECUTIVE SUMMARY – INLAND WATER TRANSPORT I & 2*

Freight transportation is an important economic activity which provides for carriage of goods (could be raw materials, semi-finished or finished goods) from one place to another. It is one of the key elements of the supply chain and links buyers and sellers. In a macro economic sense, transport system contributes to the nation's economic product and thus plays a crucial role in strengthening the economy. An efficient transportation system will make greater contribution to the nation's economy. At the same time, there are environmental concerns as this sector is a major consumer of fossil fuels and accounts for a substantial proportion of air pollution and greenhouse gases emissions.

India's freight transportation system comprises various modes such as road, rail, inland waterways, coastal shipping, pipelines etc and its strength is dependent on the synergies that result from the integration of the various modes and from the collaborative efforts of the stakeholders. Different modes have different characteristics in terms of capacity, energy efficiency, time and cost. In addition, new technology and innovations in vehicles, freight handling etc can alter these characteristics. For instance, while rail and road may have the comparative advantage on cost and time front, the waterborne transport modes have comparative advantages on energy efficiency and pollution fronts. The nation should look at synergy among various modes in operational terms so that the output of the transportation system in terms of its efficiency is more than the sum of its components (modes). This would happen if the various modes complement one another rather than compete with each another. Unfortunately, the transport development policy paradigm pursued in India so far has facilitated development of individual modes in an isolated manner. The result is:

- (i) The transport market has developed on uni-modal lines disregarding environmental concerns and possible intermodal linkages;

- (ii) While certain modes are getting congested, waterborne modes particularly IWT and Coastal Shipping are underdeveloped. There is also under-investment in IWT and Coastal Shipping sectors vis-à-vis levels reached in road and rail modes. As a result, there is under utilization of waterborne modes;
- (iii) The growth is most prominent in the road transport sector which is incidentally the most polluting mode.

An integrated transport policy that is deliberately inter modal can enhance the performance and service levels offered by the transportation system on both economic and environment fronts on the one hand and facilitate balanced growth of various modes and give competitive edge to the country's supply chain on the other. Accordingly, thrust should be on developing requisite infrastructure and inter-modal linkages. The responsibility of development of Inland Water Transport (IWT) mode is vested in Inland Waterways Authority of India (IWAI), a statutory body under Ministry of Shipping, Road Transport and Highways.

As in the previous Five Year Plan (ie 10<sup>th</sup> Plan), Planning Commission constituted Working Group on Shipping and IWT to facilitate formulation of 11<sup>th</sup> Plan. In turn, Ministry of Shipping constituted two Sub-Groups on IWT headed by Chairman and Vice Chairman, IWAI. It was decided at the level of Secretary (Shipping) that IWAI should present one single report for the IWT sector by combining the outcome of the deliberations of the two sub-groups.

The chapter plan of the Combined Report is as below:-

- Chapter-1 - Review of Financial and Physical performance of IWT Sector during 10<sup>th</sup> Five Year Plan
- Chapter-2 - Review of IWT Policy 2001

- Chapter-3 - Role of IWT in achieving Optimal Inter-modal mix
- Chapter-4 - Utilization of IWT mode for North East and Trade with Bangladesh
- Chapter-5 - Training facilities in respect of IWT
- Chapter-6 - Paradigm shift in IWT development
- Chapter-7 - Programme for Development and Fund requirement for 11<sup>th</sup> Plan**

**Chapter-1** deals with the review of financial and physical performance of IWT sector covering Inland Waterways Authority of India (IWAI), Central Inland Water Transport Corporation Ltd (CIWTC) and Centrally Sponsored Schemes (CSS). It gives requirement of fund suggested by 10<sup>th</sup> Plan Working Group, Plan allocation made, fund released and utilized under various schemes implemented during 10<sup>th</sup> Plan period and details thereof.

Against the 10<sup>th</sup> Plan proposal of Rs 5665 crores (Rs 4998 for IWAI schemes, Rs 450 crores for CSS and Rs 217 crores for CIWTC schemes), an outlay of Rs 903 crores was approved. Out of this, the outlay for IWAI was Rs 636.73 crores. The approved BE/RE for IWAI against this was Rs 513 crores (Rs 315 crores as BS + Rs 198 crores under NE Pool of funds). An expenditure of Rs 275 crores was made till August, 2006 and a further amount of Rs 202 crores was likely to be spent by March, 2007. Thus the total expenditure could be of the order of Rs 477 crores.

The expenditure was incurred mainly on maintenance of fairway including procurement of vessels for channel development (dredgers, survey launches etc), setting up of terminals, provision of navigational aids, procurement of cargo vessels for demonstration purpose etc for the three national waterways, techno-economic feasibility

studies on other waterway systems, assistance to States under Centrally Sponsored Scheme (CSS) and Inland Vessel Building Subsidy Scheme (IVBSS) to entrepreneurs for procurement of IWT vessels.

Major achievements in physical terms during 10<sup>th</sup> Plan period were:-

(i) National Waterway No. 1:- Least Available Depth (LAD) of 2 m was maintained between Haldia and Patna (1020 km) and 1.5 m between Patna and Varanasi for about 330 days. Night navigation aids were also provided between Tribeni and Farakka. Floating jetties with pontoon mounted cranes/shore cranes have been provided at Haldia, Kolkata, Karagola, Bhagalpur, Patna, Varanasi and Allahabad. Fixed concrete jetties exist at Kolkata, Farakka and Pakur. Construction work of permanent RCC terminal at Patna is almost completed. For making container handling possible on this terminal, a container handling crane has been installed. Project for construction of high level jetty at Patna has been sanctioned and work entrusted to CPWD on deposit basis. Three projects for formation of joint Venture with IWAI and private sector for jetties at Bandel, Kolaghat and Budge-Budge in West Bengal for transportation of flyash have been finalized and for one project of acquisition of barges for transportation between Kolkata and Mongla bids were received and processed.

(ii) National Waterway No. 2:- LAD of 2 m for 330 days was maintained between Dhubri-Dibrugarh (768 km). Night navigation facilities were also provided between Dhubri and Pandu (255 km). Floating jetties with pontoon mounted cranes/shore cranes have been provided at Dhubri, Jogighopa and Pandu. Construction work of permanent RCC terminal at Pandu is in progress. For making container handling possible on this terminal one container handling crane has been installed. Project for construction of high level jetty at Pandu has been sanctioned and work entrusted to CPWD on deposit

basis. A coal terminal is being developed at Jogighopa. JV bids have been received from private parties for operation of vessels between O-D pairs of Dhubri- Kolkata and Pandu- Kolkata.

(iii) National Waterway No. 3:-LAD of 2 m was maintained in Kochi- Alappuzha stretch. 2 m depth was also maintained in most part of Kochi – Kottapuram, Udyogamandal and Champakkara canals (about 135 km). Completion of capital dredging in remaining stretch however got delayed due to local issues. Day channel marks using coconut/concrete pillars and 24 hrs navigational aids were provided and maintained in Udyogamandal and Champakkara canals and in Kochi-Alappuzha stretch. Terminals at seven locations namely Kottapuram, Aluva, Maradu, Vaikom, Thaneermukkam, Trikkunnapuzha and Kayamkulam were completed.

(iv) Cargo movement:-An increased trend in cargo movement was observed as shown below:-

	(in btkm)		
	<u>NW-1</u>	<u>NW-2</u>	<u>NW-3</u>
2002-03	0.128	0.004	0.019
2003-04	0.160	0.029	0.022
2004-05	0.312	0.025	0.015
2005-06	0.411	0.032	0.017

In the IWT Sector (country as a whole) there was an increase in cargo movement from 1.5 btkm in 2000 to 2.82 btkm in 2006. On the front of utilization of National

Waterways, there have been some encouraging developments. Demonstrative voyages/Fixed Schedule Sailings are being carried out on National Waterway No. 1 between Haldia and Patna since January, 2004 using CIWTC's as well as IWAI's own vessels. 13 vessels of CIWTC have been leased out to the private sector and these are being used for cargo transportation. There have been regular transportations of POL products of Numaligarh Refinery by private sector, passenger vessel of a private company is successfully running tourist service in NW-2 for last two years between various points in the Dhubri - Dibrugarh stretch and two new passenger vessels for river tourism have been constructed for NW-1 and 2.

(v) Inland Vessel Building Subsidy Scheme (IVBSS):- IVBSS providing 30% subsidy for acquisition of inland vessel by an entrepreneur for operation on three National Waterways has been under operation since 1<sup>st</sup> April, 2002. Construction of 6 vessels (5 cargo vessels and 1 dredger) is in progress. Though not many vessels got constructed under this scheme in last 4 years, this scheme will be more attractive to the entrepreneurs when National Waterways become fully functional as planned by IWAI.

(vi) Public Private Partnership Projects (PPP):- 11 projects were identified. Out of these, three projects for jetties for fly ash handling at Bandel, Budge-Budge and Kolaghat in West Bengal were finalized. Some bids have also been received for projects for barge operation in NW-1 and NW-2 (four O-D pairs) which are under process. Through another consultant, a turn key project for transportation of 3-4 million tones NTPC coal per year is being developed as a Public Private Partnership project.

(vii) Centrally sponsored Scheme :- 32 projects of 13 States (Andhra Pradesh, Assam, Bihar, Goa, Himachal Pradesh, Karnataka, Kerala, Maharashtra, Madhya Pradesh, Orissa, Tripura, Uttar Pradesh and West Bengal) at a cost of Rs. 98.68 cr have

been sanctioned and fund of Rs. 41.77 cr was also released to these States in last three years.

(viii) National Inland Navigation Institute, Patna:- An institute of national importance, viz, National Inland Navigation Institute (NINI), Patna, became functional from Feb. 2004. This is the first institute of its kind in the country. About 460 trainees have successfully completed vessel crew training courses so far.

(ix) ADB Funding:- 3 projects were identified under Phase-I study by ADB's consultant viz Haldia-Patna sector of NW-1, Dhubri-Dibrugarh sector of NW-2 and Brahmani river in Orissa. Final report of Phase-II of the study is awaited.

(x) An Action Plan was formulated with a view to make the three National Waterways fully operational by March, 2008 and projects thereof are under implementation.

(xi) National Productivity Council (NPC) study was commissioned for capacity building of IWAI

(xii) Declaration of three new National Waterways is likely by the end of 10<sup>th</sup> Plan

Further, there have been significant developments in the realm of IWT affairs that have a bearing on the approach to IWT development during 11<sup>th</sup> Plan. These are as under:

- i) Thrust Area envisages gradual shift of domestic cargo from rail and road modes to IWT, for increasing IWT's share from the present level of less than 1% to 2%.

- ii) New Maritime Policy (Vision 2025) having sizeable IWT part is on the anvil.
- iii) NMDP was launched in December 2005 containing 15 projects of IWT sector and necessitating Rs10,500 crore investments in next 10 years
- iv) Revised CSS has been a success and various State Govts availed the scheme for development of State waterways. The trend is likely to continue in 11<sup>th</sup> Plan. By including IWT training infrastructure and dry docking facilities etc under the purview of this scheme, it is expected that CSS will be more attractive from State's perspective.
- v) Though the IVBSS came into being from 1<sup>st</sup> April, 2002, so far only 6 vessels are under construction. Hence there is a need to make it simpler. There is also a need to extend the scheme upto the year 2025 (currently valid upto March, 2007) so that vessels under private sector ownership are available in sufficient numbers for carrying cargo.
- vi) Because of increasing saturation and congestion of rail/ road modes there is a need for policy dispensation to facilitate movement of bulk commodities preferably by IWT.
- vii) CIWTC the only PSU IWT operator is under disinvestment. Thus there is a need for encouraging private sector participation in acquisition and operation of vessels.

**Chapter-2** deals with the review of IWT Policy 2001 in seven identified areas namely (i) JV by IWAI (ii) Equity participation by IWAI in BOT projects (iii) Vessel Building Subsidy of 30% (iv) Tax exemption similar to National Highways (v) Enhancement in depreciation rate for inland vessels (vi) Custom duty concession for selected items and (vii) Raising of Bonds by IWAI.

There has been some positive development in each of these areas except raising of bonds by IWAI and BOT projects for which need was not felt. Some JV projects were finalized, IVBSS made operational and notification with respect to Tax exemption, depreciation rate and custom duty concession were issued. With further development of IWT infrastructure, these policy measures will become more effective.

**Chapter-3** deals with the International IWT experience in Continental Europe, China and USA and Indian experience. In continental Europe, out of 26,000 km of navigable waterways, 17,000 km length is having depth more than 2.75 m. The European Union (EU) has launched a specific modal shift programme called “Marco Polo” in 2003. In China, out of 119,000 km of navigable waterways, 5000 km length is having depth more than 2.75 m. Besides, 2000 inland ports exist in China. In USA, out of 41,000 km of navigable waterways, 24,000 km length is having depth more than 2.75 m. The IWT modal share in Netherlands is 42%, France 15%, Hungary 15%, Germany 14%, Belgium 13% and in US 15%. India has 14,500 km of navigable waterways, of which about 5700 km is navigable by mechanized vessels, however the modal share of IWT in India is 0.28% only.

**Chapter-4** deals with the issues related to development of waterways for increased transportation by IWT mode in the North East. Under the Indo- Bangladesh IWT Transit and Trade Protocol, inland vessels of one country can move in the designated routes of the other country for transit as well as inter-country trade. There has been significant improvement in transport of cargo by IWT mode on the Protocol Route between Haldia/Kolkata and Bangladesh in last 2-3 years. This Protocol was to be renewed every two years. But, now it is being renewed on piecemeal basis. The designated transit routes are Kolkata-Pandu-Kolkata, Kolkata-Karimganj-Kolkata, Pandu-Karimganj-Pandu

and Rajshahi-Dhulian-Rajshahi. For inter-country trade, four ports of call have been nominated in each country. These are Kolkata, Haldia, Pandu and Karimganj in India and Narayanganj, Khulna, Mongla and Sirajganj in Bangladesh. Importance of IWT mode for connectivity of North-East and Bangladesh has been highlighted in this chapter. It gives constraints in IWT development in this area and suggested solutions thereto.

**Chapter-5** deals with various IWT training facilities available in India viz NINI, State centers of Assam, Orissa and Goa. 462 personnels were trained in NINI during 10<sup>th</sup> Plan period. As per the modal shift programme, the requirement of trained IWT man power will be of the order of 50,000 by 2025 ie at the end of 11<sup>th</sup> Plan period, it will be about 12,500. This does not include the manpower required for country boats. There is thus a need for imparting qualitative and standard training . A training modeled on STCW 95 pattern is therefore proposed. Further, it is also proposed that all riverine and coastal States should set up State training institutes, which in turn should establish good liaison with other institutes of repute.

**Chapter-6** deals with the need for **Paradigm shift in IWT development** during 11<sup>th</sup> Plan. The paradigm shift would be required on the following fronts:-

- (i) **Throughput oriented strategy**: At the end of the 9<sup>th</sup> Plan period the IWT share was 1.5 billion ton-km. The present throughput of IWT is 2.82 billion ton-km. An increase of 1.32 billion ton-km has been achieved during the 10<sup>th</sup> Plan period. With targeted investment of Rs 11,500 crores during 11<sup>th</sup> Plan, the targeted throughput envisaged is 5 billion ton-km by the end of 11<sup>th</sup> Plan period ( ie by 2012)

(ii) Quantum jump in public funding: There has been under investment in IWT infrastructure vis-à-vis road and rail. Hence there ought to be quantum jump in funding of IWT sector in 11<sup>th</sup> Plan

(iii) Institutional Capacity Building of IWAI and State level Institutions : Assuming that entire projected outlay is provided to IWAI, it will be able to absorb the outlay and deliver only if its capacity, mainly in terms of its technical expertise to handle and implement infrastructure projects, is enhanced. Similarly the State level implementing agency (IWT Directorate) should also be adequately strengthened.

(iv) Organic integration of IWT and Coastal Shipping: Organic integration of Coastal Shipping and IWT will certainly increase the momentum of IWT activities in all coastal States. The existing 30% subsidy in vessel building needs to be extended to the vessels capable of doing both coastal and IWT legs.

(v) Composite transportation projects to be the mainstay: The IWT development paradigm pursued so far has been development of various components (terminals, fairway, cargo handling equipments, operations) vide separate projects in standalone manner. This approach has not helped in development of IWT sector in an integrated manner. The yardstick of performance of IWT sector is the modal share of IWT, which in turn is dependent both on the quality of infrastructure and the productivity of IWT vessels. Therefore it is felt that an integrated approach may yield desirable results, which would mean planning composite transportation projects (combining both infrastructure and operation components) and support it with viability gap funding, if required.

- (vi) Improving Productivity: The productivity of the IWT vessels in India is quite low, ie on the average of 5000 ton-km per DWT vis-à-vis 15000 ton-km per DWT in developed countries. Hence there is a need for R&D for designing suitable vessels for pure IWT operation as well as for IWT/ Coastal Shipping combined movements. Besides, attention must be paid to improving qualitative aspects of cargo handling equipments, terminal operation etc.
- (vii) Coverage of National Waterways (NWs): By the end of 11<sup>th</sup> Plan, three new Waterways are likely to be added to the existing 3 NWs, taking the total coverage to 4500 Kms. The focus in 11<sup>th</sup> Plan should be to put requisite infrastructure on the existing waterways, make them fully functional and get on with development of new NWs on fast track.
- (viii) Setting up of a Committee to study Integrated Transport Planning: A High Powered Committee on the lines of National Transport Policy Committee (1980) should be set up to study the Integrated Transport Planning affairs.
- (ix) Connecting remote areas by adopting fish bone model & Development of State Waterways: All riverine States should develop waterways as feeder routes to National Waterways by adopting the fish-bone model of development. Major waterways of the States should be identified and classified as “State Waterways” for priority funding. More funds will be required during 11<sup>th</sup> Plan as response of CSS during 10<sup>th</sup> plan has been encouraging.
- (x) New Scheme for Unorganized Sector: Modernization/ improvement of country boats ( Bhut-Bhutis) in the North East area and other areas of the country should be taken up under a new scheme. It will improve the efficiency of the small vessels and thereby increase employment

opportunities and efficiency of IWT sector as a whole. It will also help in poverty alleviation and remote area connectivity.

(xi) Reaching threshold level of IWT development by Public investment during 11<sup>th</sup> Plan: Once the sector develops and reaches a threshold level, private funding/ extra budgetary resources will start flowing automatically.

xii) Training on SCTW 95 pattern & Network of Training Institutes: To meet the trained manpower requirement for the vessels, it is necessary that all riverine and coastal States should set up state level Crew Training Institutes to be networked to NINI. For ensuring quality and standard training, it should be modeled on STCW 95 pattern.

xiii) Fleet Augmentation: Modal Share of 2% by 2025 will require 2500 new vessels. The strategy suggested in this regard is (i) Extension of IVBSS upto 2025 and increasing its scope and (ii) Formation of a Vessel Leasing Company on JV basis by IWAI involving a private partner.

xiv) Bringing about uniformity in legal regime for IWT operations: The I.V. Act should be amended to facilitate uniformity in legal regime and conducive hassle free inter-state IWT operations. Re-writing of IV Act may also be considered. The State Govts have to formulate IV Rules for implementation under IV Act keeping in view the operational requirements of the respective States. This should be based on Model IV Rules framed by IWAI.

xv) Promoting passenger transport on Rivers: The passenger transport sub-sector has remained neglected. During 11<sup>th</sup> Plan, due emphasis should be laid on promoting passenger transport on rivers/ inland waterways by making appropriate policy intervention.

xvi) New emphasis on co-operation with Bangladesh: For achieving higher exports and better connectivity to NER, new emphasis on co-operation with Bangladesh is envisaged during 11<sup>th</sup> Plan period. This will be perused by adding more Protocol routes, more Ports of call and improved cargo handling facilities on Protocol routes.

xvii) Encouraging Modal Shift through close ended Incentives: A modal shift programme on the lines of “Marco Polo” of the European Union (EU) should be implemented in the Indian context to effect targeted modal shift. A package of incentives for IWT operations including a specific incentive scheme of providing @20 paise per ton-km of cargo moved through identified IWT routes is proposed.

**Chapter-7** deals with the programme for development (both physical and financial details) for 11<sup>th</sup> Plan under **ongoing schemes** ie Grants to IWAI( NW-1, NW-3, New National Waterways, JV etc) , Technical studies and R&D, IVBSS, CSS, NE Pool of funds ( for NW-2, Protocol route and river Barak) and **the new schemes**. It also gives the details of source of funding. The requirement of funds (**IWAI & CSS only**) during 11<sup>th</sup> Five Year Plan has been projected as below:-

<u>Ongoing Schemes</u>	(Rs in crores)		
	<u>BS</u>	<u>EBR</u>	<u>Total</u>
Grants to IWAI (NW1, 3, JV)	1620	1050	2670
Technical Studies and R&D	50	-	50
IVBSS	480	1120	1600
CSS	650	-	650

NE Area (NW 2, Protocol, CSS)	<u>842</u>	-	<u>842</u>
Total	3642	2170	5812

An outlay of Rs 5688 crores is proposed under “**New Schemes**”, out of which the Budgetary Support would be Rs 2338 crores and the EBR component Rs 3350 crores. The broad break-up given below:-

<u>Name of New Scheme</u>	<u>BS</u>	<u>EBR</u>	
<u>Total</u>			
New National Waterways	1488	-	1488
Incentive for IWT Operators	100	-	100
Mechanization of country crafts ( Bhut-bhuties)	50	50	100
Vessel Leasing Special Purpose Vehicle (SPV)	100	525	625
Dedicated IWT Development Fund (JV for vessel)	500	2625	3125
Funding for composite transportation projects	<u>100</u>	<u>150</u>	<u>250</u>
Total	2338	3350	5688

### Summary of 11<sup>th</sup> Plan proposals

Schemes/ Projects	BS (Rs in crores)	EBR (Rs in crores)	Total (Rs in crores)
Ongoing Schemes/ projects	3642	2170	5812
New Schemes	2338	3350	5688

Total	5980	5520	11500
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**Total Rs 11500 crores**

It is expected that the road map chalked out vide this document will be supported and matched by requisite funds as shown above, as also by capacity building of IWAI during 11<sup>th</sup> Plan. With this support from Govt, development of IWT Sector is expected to reach the requisite threshold level to pave the way for private sector participation in a big way as witnessed in the case of other transport modes, particularly road.

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**EXECUTIVE SUMMARY**

**OF**

**SUB-GROUP REPORT**

**ON**

# **FINANCING**

## **FOR**

### **ELEVENTH FIVE YEAR PLAN**

#### **(2007- 2012)**

#### ***11<sup>TH</sup> 5-YEAR PLAN – EXECUTIVE SUMMARY - FINANCING***

1. Historically, the shipping sector in India has not been keeping pace with the overall global growth of shipping and maritime activities in spite of having substantial potential for growth. The growth of shipping tonnage over the past has been meagre. The Gross Register Tonnage (GRT) in the beginning of IX<sup>th</sup> Plan (April 1997) was 6.91 million tones whereas in the beginning of X<sup>th</sup> Plan (April 2002) was 6.82 million tones thereby showing reduction in the GRT rather than any increase over five years.

2. The Gross Registered Tonnage as on 1.7.2006 is 8.58 million only which is hardly 1.5% of the world fleet of ships.
- 3 In the Xth Plan, there was no target of investment set. The actual tonnage (GRT) added in the first four years i.e. 2002-03 to 2005-06 of the Xth Plan period was 4.20 million. The corresponding investment was of the order of Rs. 10,600 crores only. It was observed that most of the tonnage acquisition happened with the introduction of tonnage tax scheme by the Government of India which gave a fillip to the investment by making this sector attractive.

4. **Investment requirement during XIth Plan Period**

Based on the reports of INSA and other available information, it is estimated that an amount of about Rs. 72,000 crores will be required during the XIth Plan period for investment in acquisition of ships, port/shipbuilding and IWT areas. Considering debt:equity ratio of 70:30, the requirement of equity is to the tune of about Rs. 21,600 crores and requirement of borrowing comes to about Rs. 50,400 crores

5. The equity component in case of already established companies are expected to be deployed primarily from the internal resources which is supplemented by tonnage tax reserves.
6. As far as borrowing from market is concerned, there are following issues :-
  - (a) Availability of fund and depth of market (domestic and international).
  - (b) Tenure of borrowing available.

- (c) Exposure norms of commercial banks.
- (d) Withholding tax on interest in case of External Commercial Borrowings (ECBs).

7. The views from the Bankers :

(a) **Availability of fund and depth of market (domestic and international)**

In the domestic market, the different sectors compete with each other in getting loan from domestic lenders. However, how much money get available to each sector depends on the attractiveness of that particular sector to the lenders. This is again determined by the certainty/uncertainty of the revenue flow, the fiscal regime in which the sector is operating and the applicable exposure norms of the lenders. The banking community monitors the performance of sectors seeking loan. As per current indications, the shipping industry is buoyant with reasonably good EBITDA margins. It is expected that exim trade from India is to grow at a healthy rate. Therefore, funding by way of debt from the banking system for viable projects will not be a constraint. However, preference is likely to be given to companies that have relatively young fleet that meets with the requirements of the safety and command better freight rates and where steady income stream is assured through long term chartering/tie ups for some part of the revenue to be earned.

(b) **Tenure of borrowing available**

Ships fair life being about 20-25 years, the tenure of borrowing required is fairly long term, not less than 10 years. In the domestic market, there are not many banks, who can provide such long term loan due to the inherent mismatch of

asset and liability in their books. Therefore, in the domestic market, it may be difficult to get such long term loan at optimum terms and conditions. Domestic lenders are likely to insist on reset clause of interest after say 3-5 years to overcome the asset liability mismatch in their books. In the international market, however, the availability of borrowing for such long tenure of 10-12 years is not an issue. In fact, though traditionally, few banks specialized in the area of shipping loan, in the recent past it has been observed that many international banks are expressing their eagerness to provide shipping loan. In addition, the export credit agencies are also keen to provide guarantee/direct loan for financing of ships acquired from their countries.

(c) **Exposure norms of commercial banks**

In the domestic market, commercial banks are guided by the prudential guidelines prescribed by the Reserve Bank of India regarding their exposure to different sectors and companies. As per RBI guidelines, maximum exposure to a single borrower is limited to 15% (20% in case of infrastructure projects) of the banks net worth. There are other related norms applicable to the group of borrower. It is the opinion of the bankers that considering their present low exposure to shipping, the policy issues relating to exposure norms are not likely to adversely affect the flow of funds from the domestic banking system to the shipping sector.

As far as borrowing from the international market is concerned, there is enough money available in the system. There is no specific exposure norm, though each bank may have their own country specific and industry specific allocations.

(d) **Withholding tax on interest in case of External Commercial Borrowings (ECBs)**

There is an incidence of 20% withholding tax in India applicable on interest on External Commercial Borrowings. The lenders do not agree to bearing the impact of such withholding tax and therefore the burden finally comes on the borrower. This raises the cost of borrowing substantially.

8. The availability of funds from lenders for a particular sector depends on the revenue flow as well as the consistency of the revenue flow vis-à-vis the other sector competing for finance. Shipping is known for its cyclical nature. Therefore, the lenders put emphasis on good revenue margins which will be able to stand against the worst of the cycles and provide enough cash flow to the lenders for recovery of their debt. Shipping being global in nature, the Indian shipping companies should look competitive vis-à-vis the international shipping companies as the lenders in the international market has the option to lend to shipping companies located at any place in the world. Therefore, the committee has suggested certain changes in the fiscal regime applicable to the Indian shipping companies which will make the sector attractive destination for the lenders to lend money.

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**SUB- GROUP**

**REPORTS**



REPORT  
OF  
THE SUB GROUP  
(SHIPPING)  
SET UP BY  
THE WORKING GROUP ON SHIPPING  
&  
INLAND WATER TRANSPORT  
FOR  
THE ELEVENTH FIVE YEAR PLAN

(2007-2012)

PRESENTED BY  
DIRECTOR GENERAL OF SHIPPING  
DIRECTORATE GENERAL OF SHIPPING  
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MUMBAI - 400 001.

ELEVENTH FIVE-YEAR PLAN (2007 – 2012)

REPORT OF THE WORKING GROUP ON SHIPPING AND IWT FOR ELEVENTH FIVE YEAR PLAN (2007–2012)

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*REPORT OF THE WORKING GROUP ON SHIPPING AND IWT FOR*  
**11<sup>TH</sup> FIVE YEAR PLAN (2007-2012)**  
**SUB-GROUP ON SHIPPING**  
OCTOBER 2006

1) PREFACE

- 1.1. THE MINISTRY OF SHIPPING, ROAD TRANSPORT & HIGHWAYS – DEPARTMENT OF SHIPPING VIDE THEIR LETTER NO. SY-11018/3/206-SC DATED 22.06.2006, SET UP A SUB-GROUP (SHIPPING) OF THE WORKING GROUP ON SHIPPING AND IWT UNDER THE CHAIRMANSHIP OF THE DIRECTOR GENERAL OF SHIPPING TO REVIEW PERFORMANCE OF THE SHIPPING SECTOR DURING THE 10<sup>TH</sup> PLAN AND FORMULATE STRATEGY FOR THE 11<sup>TH</sup> PLAN, WITH THE TERMS OF REFERENCE AS FOLLOWS:**

- (i) TO REVIEW THE FINANCIAL AND PHYSICAL PERFORMANCE OF SHIPPING DURING THE TENTH PLAN PERIOD WITH PARTICULAR REFERENCE TO THE PLAN TARGETS AND DRAW LESSONS THERE-FROM FOR THE ELEVENTH PLAN.
- (ii) TO DETERMINE PRODUCTIVITY NORMS AND SUGGEST MEASURES TO IMPROVE THE PRODUCTIVITY OF INDIAN SHIPPING SECTOR.
- (iii) TO FORMULATE A STRATEGY FOR THE DEVELOPMENT OF SHIPPING SECTOR KEEPING IN VIEW THE NEED FOR
  - a. MAKING INDIAN SHIPPING MORE COMPETITIVE; AND
  - b. MEETING THE EMERGING REQUIREMENTS OF SEA TRANSPORTATION OF INDIAN TRADE.
- (iv) TO PROJECT THE TRAFFIC FLOWS (COMMODITY-WISE) AND ASSESS THE CAPACITY REQUIREMENTS TO MEET THE PROJECTED TRAFFIC DEMAND BY INDIAN VESSELS DURING 11<sup>TH</sup> PLAN.

AN ADDITIONAL TERM OF REFERENCE WAS ADDED VIDE THE MINISTRY' LETTER OF EVEN NO. DATED 05TH SEPTEMBER, 2006 , VIZ.,

- (v) TO REVIEW THE INTERNATIONAL CO-OPERATION WITH OTHER COUNTRIES PERTAINING TO THE MARITIME SECTOR.

**1.2. THE COMPOSITION OF THE SUB-GROUP IS AS UNDER:**

I.	DIRECTOR GENERAL OF SHIPPING	CHAIRMAN
II.	NAUTICAL ADVISER, DG SHIPPING	MEMBER
III.	CHIEF SURVEYOR, DG SHIPPING	MEMBER
IV.	DY. CHIEF CONTROLLER OF CHARTERING, DEPTT. OF SHIPPING	MEMBER
V.	REPRESENTATIVE OF MIN. OF COMMERCE	MEMBER
VI.	REPRESENTATIVE OF PLANNING COMMISSION	MEMBER
VII.	DY. SECY. (PORT OPERATION), DEPTT. OF SHIPPING	MEMBER
VIII.	DY. SECY. (MM), DEPTT. OF SHIPPING	MEMBER
IX.	REPRESENTATIVE OF JN PORT	MEMBER

X.	REPRESENTATIVE OF GOVT. OF GUJARAT	MEMBER
XI	DIRECTOR (SD), DEPTT. OF SHIPPING	MEMBER
XII.	REPRESENTATIVE OF MIN. OF PETROLEUM & NATURAL GAS	MEMBER
XIII.	JOINT ADVISER(PP), PLANNING COMMISSION	MEMBER
XIX.	DIRECTOR (T&OS), SCI	MEMBER
XX.	REPRESENTATIVE OF INDIAN INSTITUTE OF FOREIGN TRADE	MEMBER
XXI.	REPRESENTATIVE OF ICICI	MEMBER
XXII.	REPRESENTATIVE OF INSA	MEMBER
XXIII.	REPRESENTATIVE OF THE FEDERATION OF INDIAN EXPORT ORGANIZATION	MEMBER
XXIV.	REPRESENTATIVE OF CII	MEMBER
XXV.	REPRESENTATIVE OF IWAI	MEMBER
XXVI.	REPRESENTATIVE OF FICCI	MEMBER
XXVII.	DEPUTY DIRECTOR GENERAL OF SHIPPING	MEMBER/CONVENER

- 1.3. THE SUB-GROUP HELD THREE MEETINGS ON 25TH JULY, 2006, 08TH SEPTEMBER, 2006 AND 13TH OCTOBER 2006.
- 1.4. THE REPORT OF THE SUB GROUP IS DIVIDED INTO FIVE CHAPTERS WITH THE FINAL CHAPTER DEALING WITH THE RECOMMENDATIONS AND PRESENTED ACCORDINGLY.
- 1.5. THE SUB GROUP ACKNOWLEDGES THE ASSISTANCE PROVIDED BY INDIAN NATIONAL SHIPOWNERS' ASSOCIATION AND THE CONSULTANT IT ENGAGED FOR THIS PURPOSE, SHRI ANANTHA PRASAD N.S., IN DRAFTING THE REPORT.

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## ELEVENTH FIVE YEAR PLAN (2007 – 2012)

### SUB: BACKGROUND NOTE FOR THE WORKING GROUP ON SHIPPING FOR THE ELEVENTH FIVE YEAR PLAN (2007–2012)

#### CHAPTER 1

##### PRESENT SCENARIO

##### 2 Introduction

**2.1 INDIA STANDS 5TH IN RANK ORDER OF GDP, IN TERMS OF PURCHASING POWER PARITY (PPP), REPRESENTING 6% OF THE WORLD TOTAL. IN THE CURRENT YEAR 2006, OUR NATIONAL GDP GROWTH RATE IS EXPECTED TO BE MAINTAINED AT 8% AND WILL PROBABLY CONTINUE AT THIS PACE THROUGH THE TENURE OF THE 11TH PLAN. INDUSTRIAL PRODUCTION GROWTH IS AT A SIMILAR LEVEL (AS GDP GROWTH) BUT INTERNATIONAL TRADE GROWTH NOW EXCEEDS 15% P.A. A CLEAR INDICATOR OF THE MATURING OF OUR ECONOMY IS THE MIX OF GDP COMPONENTS - FROM A PREDOMINANTLY AGRO-BASED ECONOMY A DECADE AGO, WE ARE MOVING TOWARDS A GREATER ORIENTATION TO VALUE-ADDED MANUFACTURING AND SERVICES. IN 2005, SERVICES REPRESENTED 53.8% OF GDP, AGRICULTURE 18.6% AND INDUSTRY 27.6%.**

##### 2.2 INDIAN EXIM TRADE & SHARE IN WORLD EXPORTS

2.2.1 The growth in EXIM trade has been a clear indication of a booming economy.

YEAR	EXPORTS US\$ MIL.	EXPORT GROWTH	EXPORTS SHARE IN GDP	IMPORTS US\$ MIL.	IMPORT GROWTH	IMPORTS SHARE IN GDP
1999-00	36,759.52	10.68%	8.21%	49,798.64	17.51%	11.13%
2000-01	44,147.44	20.10%	9.64%	50,056.27	0.52%	10.93%
2001-02	43,976.01	-0.39%	9.20%	51,588.41	3.06%	10.79%
2002-03	52,856.28	20.19%	10.36%	61,571.55	19.35%	12.07%

2003-04	64,011.95	21.11%	10.63%	78,356.46	27.26%	13.01%
2004-05	79,408.76	24.05%	-	107,284.59	36.92%	-
<i>SOURCE: CMIE – FOREIGN TRADE &amp; BALANCE OF PAYMENTS – JULY’ 2005</i>						

**TABLE 1**

2.2.2 EXPORTS HAVE GROWN FROM ABOUT US\$ 32 BILLION TO ABOUT US\$ 79 BILLION DURING THE PERIOD FROM 1995 TO 2005 POSTING A GROWTH AT CARG OF 10.69%. THE YEAR-ON-YEAR GROWTH OF EXPORTS HAS RISEN SUBSTANTIALLY FROM 5.20% IN 1996-97 TO 24.05% IN 2004-05. THE YEAR-ON-YEAR GROWTH OF IMPORTS HAS ALSO GROWN SUBSTANTIALLY FROM 6.63% IN 1996-97 TO 36.92% IN 2004-05.

2.2.3 Viewed as India’s share in Global Merchandise, trade figures are equally indicative of its growing standing in the world:

<b>INDIA’S SHARE IN WORLD MERCHANDISE EXPORTS (VALUE IN US \$ BN)</b>						
	<b>INDIA</b>			<b>WORLD</b>		
<b>YEAR</b>	<b>RANK</b>	<b>VALUE</b>	<b>SHARE</b>	<b>RANK</b>	<b>VALUE</b>	<b>SHARE</b>
2001	30	43.6	0.7	-	6,155.0	100.0
2002	30	49.3	0.8	-	6,455.0	100.0
2003	31	56.0	0.7	-	7,503.0	100.0
2004	30	75.6	0.8	-	9,153.0	100.0
2005	29	89.8	0.9	-	10,393.1	100.0
<i>SOURCE: WTO INTERNATIONAL TRADE STATISTICS &amp; PRESS RELEASE DATED 11.04.2006</i>						

**TABLE 2**

<b>INDIA’S SHARE IN WORLD MERCHANDISE IMPORTS (US \$ BN)</b>						
	<b>INDIA</b>			<b>WORLD</b>		
<b>YEAR</b>	<b>RANK</b>	<b>VALUE</b>	<b>SHARE</b>	<b>RANK</b>	<b>VALUE</b>	<b>SHARE</b>
2001	27	49.6	0.8	-	6,441.3	100.0
2002	24	56.6	0.8	-	6,693.0	100.0
2003	24	70.7	0.9	-	7,778.0	100.0

<b>2004</b>	<b>23</b>	<b>97.3</b>	<b>1.0</b>	<b>-</b>	<b>9,495.0</b>	<b>100.0</b>
<b>2005</b>	<b>17</b>	<b>131.6</b>	<b>1.2</b>	<b>-</b>	<b>10,753.1</b>	<b>100.0</b>
<i>SOURCE: WTO INTERNATIONAL TRADE STATISTICS &amp; PRESS RELEASE DATED 11.04.2006</i>						

Table 3

**2.2.4 INDIA'S SHARE OF EXPORTS IN GLOBAL MERCHANDISE TRADE DURING THE PERIOD FROM 2001 TO 2005, WITH AN INCREASE IN VALUE TERMS FROM US\$ 43.6 BILLION TO US\$ 89.8 BILLION WHILE IT HAS MOVED UP FROM A 0.8% TO 1.2% SHARE OF WORLD MERCHANDISE IMPORTS, VALUED TO HAVE INCREASED FROM US\$ 49.6 BILLION TO US\$ 131.6 BILLION.**

2.2.5 More heartening than the progress achieved is the forecast for the future. The export target in the Foreign Trade Policy 2004-09 announced by the Government of India is to double the existing share in world trade by 2009 and achieve about 1.5% share of the world trade, thus aiming for export to grow to around US \$ 195 billion. Progress towards the target is being systematically pursued. Thus, for 2006, the government has set a revised merchandise export target of \$ 125 billion, against \$ 120 billion set earlier, 21 per cent higher than the actual exports of \$102.7 billion achieved in 2005, and 36 per cent higher than the \$92 billion target set for that year 2005-06.

2.3 WORLD ECONOMIC PROSPECTS

**PUBLISHED OVERVIEWS OF THE GLOBAL ECONOMY PRESENT A GLOBAL BACKDROP OF OPPORTUNITY THAT ENHANCES THE CHANCES FOR INDIA ACHIEVING THESE TARGETS. THERE IS AN EXPECTATION OF ACCELERATION OF WORLD GDP GROWTH IN THE SECOND HALF OF 2007, FOLLOWING THE EFFORT BY THE MAJOR ECONOMIES AT CONTAINING INFLATION IN 2006 BY A TIGHTENING OF THE MONETARY POLICY THAT HAS RESULTED IN THE PREDICTION OF A SLOWER RATE OF GROWTH THAN EARLIER YEARS IN 2006 TO 3.6%. THE REBOUND IN 2007 IS EXPECTED TO CARRY FORWARD TO 2008, PEAKING AT 4.1%.**

2.4 WORLD SEA BORNE TRADE

Considering that the major volume of trade that is borne by maritime transport, the boom in shipping in the last few years is understandable. Even then, a CAGR over the last five years of 4.11% is impressive. The development of World Sea borne Trade for various commodity groups in terms of quantity (tonnes) during the period from 2000 to 2004 and projections for 2005 & 2006 is given below, and shows fastest growth in dry bulk and container transport:

<b>WORLD SEA BORNE TRADE STATISTICS (MILLION TONNES)</b>								
<b>COMMODITY</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005 (F)</b>	<b>2006 (F)</b>	<b>CARG</b>
<b>DRY BULK</b>								<b>2000-06</b>
<b>IRON ORE</b>	<b>448</b>	<b>451</b>	<b>481</b>	<b>519</b>	<b>589</b>	<b>651</b>	<b>694</b>	<b>7.57%</b>
<b>COKING COAL</b>	<b>174</b>	<b>169</b>	<b>173</b>	<b>179</b>	<b>180</b>	<b>184</b>	<b>196</b>	<b>2.00%</b>
<b>STEAM COAL</b>	<b>350</b>	<b>387</b>	<b>407</b>	<b>453</b>	<b>474</b>	<b>498</b>	<b>512</b>	<b>6.55%</b>
<b>GRAINS</b>	<b>264</b>	<b>260</b>	<b>271</b>	<b>264</b>	<b>273</b>	<b>273</b>	<b>277</b>	<b>0.80%</b>
<b>TOTAL DRY BULK</b>	<b>1,236</b>	<b>1,267</b>	<b>1,332</b>	<b>1,415</b>	<b>1,516</b>	<b>1,606</b>	<b>1,679</b>	<b>5.24%</b>
<b>Minor BULKS</b>								
<b>BAUXITE / ALUMINIUM</b>	<b>54</b>	<b>52</b>	<b>55</b>	<b>63</b>	<b>66</b>	<b>68</b>	<b>69</b>	<b>4.17%</b>
<b>PHOS. ROCK</b>	<b>28</b>	<b>29</b>	<b>30</b>	<b>29</b>	<b>30</b>	<b>30</b>	<b>30</b>	<b>1.16%</b>
<b>OTHER MINOR BULKS</b>	<b>723</b>	<b>748</b>	<b>756</b>	<b>784</b>	<b>814</b>	<b>832</b>	<b>845</b>	<b>2.63%</b>
<b>TOTAL MINOR BULKS</b>	<b>805</b>	<b>829</b>	<b>841</b>	<b>876</b>	<b>910</b>	<b>930</b>	<b>944</b>	<b>2.69%</b>
<b>TOTAL BULK TRADES</b>	<b>2,041</b>	<b>2,096</b>	<b>2,173</b>	<b>2,291</b>	<b>2,426</b>	<b>2,536</b>	<b>2,623</b>	<b>4.27%</b>
<b>OTHER DRY TRADE</b>	<b>929</b>	<b>910</b>	<b>961</b>	<b>955</b>	<b>957</b>	<b>940</b>	<b>945</b>	<b>0.29%</b>

<b>TOTAL DRY TRADES</b>	<b>2,970</b>	<b>3,006</b>	<b>3,134</b>	<b>3,246</b>	<b>3,383</b>	<b>3,476</b>	<b>3,568</b>	<b>3.10%</b>
<b>CONTAINER TRADE</b>	<b>628</b>	<b>647</b>	<b>718</b>	<b>806</b>	<b>919</b>	<b>1,017</b>	<b>1,120</b>	<b>10.12%</b>
<b>CRUDE PRODUCTS</b>	<b>1,656</b>	<b>1,684</b>	<b>1,667</b>	<b>1,770</b>	<b>1,850</b>	<b>1,905</b>	<b>1,962</b>	<b>2.87%</b>
<b>TOTAL OIL TRADES</b>	<b>2,174</b>	<b>2,229</b>	<b>2,211</b>	<b>2,352</b>	<b>2,471</b>	<b>2,564</b>	<b>2,658</b>	<b>3.41%</b>
<b>COMMODITY</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005 (F)</b>	<b>2006 (F)</b>	<b>CARG</b>
<b>LPG</b>	<b>39</b>	<b>36</b>	<b>37</b>	<b>36</b>	<b>38</b>	<b>37</b>	<b>39</b>	<b>0.00%</b>
<b>LNG</b>	<b>100</b>	<b>104</b>	<b>109</b>	<b>123</b>	<b>130</b>	<b>132</b>	<b>141</b>	<b>5.89%</b>
<b>TOTAL GAS TRADES</b>	<b>139</b>	<b>140</b>	<b>146</b>	<b>159</b>	<b>168</b>	<b>169</b>	<b>180</b>	<b>4.40%</b>
<b>TOTAL</b>	<b>5,912</b>	<b>6,021</b>	<b>6,208</b>	<b>6,563</b>	<b>6,940</b>	<b>7,228</b>	<b>7,526</b>	<b>4.11%</b>
<b>Y-O-Y GROWTH (%)</b>	<b>-</b>	<b>1.84</b>	<b>3.11</b>	<b>5.72</b>	<b>5.74</b>	<b>4.15</b>	<b>4.12</b>	
<i>SOURCE: CLARKSON RESEARCH STUDIES - SPRING 2006</i>								

Table 4

2.4.1 As may be gathered from the above table, dry bulk trade leads with 48% share in the total world sea borne trade followed by oil trade with 35%, container trades with 15% and gas trades with 2%. It may also be observed that the share of container trades in the total world sea borne trade has shown a relatively higher growth during the period under review (from 11% in 2000 to 15% in 2006), while both dry bulk as well as oil trades have shown a marginal decline with gas trades remaining the same.

## 2.5 World Shipping Fleet

**2.5.1 GROWTH IN CARGO AVAILABILITY HAS FUELLED AN IMPRESSIVE GROWTH IN THE SHIPPING SECTOR. THE UNCTAD REVIEW OF WORLD MARITIME TRANSPORT 2005, INDICATES THAT, WHILE WORLD OUTPUT GREW BY 4.1 PER CENT IN 2004, THE WORLD FLEET EXPANSION CONTINUED AT A PACE OF 4.5 PER CENT. THE WORLDWIDE MERCHANT FLEET INCREASED BY 38.8 MILLION DWT TO A RECORD 895.8 MILLION DWT. THE SHARE OF THE DEVELOPING-COUNTRY FLEET REACHED 22.6 PER CENT, OR 202.3 MILLION DWT (DEADWEIGHT TONS), AT THE BEGINNING OF 2005, WITH 77 PER CENT OF THIS FLEET BELONGING TO DEVELOPING COUNTRIES IN ASIA. THE NET INCREASE OF DEVELOPING COUNTRIES' FLEET WAS 20.9 MILLION DWT, MORE THAN FOUR TIMES THE NET INCREASE OF THE FLEET OF MAJOR OPEN-REGISTRY COUNTRIES, WHICH INCREASED BY 4.5 MILLION DWT. IN A PERIOD OF 5 YEARS (2000-2005), EIGHT (VIZ. CHINA, HONG KONG, INDONESIA, IRAN, MALAYSIA, SOUTH KOREA, SINGAPORE AND THAILAND) OUT OF A GROUP OF NINE DEVELOPING COUNTRIES IN ASIA ACHIEVED A GROWTH RATE OF 59.8% IN THEIR TONNAGE OVER 5 YEARS WORLD TONNAGE GREW FROM 558 M.GT IN 2000 TO 675 M.GT IN 2005, BY ALMOST 21%.**

**2.5.2 FOLLOWING ARE THE 5 COUNTRIES WHICH RECORDED THE HIGHEST INCREASE IN TONNAGE DURING THE LAST 5 YEARS:**

<b>COUNTRY</b>	<b>INCREASE IN TONNAGE (M.GT) IN LAST 5 YEARS</b>	<b>% OF GROWTH</b>
<b>PANAMA</b>	<b>27.75</b>	<b>24.80</b>
<b>HON KONG</b>	<b>19.56</b>	<b>191.38</b>
<b>MARSHALL ISLAND</b>	<b>19.00</b>	<b>197.71</b>
<b>SINGAPORE</b>	<b>9.21</b>	<b>43.46</b>
<b>LIBERIA</b>	<b>8.05</b>	<b>16.00</b>
<b>SOURCE: INSA ANNUAL REVIEW 2004-05, AND LLOYD'S REGISTER FAIR PLAY</b>		

**TABLE 5**

**2.5.3 ANALYSING FURTHER, ONE MAY NOTE THAT 50% OF THE GROWTH IN WORLD FLEET DURING THE LAST FIVE YEARS HAS BEEN ON ACCOUNT OF THE DEVELOPMENT OF FLEETS OF 5 MAJOR COUNTRIES, VIZ: PANAMA, LIBERIA, BAHAMAS, GREECE AND SINGAPORE, OF WHICH THE FIRST THREE COUNTRIES ARE FLAGS OF CONVENIENCE COUNTRIES. THE STRENGTH OF THE CARGO**

**CARRYING FLEETS OF THESE 5 PRINCIPAL MARITIME COUNTRIES IN THE WORLD FLEET IN 2000 AND 2005 IS AS UNDER:**

COUNTRY	CARGO CARRYING FLEET (M.GT) IN 2000	CARGO CARRYING FLEET (M.GT) IN 2005	AVERAGE AGE OF CARGO CARRYING FLEET IN 2005
PANAMA	111.96(1)	139.71 (1)	17
LIBERIA	50.31 (2)	58.36 (2)	11
BAHAMAS	30.59 (3)	36.56 (3)	14
GREECE	26.32 (5)	30.68 (4)	21
SINGAPORE		30.45 (5)	13
MALTA	28.06 (4)		

**TABLE 6**

**NOTE: FIGURES IN BRACKETS REFER TO THE RANKING IN WORLD FLEET.**

**2.6. Indian Maritime Fleet**

2.6.1. In contrast, the Indian shipping Industry has failed to grasp the opportunity for growth. While the total volume of India's trade has been increasing every year, the Indian tonnage has not been able to keep pace with it. In fact, the share of Indian ships in the carriage of the country's overseas trade has been declining over the years. Details regarding the share of Indian ships in the carriage of India's overseas trade for the period from 1992-93 to 2002-03 are given below.

YEAR	GENERAL CARGO		DRY BULK		POL & PRODUCTS		TOTAL INDIAN LINES		TOT. IND. & FOR. LINES
	MT	%	MT	%	MT	%	MT	%	MT
1999-00	2.94	7.3	11.95	14.4	55.96	55.0	70.85	31.5	224.62
2000-01	3.54	8.3	11.10	12.2	40.02	36.2	54.66	22.4	244.33
2001-02	3.34	5.9	7.80	7.6	35.16	30.9	46.30	17.0	273.04

<b>2002-03</b>	<b>2.89</b>	<b>5.6</b>	<b>9.38</b>	<b>7.9</b>	<b>30.16</b>	<b>27.4</b>	<b>42.43</b>	<b>15.1</b>	<b>280.34</b>
<b>2003-04</b>	<b>4.33</b>	<b>5.6</b>	<b>7.75</b>	<b>5.9</b>	<b>35.51</b>	<b>25.8</b>	<b>47.59</b>	<b>13.8</b>	<b>345.65</b>
<b>2004-05</b>	<b>7.56</b>	<b>8.0</b>	<b>7.82</b>	<b>5.0</b>	<b>39.50</b>	<b>26.6</b>	<b>54.88</b>	<b>13.7</b>	<b>400.58</b>
<i>SOURCE: INSA ANNUAL REVIEW 2004 AND 2005-2006 (?)</i>									

**TABLE 7**

2.6.2 It may be observed from the above table that the declining trend has been continuing from 1992-93 (except for a few years from 1996-1999), and during 2002-03 the share of Indian lines in the carriage of India's overseas trade fell to around 13.7%. While the total volume of trade moving in India's overseas trade has slightly increased from 273.04 million tons in 2001-2002 to 280.34 million tons in 2002-2003, the volume of cargo carried by Indian ships came down from 46.30 million tons to 42.43 million tons, falling, significantly, in all cargo sectors. Consequently, the overall percentage share of Indian ships in the country's overseas trade declined from 31.50% to 13.7%.

2.6.3 Whether this is the consequence or the cause is a moot point, but the lackluster figures for the growth of the Shipping industry also stand in sharp contrast to the booming growth of world tonnage, and especially of developing Asian countries. The tonnage levels targeted since the Vth Plan period and the tonnage actually reached are given below:

<b>PLAN PERIOD</b>	<b>TARGET (M.GT)</b>	<b>ACHIEVEMENT(M.GT)</b>
<b>5<sup>TH</sup> PLAN</b>	<b>8.64</b>	<b>5.58</b>
<b>6<sup>TH</sup> PLAN</b>	<b>7.5</b>	<b>6.32</b>
<b>7<sup>TH</sup> PLAN</b>	<b>7.5</b>	<b>5.91</b>
<b>8<sup>TH</sup> PLAN</b>	<b>7.00</b>	<b>6.92</b>
<b>9<sup>TH</sup> PLAN</b>	<b>9.00</b>	<b>6.93</b>
<b>10<sup>TH</sup> PLAN</b>	<b>NOT FIXED</b>	<b>8.58</b>
		<b>(AS ON 1-6-2006)</b>

Table 8

2.6.4 Till the start of the Xth Plan, progress was practically stagnant; and even in the Xth Plan, the growth registered has not been anywhere near the growth in other Asian economies of comparable GDP growth. India stands at the 20<sup>th</sup> rank among maritime nations, in terms of fleet size, with a share of only 1.19 % of the world fleet.

## 2.7. **Xth Plan Strategy and Achievement**

2.7.1 Anticipating an upturn in cargo growth, and aware of the stagnation in the industry, the Sub-Group Report on Shipping for the Xth Plan of the country had analyzed the shipping industry sector by sector, to understand where the possibility of growth may lie, and to plan for an increase where opportunity was apparent. However, it had refrained from fixing a target for growth in tonnage, focusing, instead, on recommending a strategy for tackling the factors responsible for the poor response of the sector to the impetus of cargo growth. Of these, the reform in fiscal policy to enable the industry to compete on equal terms and 'on a level playing field' was the measure given the greatest emphasis.

2.7.2 The period of the Xth Plan did indeed see a change in the physical regime applicable to shipping. Tonnage tax was introduced in 2004-2005, after a long and hard battle by the sector, as an alternative to regular corporate tax, thereby reducing tax to a nominal rate, and making profits from shipping exempt if they were put away in a fund and put to use only for investment in acquisition of new tonnage. The unprecedented growth of 23.6% in shipping tonnage happened only after 2004-2005; and the country's tonnage grew thereafter from 6.94 m.gt on 01.04.1984 to 8.46 m.gt by 01.04.2006.

## 2.8 **Indian Tonnage at the end of the Xth Plan**

**2.8.1 THE TREND IN GROWTH OF INDIAN MERCHANT FLEET DURING THE PERIOD FROM 2000 TO 2006 BY NUMBER OF VESSELS AS WELL AS '000 GT IS GIVEN BELOW.**

Total Indian Fleet by Vessel type (In Nos.)
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Vessel type	2000	2001	2002	2003	2004	2005	2006
Tug	64	90	100	99	105	121	141
Oil Tankers	91	90	93	90	105	109	110
Bulk Carrier	117	115	117	91	88	97	104
Offshore Supply Vessel	68	69	70	73	77	85	92
Others	-	-	-	77	77	81	91
Liner	78	82	78	75	71	68	69
Pax-cum-Cargo Vessels	23	25	27	35	38	40	43
Specialized Vessels for OS	27	27	28	31	32	32	35
Dredger	14	15	16	16	16	19	20
LPG/Ethylene Carrier	9	9	9	10	11	14	17
Cellular Container	10	10	9	10	10	9	8
Acid Carrier	8	7	7	4	4	4	4
RO RO	1	1	1	1	1	3	3
Ore/ Oil Bulk Carrier	3	4	3	2	2	2	2
Timber Carriers	2	2	2	2	2	2	0
Total	515	546	560	616	639	686	739
Note : Position as on 1 <sup>st</sup> April of each year, Source – DGS Tonnage Statements							

Table 9

**2.8.2 IT WILL BE SEEN THAT THE OIL TANKERS, OFFSHORE SUPPLY VESSELS, SPECIALISED VESSELS FOR OFFSHORE SERVICES, PAX-CUM-CARGO VESSELS AND OTHERS (INCLUDING TUGS, RO-RO, DREDGERS, BARGES, PILOT / SURVEY LAUNCHES ETC.) IN THE INDIAN MERCHANT FLEET**

HAVE INCREASED, WHILE LINER VESSELS, BULK CARRIERS, TIMBER CARRIERS AND OBO CARRIERS HAVE DECLINED DURING THE PAST FIVE YEARS.

Total Indian Fleet by Vessel size (In '000 GT)							
Vessel type	2000	2001	2002	2003	2004	2005	2006
Oil Tankers	3138	2955	2996	2940	3874	4669	4748
Bulk Carrier	2657	2657	2752	2223	2057	2242	2535
LPG/ Ethylene Carrier	128	128	128	143	159	221	293
Liner	412	316	244	170	146	141	143
Cellular Container	138	138	131	139	139	122	117
Offshore Supply Vessel	73	74	74	78	80	90	100
Ore/ Oil Bulk Carrier	171	200	133	95	95	95	95
Dredger	56	64	72	71	71	87	90
Pax-cum- Cargo Vessels	76	77	79	87	88	88	88
Specialized Vessels for OS	77	79	80	89	90	90	81
Acid Carrier	115	97	97	75	75	75	75
Others	-	-	-	36	36	37	45
Tug	20	24	26	24	26	30	36
RO RO	1	1	1	1	1	19	19

Timber Carriers	7	7	7	7	7	7	0
Total	7069	6817	6820	6178	6944	8013	8465

**TABLE 10**

(Note :- position as on 1<sup>st</sup> April of each year, source – DGS Tonnage Statements)

**2.8.3** STUDIED WITH REFERENCE TO SIZE, AS ABOVE, IT WILL BE SEEN THAT, AS ON **01.01.2006**, OIL TANKERS ACCOUNTED FOR **60.61%** OF THE TOTAL TONNAGE FOLLOWED BY BULK CARRIERS WITH **29.63%**. ALL THE OTHER VESSEL TYPES, VIZ., LINER VESSELS, OTHERS, OFFSHORE SUPPLY VESSELS ETC, ACCOUNTED FOR THE REMAINING **9.76%** OF THE TONNAGE.

## **2.9. Cargo-wise Assessment of Indian Tonnage at the beginning of the XIth Plan**

**2.9.1** A macro level projection of commodity-wise port traffic at Indian ports for 2013-2014 given as under provides considerable opportunities for Indian ships in the movement of country's sea borne trade.

(in million mt)

Commodity	Existing Traffic 2003-04	Overall Projected Traffic 2013-14	Share of Major Ports 2013-14
POL	182.45	290.00	191.20
Iron Ore	71.35	131.50	99.00
Coal	57.84	135.90	108.40
Container (Million TEUs)	51.00 (3.90)	251.40 (20.95)	181.20 (15.10)
Other cargoes	95.57	152.75	126.04
Total	458.21	961.55	705.84

Table 11

## **2.10 POL Sector: LPG**

PREDICTIONS FOR GROWTH IN THE LPG SECTOR ANTICIPATE AN INCREASE OF 7MMT OR 70% IN THE NEXT FIVE YEARS OVER THE EXISTING LEVELS OF DEMAND. DEMAND HAS BEEN GROWING @ 12% PER ANNUM, AND IS EXPECTED TO KEEP TO THIS RATE IN THE NEXT FIVE

YEARS AS WELL, UNLESS THERE IS CHANGE IN THE POLICY TO WITHDRAW SUBSIDY FOR THE DOMESTIC SECTOR. SHIPPING HAS AMPLE AND STEADY OPPORTUNITY IN LPG TRANSPORT

## **2.11 POL Sector: Petroleum**

In the carriage of Petroleum, ever since the Administered Prices Regime was withdrawn in 1998, things have undergone a sea change, with the private sector moving in for sourcing of crude and independently organising the necessary tankers for transportation of oil. Limitations of draft at port have kept vessel sizes smaller than the average elsewhere, but the expected commissioning of Single Buoy Moorings being built by Jamnagar, Mundra and Kochi, will set up the demand for the efficiencies associated with size and VLCCs, and see the existing fleet moving into coastal shipment. The compulsory phasing out of single hulls by 2010 will reduce the size of the active fleet, even as economic growth drives up the demand from the 127 m.mt at the end of the Xth Plan to an anticipated 180 m.mt of crude by 2013-2014. Movement of petroleum may well be higher, given that the addition of refining capacity in the country is poised to generate a surplus for export of about 44 m.mt per annum over the domestic demand. Thus, despite the fact that tanker tonnage constitutes 60.61% of the existing Indian tonnage, it is estimated that existing tonnage will be at best able to cater to about 30 to 32 m.mt. The need and scope to add tonnage in the tanker segment will continue to ride high.

## **2.12 POL Sector: LNG**

DEMAND FOR NATURAL GAS IN INDIA IS ESTIMATED TO JUMP BY ABOUT 100% BY 2010, AND GROW @ OF 5% PER ANNUM, 2002-2025. THIS PROJECTION SEEMS TO BE BASED ON SEVERAL FACTORS, NOT LEAST THE ANTICIPATED GDP GROWTH AT 8%, BUT ALSO THE PRESSURE ON INDUSTRY TO SWITCH TO ENVIRONMENTALLY FRIENDLY FUELS. RESTRAINTS ON SUPPLY BEYOND THE INDIGENOUS PRODUCTION ARE LIKELY TO BE PRESENTED BY THE TRANSPORTATION FACTOR AS WELL AS THE SPEED AT WHICH LIQUEFACTION AND

GASIFICATION PLANTS CAN BE SET UP, THE ONE AT THE TRANSPORTATION END, AND THE OTHER AT THE PORT RECEPTION FACILITY END. IT IS ESTIMATED THAT FOR THE NEXT FIVE YEARS, THE DEMAND AND SUPPLY POSITION WILL BE IN EQUILIBRIUM, AS, TO THE CURRENT TWO LNG VESSELS, AND THE THIRD IN THE PROCESS OF DELIVERY, IT IS PLANNED TO ADD ANOTHER 5 TO 6 VESSELS BY 2012. AT THIS POINT IN TIME, NONE OF THEM IS UNDER THE INDIAN FLAG – THOUGH THE TWO IN OPERATION ARE WITH THE SCI AND BELONG TO A CONSORTIUM THAT INCLUDES THE SCI, THE VESSELS ARE REGISTERED UNDER THE MALTESE FLAG. ANALYSING THIS POSITION FROM THE POINT OF VIEW OF ENERGY SECURITY, IT WOULD BE CLEAR THAT THERE IS SCOPE FOR DISRUPTION OF THE SUPPLY ARRANGEMENTS IN THE EVENT OF WAR OR ANY OTHER EMERGENCY. IT IS NOTEWORTHY THAT DURING THE IRAQ WAR, 100% OF THE POL IMPORTS WERE BEING MADE ONLY ON SHIPS WITH THE INDIAN FLAG. FROM THE ECONOMIC ANGLE, IT WOULD BE THE FREIGHT RATES THAT WOULD ADVOCATE A POLICY TO SUPPORT ACQUISITION OF LNG TONNAGE UNDER THE INDIGENOUS FLAG, SINCE CHARTERING CHARGES, INCLUDING IDLING CHARGES, STAND AT 70,000 TO 80,000 US\$ A DAY.

### **2.13 Dry Bulk Sector**

WITH A 30 % SHARE IN THE INDIAN FLEET, AMOUNTING TO 2.3 M.GT, THE BULK SEGMENT STANDS AS THE SECOND LARGEST IN TERMS OF TONNAGE, THOUGH MAJOR PORTION OF INDIAN DRY BULK OVERSEAS TRADE IS CARRIED ON FOREIGN FLAGS. EVEN THE RIGHT TO CARGO PREFERENCE, OR CABOTAGE, IS BEING UNDER-UTILISED DUE TO LIMITATIONS OF TONNAGE. THIS SHOULD MAKE THE PROJECTIONS FOR GROWTH IN THE SECTOR A MATTER OF INDIFFERENCE TO IT: BUT IN FACT, THE OVERALL PROSPECTS ARE POSITIVE. WHILE THE DEMAND FOR IRON ORE SHIPMENT MAY SLOW DOWN IN COMPARISON TO THE LAST FEW YEARS BECAUSE OF THE GROWTH IN DEMAND FROM INDIGENOUS STEEL MILLS, INCREASED DEMAND FOR MOVEMENT OF COAL AND WHEAT ARE EXPECTED TO MAINTAIN THE GLOBAL DEMAND AT 5% PER ANNUM, WILL KEEP THE INDIAN MARKET ATTRACTIVE, AND PROVIDE THE RIGHT ENVIRONMENT FOR INVESTMENT IN ADDITIONAL DRY BULK TONNAGE.

### **2.14 Container Shipping Liners**

**2.14.1 DETAILS REGARDING THE COMMODITY-WISE TRAFFIC HANDLED AT MAJOR INDIAN PORTS (MILLION TONNES) FOR THE PERIOD FROM 2000-01 TO 2004-05 ARE GIVEN BELOW:**

COMMODITY	2000-01	2001-02	2002-03	2003-04	2004-05
POL	108.35	103.17	109.63	122.16	126.44
IRON ORE	40.46	45.76	50.56	58.81	76.19
COAL	47.48	45.60	48.19	48.80	52.79
FERTILIZER	9.14	9.56	8.55	7.53	9.68
CONTAINER	32.22	37.23	43.67	51.00	54.76
GENERAL CARGO	43.46	46.26	52.95	56.49	63.88
TOTAL	281.11	287.58	313.55	344.79	383.74
<i>SOURCE: IPA'S MAJOR PORTS OF INDIA - 2004-2005</i>					

**TABLE 12**

**2.14.2 GLOBAL GROWTH IN CONTAINER SHIPPING IN THE LAST FIFTEEN YEARS FROM 1990 TO 2005 HAS BEEN @ 10% PER ANNUM, FAR FASTER THAN THE OVERALL GROWTH OF 3.6% P.A. GROWTH IN CONTAINER HANDLING SERVICES HAS BEEN EVEN FASTER THAN CONTAINER SHIPPING, AT 10.6% P.A.; BUT FASTEST OF ALL HAS BEEN THE RISE IN TRANSSHIPMENT TRAFFIC, WHICH AVERAGED 14% IN THIS PERIOD, AND REACHED AS HIGH AS 27% IN 2005. THIS IS BECAUSE OF THE HUB AND SPOKE OR FEEDER SERVICES STRATEGY EVOLVED IN CONTAINER MOVEMENT, IN WHICH ECONOMIES OF SCALE DICTATE LARGER AND LARGER SHIPS, BUT DRAUGHT RESTRICTIONS DO NOT ENABLE THEM TO TOUCH ALL PORTS. SMALLER SHIPS THEN FEED AND OFFLOAD FOR PORTS IN THE VICINITY, LEADING TO A BUSY COASTAL AND SHORT VOYAGE TRAFFIC, AND THE CONTAINERISATION OF SMALLER PORTS. CONTAINER SHIPPING COMPANIES THAT SUCCEED IN THEIR BUSINESS ARE THE ONES THAT SUCCEED IN COMBINING OR COMMANDING EXPERTISE IN SHIPPING WITH CONTAINER HANDLING, LOGISTICS MANAGEMENT AND MULTIMODAL OPERATIONS FOR THE EFFICIENT CARRIAGE OF SMALL LOTS OF CONTAINERS FOR DIFFERENT PORTS AND THE RETURN OF EMPTY, PREFERABLY STUFFED CONTAINERS BACK TO THEIR MOTHER SHIPS.**

**2.14.3 PROSPECTS FOR GROWTH IN CONTAINER TRAFFIC ARE FORECAST AS BEING BRIGHT FOR AT LEAST THE NEXT TEN YEARS, DUE TO THE WORLD ECONOMIC GROWTH, THE RISE IN THE PROPORTION OF GOODS BEST SUITED TO CONTAINERISED TRANSPORT, AND THE DEVELOPMENT OF THE HIGHLY SOPHISTICATED CONTAINER HANDLING FACILITIES AND LOGISTICS MANAGEMENT SYSTEMS REQUIRED FOR QUICK TURNAROUNDS. BETWEEN 1990 – 205, CONTAINER FLEET SIZE EXPANDED BY ABOUT 180%; AND, IN TERMS OF TEU CARRYING CAPACITY, BY BUILDING BIGGER AND BIGGER SHIPS, BY 400%. IN THE COMING YEARS, FURTHER MASSIVE EXPANSION IS ANTICIPATED, WITH ORDERS IN HAND WITH SHIPBUILDING YARDS FOR AN ABOUT 1,230 CONTAINER SHIPS, MAINLY OF THE LARGER KIND, WITH A TEU CAPACITY ADDITION OF ABOUT 50%. IN THE NEXT TWO OR THREE YEARS, IN FACT, EXCESSIVE SUPPLY OF CONTAINER SHIPS IS CONSIDERED INEVITABLE. HOWEVER, AS HECTIC PORT ACTIVITY FOR IMPROVING FACILITIES CONTINUES APACE, ESPECIALLY IN ASIAN COUNTRIES, NO PUNDIT IS WILLING TO PREDICT A FALL IN FREIGHT RATES. TRADE PATTERNS ARE MOST LIKELY TO BE AFFECTED BY TEMPORARY FEEDER SERVICE SHORTAGES.**

**2.14.4 IN INDIA, GROWTH IN CONTAINERISATION HAS BEEN 5% P.A., AND IS EXPECTED TO JUMP FROM A LEVEL OF 3.9 M TEUS TO 20.95 M TEUS. PRESENTLY, 61% OF THE CONTAINERS ARE TRANSSHIPPED FROM COLOMBO, ADDING UP TO US\$ 200 PER TEU TO FREIGHT COSTS, AND RAISING FREIGHT PAID BY INDIAN SHIPPERS TO 11.4% OF CIF VALUE OF GOODS, FROM THE WORLD AVERAGE OF 6.1%, AND MUCH ABOVE THE OVERALL SEA BORNE TRADE AVERAGE FOR INDIA OF 9%. WITHIN THE COUNTRY, JNPT IS THE BIGGEST HUB, BUT WITH PRIVATE PARTICIPATION IN PORT DEVELOPMENT, THE NEXT FEW YEARS MAY WELL SEE CHANGE AS PORTS PREPARE FOR THE INCREASED REQUIREMENTS.**

**2.14.5 DESPITE THE PROMISE OF GROWTH, BOTH GLOBAL AND DOMESTIC, IT IS DIFFICULT TO FORESEE THE ACQUISITION OF LARGE CONTAINER SHIPS BY INDIAN COMPANIES. THE COMPLEXITY OF CONTAINER MOVEMENT, AND THE LACK OF EXPERTISE WITH THEM IN CONTAINER HANDLING AND THE SOPHISTICATIONS OF CONTAINER LOGISTICS MANAGEMENT LEAD ONE TO EXPECT THAT GROWTH UNDER THE INDIAN FLAG WILL CONFINE ITSELF TO FEEDER VESSELS. EVEN THIS MIGHT BE DEPENDENT ON THE CONTINUATION OF CABOTAGE. ALTHOUGH THERE IS NO MOVE TO REVIEW IT, IT MAY BE EXPECTED THAT THE PREFERENCE TO**

**INDIAN SHIPPING WILL COME UNDER INCREASING PRESSURE FROM PORTS AND CONTAINER HANDLERS AS TRAFFIC VOLUMES INCREASE AND COST EFFICIENCIES FOR LOGISTICS MANAGEMENT DEMAND LONG TERM PLANNING, UNLESS INDIAN TONNAGE RESPONDS TO THE OPPORTUNITY AND PROVIDES THE REQUIRED CAPACITIES.**

## **2.15 Off Shore Services Sector**

2.15.1 The Offshore Services sector caters mainly to the offshore oil and gas industry, which include the following services: -

- Operation of Jack-up rigs, Semi-submersible drill ships, Deepwater Drill Ships, Survey Vessels and Well simulation vessels.
- Designing, fabrication and erection of offshore platforms and accommodation modules.
- Laying underwater pipelines
- Revamping, refurbishing and replacement of offshore platforms, accommodation, superstructures.
- Marine Logistic support – Anchor Handling Tug Supply Vessels (AHTSVs), Platform Supply Vessels (PSVs), Anchor Handling Tugs (AHTs), Multipurpose Support Vessels (MSVs), Fire Fighting Support Vessels (FFSVs), Diving Support Vessels (DSVs) etc,
- Towing of rigs/ barges & other vessels (without self-propulsion) and towing of ships either damaged or under distress
- O & M and manning contracts for various vessels owned and operated by the oil companies such as seismic survey vessels, Geotechnical vessels, Drill ships, Multipurpose Support Vessels (MSVs), Diving Support Vessels (DSVs), Supply Boats (etc)
- Periodic inspection, maintenance and repair of underwater pipelines and other sub-sea structures
- Diving Services & Geo-technical Services
- Manpower transfer through crew boats

- Turnkey Contracts for exploration of offshore blocks including provision of rigs, marine logistics, mud logging services, etc

**2.15.2** A STUDY OF TRENDS IN THE OIL AND GAS SECTOR WOULD SUGGEST THAT THE DEMAND FOR OFF SHORE SERVICES WILL CONTINUE TO RISE HIGH. FACED WITH A LARGE SUPPLY DEFICIT, EXACERBATED BY THE GDP UPSWING, THE COUNTRY HAS LIBERALISED ITS OIL EXPLORATION POLICY AND HAS ALREADY GIVEN OUT 55 BLOCKS - 30 OFF SHORE AND 25 ON SHORE – FOR EXPLORATION IN AN ATTEMPT TO BRIDGE THE GAP BETWEEN DOMESTIC SUPPLY OF 33.98 M.MT AND THE DEMAND OF 127 M.MT OF CRUDE OIL. THIS HAS ALREADY LED TO AN INCREASE IN DEMAND FOR OFF SHORE SERVICE VESSELS (OSV), SO THAT 87 OSVs ARE ALREADY IN OPERATION AT VARIOUS SITES, 100 ARE EXPECTED TO BE DELIVERED BY THE END OF 2006, AND NEW BUILD ORDERS STAND AT 360. THE TREND OF ORDERS FOR RIG CONSTRUCTIONS AND OTHER OFF SHORE RELATED EQUIPMENT WOULD SUGGEST A MARKET EXPECTATION OF STABILITY IN THE FUTURE OF OIL AND GAS PRICES, AND THEREFORE A LONG TERM COMMITMENT TO EXPLORATION AND THE USE OF PETROLEUM PRODUCTION.

**2.15.3** HERE AGAIN ARE CLEAR OPPORTUNITIES FOR INDIAN SHIPPING IN SERVICES THAT HAVE A HIGH LEVEL OF VALUE ADDITION, RELATIVELY LESS VOLATILITY, AND A STRATEGIC MULTIPLIER EFFECT ON THE NATIONAL ECONOMY. PRESENTLY, THE DOMESTIC FLEET IS LARGELY INADEQUATE AND A LARGE PROPORTION OF THE VESSELS USED ARE OF FOREIGN FLAGS, MANY OF THEM WITH OUTDATED EQUIPMENT AND AT HIGH CHARTER COSTS. IN THE COMING YEARS, AS OSV PRESENCE INCREASES, CONSIDERATIONS OF SAFETY OF LIFE AT SEA AND NATIONAL ENERGY WOULD REQUIRE THAT A FIRM POLICY IS LAID DOWN TO GOVERN OSV EXPANSION AND OWNERSHIP ISSUES AND REGULATE RIG INTERFACE AND LIABILITY CONCERNS. IT IS NOT IRRELEVANT THAT MOST COUNTRIES PREFER TO HAVE SUCH SERVICES PROVIDED BY COMPANIES THAT ARE NATIONALLY CONTROLLED.

**2.15.4** IN SUM, TOWARDS THE END OF THE 10TH PLAN, AS WE LOOK TO THE NEXT 5 YEARS, IT WOULD APPEAR THAT EXPANSION OF CARGO AVAILABILITY WILL PRESENT AMPLE OPPORTUNITY TO THE ENTREPRENEURIAL SPIRIT TO INVEST IN SHIPPING AND SEA BORNE TRANSPORT IN EVERY SECTOR, BUT FACTORS INFLUENCING INVESTMENT DECISIONS ARE MOST LIKELY TO SEE GROWTH IN TANKERS, DRY BULK CARRIERS AND OFF SHORE SERVICE VESSELS.

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## CHAPTER 3

### ISSUES CONFRONTING THE INDIAN SHIPPING INDUSTRY

#### **3.1 Analysis of growth in tonnage**

3.1.1. The analysis brought out in Chapter 1 would show that conditions are ripe for an increase in tonnage in the Indian fleet, with clear scope in tankers, LPG carriers, OSVs, dry bulk carriers and containers. Yet no Indian Company has declared any plan for expansion or, even in discussion on the question, given any indication of an optimistic outlook for growth. The Indian merchant fleet as on 1-4-2006 comprised 739 vessels of 8.46 m.gt. According to INSA, about 374 vessels of 3.79 m.gt are likely to be scrapped over the next 5 years due to their crossing the 25-year age limit. On the basis of the trend in acquisition of ships in the past years, in an 'as is' scenario, without further policy intervention, 186 ships of 1.17 m.gt can be estimated to be added to the Indian fleet, leaving the fleet with a net tonnage of 4.67m.gt Thus, around 551 ships of 5.84 m.gt are expected to be in operation in the Indian fleet at the end of the XIth Plan period. In other words, INSA expects Indian shipping to miss the opportunity for growth, and shrink further.

3.1.2 In order to be able to assess why the industry reaction is so cautious, an analysis is required of the main issues and bottlenecks confronting the sector.

#### **3.2 Lack of a Clear Policy Approach**

##### **3.2.1 Lack of Conviction**

**EVERY TIME THE INDIAN SHIPPING INDUSTRY HAS ASKED FOR GLOBALLY COMPETITIVE CONDITIONS FOR GROWTH INVOLVING A CHANGE IN THE FISCAL REGIME, THE ARGUMENT HAS BEEN ADVANCED THAT OWNERSHIP IS UNNECESSARY FOR EFFICIENCY OF CARGO MOVEMENT.**

IF A CAB OR A PLANE IS AVAILABLE TO GET FROM PLACE A TO PLACE B, IS IT NECESSARY TO TRAVEL BY YOUR OWN VEHICLE OR OWN YOUR OWN PLANE? ALREADY, 85 % OF INDIAN CARGO MOVES UNDER FOREIGN FLAGS, AND MOVES WITH AN EFFICIENCY THAT IS GOVERNED MAINLY BY PORT FACILITIES AND CARGO HANDLING CAPACITIES, AND VERY LITTLE AFFECTED BY THE OWNERSHIP OF THE VESSEL. THE ARGUMENT AT FIRST GLANCE, IS PLAUSIBLE: IT IS ONLY IF ECONOMIES LIE IN OWNING THE CAR OR THE PLANE THAT A DECISION FOR OWNERSHIP WILL GET TAKEN. IT IGNORES HOWEVER, THE HIGH COSTS OF FREIGHT IMPOSED ON ANY COUNTRY THAT DOES NOT HAVE THE BARGAINING POWER TO NEGOTIATE TERMS. THE TACTICAL WISDOM OF A “BUY FOB AND SELL CIF” PRACTICED CANDIDLY AND CLEARLY BY COUNTRIES SUCH AS JAPAN, USA, AND NOW CHINA, IS NOT BORNE ONLY OF THE DESIRE TO SUPPORT NATIONAL SHIPPING, BUT IS AN ASTUTE BARGAINING STRATEGY IN INTERNATIONAL TRADE WHEREIN, BY SPLITTING THE CIF COSTS OF IMPORT INTO ITS COMPONENTS, THE BUYER CAN HEDGE FOR SEPARATE BARGAINS WITH SELLERS OF COMMODITIES AND PROVIDERS OF FREIGHT AND INSURANCE COMPANIES TO EXTRACT OPTIMUM OVERALL COST ADVANTAGE. A NATIONAL SHIPPING FLEET COMMENSURATE WITH OUR OVERSEAS CARGO NEEDS WOULD CERTAINLY HELP IN REDUCING THE FREIGHT COSTS OF INDIAN CARGO FROM 9% TO SOMETHING CLOSER TO THE DEVELOPED WORLD AVERAGE OF 3.6%. IN OTHER WORDS, THE ARGUMENT IGNORES THE FACT THAT THE MEANS TO COMMAND AN ALTERNATIVE AVAILABILITY OF CAR ENABLES ONE TO DRIVE A HARDER BARGAIN FOR THE CAB, OR AT LEAST TO ENSURE THAT ONE IS NOT SWINDLED BECAUSE OF ONE’S VULNERABILITY. IT WAS CONSIDERED THAT THIS POSITION WAS ACCEPTED WHEN TONNAGE TAX WAS INTRODUCED, BUT IT HAS RAISED ITS HEAD AGAIN.

### 3.2.2 ECONOMIC BENEFITS UNDOCUMENTED

THE OTHER REASON FOR THE LACK OF A CLEAR POLICY TO SUPPORT THE GROWTH OF AN INDIGENOUS FLEET IS THE ABSENCE OF A SYSTEMATIC STUDY TO EVALUATE THE OVERALL OUTPUT OR EMPLOYMENT POTENTIAL OF THE MULTIPLIER EFFECT OF SHIPPING. A STUDY AT THE BEHEST OF INSA BY TERI HAS TRIED TO ESTABLISH THAT AS MUCH AS 0.0068% OR RS 2212 PER GT IS ADDED TO THE ECONOMY, BUT CONSIDERING THE NUMBER OF INDUSTRIES ON WHICH SHIPPING HAS A SPIN OFF EFFECT, THIS DIRECT IMPACT DOES POOR JUSTICE TO THE

ARGUMENT – THE RAKESH MOHAN COMMITTEE REPORT, BASED ON FIGURES FROM THE UK SHIPPING SECTOR, ESTIMATED THAT THE ASSOCIATED SECTORS WHICH DIRECTLY OR INDIRECTLY BENEFIT FROM THEIR ASSOCIATION WITH SHIPPING CONTRIBUTE AT LEAST AS MUCH AS 75% OF THE SHIPPING INDUSTRY’S TURNOVER TO THE NATIONAL ECONOMY. AS TO EMPLOYMENT, IT QUOTED A UNIVERSITY OF WALES STUDY THAT HAD IDENTIFIED AS MANY AS 17,000 JOBS IN AS MANY AS 75 SHORE-BASED SECTORS, WHICH REQUIRED SEAFARING QUALIFICATIONS OR BACKGROUNDS FOR THEIR REQUIREMENTS. HAVING REGARD TO THE COMBINED IMPACT, IT PUT THE NET AGGREGATE CONTRIBUTION OF THE SECTOR AT 2.5-3% OF THE NATIONAL GDP, AND ADVANCED THE POLICY GUIDELINE THAT FOR FOREIGN TRADE AND FOR INDUSTRIAL GROWTH TO SUPPORT OUR EXPECTED RATE OF GROWTH, IT WAS UNEXCEPTIONABLE THAT SHIPPING TONNAGE MUST GROW CONCOMITANTLY TO REAP THE OPTIMUM BENEFIT FOR THE COUNTRY. NO POLICY, HOWEVER, HAS YET BEEN DECLARED BY GOVERNMENT TO INCREASE INDIAN TONNAGE. A DEFINITIVE POLICY STATEMENT TO ENCOURAGE THE GROWTH OF INDIAN TONNAGE IS REQUIRED TO GIVE A DIRECTION AND PURPOSE TO ACTION FOR GROWTH IN THE SECTOR.

### 3.2.3 GLOBAL OPPORTUNITY UNEXPLOITED

IT IS TO THE LACK OF POLICY DEBATE THAT THE ABSENCE OF A GLOBAL PRESENCE MUST BE ATTRIBUTED. THERE IS NO REASON WHY, IN THE CURRENT MACRO-ECONOMIC ATMOSPHERE, WE MUST CONFINE OUR VISION OF THE INDIAN FLEET AS BELONGING WHOLLY TO INDIANS AND TO BEING A MOVER ONLY OF INDIAN GOODS. IN A WORLD IN WHICH EXPANSION AND RESOURCES FOR EXPANSION ARE BEING ACCESSED MORE AND MORE BY FORMING JOINT VENTURE AND CONSORTIA, OWNERSHIP IS BECOMING MORE AND MORE MULTINATIONAL WITH SHARES IN COMPANIES BEING HELD BY INDIVIDUALS, COMPANIES AND FINANCIAL INSTITUTIONS SITUATED ALL OVER THE WORLD, THERE SHOULD BE EVERY REASON TO CHANGE EXISTING OUTDATED LEGISLATION TO PERMIT AND PROMOTE A GLOBAL PRESENCE OF THE INDIAN FLAG. AT THE BASE OF IT IS THE ISSUE OF MAKING A DISTINCTION BETWEEN THE

**INDIAN FLAG AND INDIAN TONNAGE. IN A GLOBALLY FLAT WORLD, OFFERING OPPORTUNITY FOR GROWTH EVERYWHERE, ACKNOWLEDGING THE DIFFERENCE WOULD ENABLE A CHANGE IN APPROACH AND LEGISLATION THAT SHOULD ATTRACT FDI AND MORE TONNAGE UNDER THE INDIAN FLAG.**

### **3.2.4 The National Energy Security Issue**

The flip flop in energy policy that the sector has witnessed is the other policy issue that has direct bearing on the growth of Indian tonnage. After pursuing the concern for a few years, and discussing with M/s Shipping Corporation of India and Petronet the terms on which they would acquire and own sufficient shipping tonnage to keep the supply line alive in case of an emergency such as war, it was decided not to put any curbs on buying LNG FOB, to allow long term charters and to keep the situation under review. A review earlier this year has maintained the status quo, so that none of the VLCCs moving LNG or expected to be pressed into service for the purpose are under the Indian flag. In the event of disruption of normal trade conditions, such as during the Iraq war, eg, when it was witnessed that 100% of the ships transporting oil to India were under Indian ownership, unlike the usual 70%, the rest being under no obligation and having sought safer routes, such a situation is too unreliable for a cargo of such vital importance. It is considered by the sub group that, in regard to LNG transportation, the government should have a proactive policy to promote Indian LNG tonnage as well as help the Indian ship-owners in achieving the necessary capacity and competence. For POL trade, it is observed that the issue of costs, while not one that can be dismissed should not be given importance over the need to exercise control over the supply line for national energy security issues. As to costs, with no tanker under the Indian flag, there can be no saying that the freight rates would not be dictated according to our level of vulnerability. The examples of Japan, China and Korea are a clear case of support to shipping to secure national energy security needs.

### **3.2.5 LACK OF DIRECTION IN OFFSHORE VESSEL GROWTH**

**ABSENCE OF POLICY DIRECTION IS ALSO EVIDENT IN THE AREA OF OFFSHORE MARITIME SERVICES, WHERE THE GROWTH IS BRINGING BENEFITS MAINLY TO OTHER COUNTRY PLAYERS. DESPITE THE FACT THAT OFF SHORE OIL EXPLORATION SITES ARE SENSITIVE FROM THE POINT**

OF VIEW TO ACCIDENTS AND OF SECURITY, THE DRIFT IS CONTINUING, SO THAT OLD, FOREIGN OWNED VESSELS PREDOMINATE. WHY INDIAN FLAG VESSELS DO NOT RESPOND TO THE DEMAND ON OUR OWN SHORES FOR VESSELS IS A QUESTION THAT NEEDS TO BE ASKED, AS IT IS NOT THAT INDIAN SHIPPING COMPANIES HAVE NOT INVESTED IN OSVs. THEY HAVE CHOSEN TO PUT IT INTO CROSS TRADE RATHER THAN IN INDIAN WATERS. IT IS NECESSARY THAT INDIAN SHIP OWNERS BE OFFERED A LEVEL PLAYING FIELD VIS-À-VIS THEIR FOREIGN COUNTERPARTS, SO AS TO ENABLE THEM TO COMPETE EFFECTIVELY.

### 3.3 SPECIAL LAWS FOR BILATERAL TRADE

The trade between select few countries has increased significantly and today, there are sufficient volumes to justify business models based on two countries only. International Shipping Trade Agreements have been signed with quite a few countries, but the approach has been guided by the need to strengthen diplomatic relations rather than to maximize commercial interest, so that the content has not been tailored to harness mutual benefit or increase use of ships of the country flag.

### 3.4 Restrictive Fiscal Climate

3.4.1 While the Government of India has already recognized the need to provide Indian shipping a level playing field and to bring its tax structure and fiscal climate on par with that of other ship owning nations of the world, and initiated supportive measures like the tonnage tax, it has not carried the exercise through to its logical limits or redressed all the issues involved. The result is obvious if one makes a comparison with the growth in tonnage of countries that brought in tonnage tax at about the same time as we did. Against our growth of 21%, UK and Germany almost doubled theirs:

Growth of tonnage in tonnage tax countries

COUNTRY	2000 TONNAGE (MILLION GT)	2005 TONNAGE (MILLION GT)
U K	5.53	11.19
GERMANY	6.55	11.49

Table 13

3.4.2 The Indian shipping industry is globally competitive in terms of financial and operating costs. Nor is it that it lacks the entrepreneurial spirit that distinguishes the Indian industrialist or service provider. The fact is that the decisive factor of competitiveness between Indian and foreign shipping companies is the incidence of various taxes on the domestic fleet. As competitors generally operate from tax free or low tax jurisdictions, the Indian Government needs to provide a level playing field to the shipping industry and to do something to reduce the incidence of tax paid.

3.4.3 **THERE ARE A VARIETY OF TAXES (AROUND 12) BESIDES THE TONNAGE TAX THAT THE INDIAN SHIPPING COMPANIES ARE SUBJECT TO AT PRESENT, MOST OF THEM, CURIOUSLY, INTRODUCED AFTER LOGIC WAS ACCEPTED THAT THE INDIAN INDUSTRY NEEDS A LEVEL PLAYING FIELD, AND THE TONNAGE TAX WAS INTRODUCED. THESE TOGETHER REDUCE THE BENEFIT OF LOWER TAXES OF 2-3% INTENDED TO BE GRANTED UNDER THE TONNAGE TAX REGIME. THE 12 TAXES HAS BEEN SUMMARIZED UNDER THE HEAD DIRECT AND INDIRECT TAXES AND THE SAME ARE GIVEN IN THE TABLE BELOW.**

<b>Direct Taxes</b>	<b>Indirect Taxes</b>
<b>Corporate Income Tax on Other Income</b>	<b>Sales Tax/ Value Added Tax (VAT) on Ship Supplies/ Spares</b>
<b>Minimum Alternate Tax (MAT) on profit/loss on sale of vessels</b>	<b>Lease Tax on Charter Hire Charges</b>
<b>Dividend Distribution Tax</b>	<b>Customs Duty on Import of certain categories of Ships, Stores, Spares &amp; Bunkers</b>
<b>Fringe Benefit Tax (FBT)</b>	<b>Service Tax</b>
<b>Withholding Tax Liability on Interest Paid to Foreign Lenders</b>	
<b>Withholding Tax Liability on Charter Hire Charges Paid to Foreign Shipowners</b>	
<b>Sea-Farer's Taxation - Cost to Employer</b>	
<b>Wealth Tax</b>	

TABLE 14

**3.4.4 RECOGNISING THE IMPORTANCE OF INDIAN SHIPPING TO THE COUNTRY'S TRADE AND ECONOMY AND WITH A VIEW TO PROVIDE A LEVEL PLAYING FIELD SO THAT INDIAN SHIPPING BECOMES INTERNATIONALLY COMPETITIVE, MEASURES COULD BE TAKEN TO ELIMINATE OR MITIGATE THE INCIDENCE AND IMPACT OF THE ABOVE TAXES.**

**3.4.5 WITH GREATER FLEXIBILITY TO INDIAN COMPANIES TO MAKE ACQUISITIONS ABROAD, THERE IS LIKELY TO BE AN INCREASING ATTRACTION TO DO SO. THE NET EFFECT IS THAT THE INDIAN REGISTRY IS LIKELY TO REMAIN STAGNANT AND THE COUNTRY MAY ALSO LOSE OUT ON THE OPPORTUNITY TO ATTRACT FDI.**

### **3.5 Half hearted Belief in Coastal Shipping**

3.5.1 Having realised the immense potential of coastal trade, developed countries such as the United States of America support their domestic shipping industry through the Jones Act that stipulates that all coastal shipping in the country be carried on vessels built and registered in the United States of America. Since India is a developing country, the sub group considered it necessary to stress that it is all the more necessary for India to devise a policy during the 11<sup>th</sup> Plan period to encourage the participation and support to the Indian shipping industry in certain cargo areas, such as, eg, containers, energy security related cargo, without compromising the cost to the end-user.

3.5.2 Coastal shipping serves the domestic trade as an environment friendly, fuel efficient and economic mode of transportation vis-à-vis land based modes and helps decongesting the already overstretched rail/road transportation system. Coastal shipping has not been able to occupy its rightful place in the transportation chain in the Indian supply economics for various reasons. While the infrastructure in terms of ports exists along the coastline. In order to encourage coastal shipping, it is important to draft policy initiatives in areas such as Custom Processes and Procedures for seamless movement of cargo on Indian flag vessels operating on the coast, granting priority status to coastal cargo for the purpose of landslide evacuation, suitable schemes to reward usage of tonnage employed on the coast for a prescribed period of time. Slew of financial initiatives in the area of favourable regimes in respect of incidence of taxation on

bunkers and repair facilities for coastal vessels would aid operation costs on the coastal trades. Creation of suitable dry docking assistance to coastal vessels would also be needed. Suitable support and incentives offered to partnerships between coastal shipping and minor ports of India would foster growth of both minor ports and coastal shipping in India.

### 3.6 Regulatory Issues

#### 3.6.1 Lack of Regulation In Off shore services

**WITH INCREASING E&P ACTIVITY OFFSHORE, THERE WILL BE A LARGE FLEET OF FOREIGN AND INDIAN DRILLING UNITS AND SUPPORT VESSELS EMPLOYED IN THE EEZ AREA SURROUNDING OUR COAST. THIS SECTOR IS LARGELY UNDER-REGULATED AND MONITORED AND THE PROBABILITY OF SERIOUS ACCIDENTS OCCURRING IS HIGH. THE OIL COMPANIES AND DRILLING CONTRACTORS OPERATE UNDER SOME LIMITED REGULATION OF THE PETROLEUM MINISTRY AND ITS ASSOCIATED ENTITIES. INDIAN FLAG SHIPS OPERATE UNDER THE MS RULES AND ISM CODE. SIMILARLY, FOREIGN SUPPORT VESSELS WOULD BE UNDER THE ADMINISTRATIVE CONTROL OF THEIR OWN RESPECTIVE FLAG STATES, BUT BEING IN OUR EEZ, WOULD NOT BE INSPECTED BY US AS THE PORT STATE ADMINISTRATION. THE REAL RISKS, THEREFORE, EMANATE FROM A SITUATION WHERE THERE IS A DIFFUSED OR AMORPHOUS REGULATORY REGIME, PARTICULARLY DURING THE HAZARDOUS INTERFACE OPERATIONS WHEN SUPPORT VESSELS ARE INTERACTING WITH DRILLING UNITS AND PLATFORMS. THIS ISSUE NEEDS TO BE ADDRESSED.**

**3.6.2 THE SERIOUS ACCIDENT THAT OCCURRED IN THE BOMBAY HIGH AREA IN JULY 2005 IS A TYPICAL CASE IN POINT. INDIA SHOULD TAKE THE CUE FROM COUNTRIES IN W. EUROPE AND AUSTRALIA WHERE THERE IS A SIMILAR INTENSITY OF E&P ACTIVITY, AND WHICH HAVE PUT IN PLACE A CLEARLY DEFINED CONTROL AND REGULATORY SYSTEM THAT MINIMIZES THE RISKS. THESE SYSTEMS ARE BASED PARTLY ON SELF REGULATION BY OPERATORS UNDER AN APPROVED ALL ENCOMPASSING CODE, AND PARTLY A WELL DEFINED STATUTE IMPOSED BY A REGULATORY BODY THAT MONITORS COMPLIANCE AND IMPLEMENTATION. SUCH A SYSTEM NEED TO BE EVOLVED JOINTLY BY THE PETROLEUM AND SHIPPING SECTORS AND CONVERTED INTO TANGIBLE STATUTORY RULES AND GUIDELINES.**

### 3.6.3 RESTRICTIVE MANNING POLICIES

International shipping is an industry with very few entry barriers. As the assets are fungible, liquidity is high, which makes it easier to raise borrowings. Any group of investors or corporations with access to capital resources can freely buy and sell ships and flag them in a regime of choice – generally a tax haven. Thereafter, it is a relatively simple matter to outsource manning and operations to a professional and competent management agency and monitors the profitability of the asset.

3.6.4 There are only a few countries in the world, like India, which have well-qualified and skilled seafarers and managers ashore who can competitively and profitably run international shipping operations. India has therefore assumed growing importance as a qualified seafaring supplier, so much so that the Indian flag vessels are feeling the pinch. For them, the demand is becoming a problem of shortages, especially at the senior levels where the manpower demands are sharpest, and foreign flags are willing to pay exorbitant amounts to secure personnel. Indian flag vessels voice the complaint that the cream goes to foreign flags, not because they pay less, but because, as Indian companies they have to ensure that the seafarers pay their taxes while the foreign vessels do not take it as their business.

3.6.5 Given the world economic scenario, shipping, which has grown @ 1% p.a. over the last five years, is predicted to grow at the same pace till 2015, causing the demand for senior level personnel to grow. Under the overall umbrella of the MS Act, 1958, Indian flags are under the compulsion to employ only Indian seafarers. Drawing comparisons with the aviation industry, the ship owners have been raising the need for a loosening of the policy and the leeway to employ foreigners in positions known to have shortages of supply. Certainly the contention needs to be examined that with a pro active policy towards export of manpower, and the shift of emphasis to leveraging the availability of our specialized skills to manage and control the full logistics chain in international sea trade, the need to be continually restrictive of the ship-owner is no longer necessary. As a maritime nation, we should take the mature approach of looking beyond our own trade to

become a global player in the maritime arena, and to provide global conditions of trade. Rather than merely regulating and controlling our national fleet, we must have policies in place that will proactively encourage and promote investments in international shipping services that go beyond ship operations and extend to the entire logistics chain.

### 3.6.6 **Outmoded Legislation**

An active IMO has spearheaded a great deal of change in maritime laws by the adoption of conventions governing safety and environment related issues. Not all of them have been incorporated into the Act, and in several of them, the rules are yet to be framed. India as an important maritime nation carries a favourable image internationally and it is important that this image is not only maintained but also further strengthened. A great amount of emphasis is laid at the IMO that all the instruments brought forth are incorporated into the national law without delay and effectively implemented. Regularly updating the maritime legislation is the most important aspect of effective implementation of the IMO instruments. In addition, the Act has not kept pace with the changing patterns of trade, or the need for a more facilitative regime in accordance with global patterns of regulation. There is need to be only as restrictive on our own flagships as we can be on the foreign flags in our waters.

## 3.7 MARITIME SECURITY

**3.7.1 SINCE THE TERRORIST ATTACKS OF SEPTEMBER 11, 2001, GOVERNMENTS WORLD OVER IN CONSULTATION WITH ALL SEGMENTS OF THE MARITIME INDUSTRY, HAVE TURNED THEIR ATTENTION, ON A NUMBER OF FRONTS, TO THE CRITICAL ISSUE OF PORT, VESSEL AND CARGO SECURITY AND HAVE INITIATED / IMPLEMENTED A HOST OF MEASURES (CSI, CT-PAT, ISPS CODE, LRIT ETC.) TO ENHANCE MARITIME SECURITY TO SECURE THE ENTIRE TRANSPORTATION CHAIN, ENTAILING HIGHER COSTS AND OVERHEADS TO SHIPPING COMPANIES. A CRITICAL ELEMENT IS SECURITY AT COMMERCIAL FACILITIES; AND KEEPING FACILITIES SECURE WHILE MINIMIZING DISRUPTIONS IN THE FLOW OF COMMERCE IS VITAL TO NATIONAL AND INTERNATIONAL INTERESTS. HOWEVER, A BALANCED APPROACH WOULD HAVE TO BE ARRIVED AT FOR MANAGING THE IMPACT OF SUCH HUGE COSTS ON ACCOUNT OF**

SECURING THE SUPPLY CHAIN, WHILE AT THE SAME TIME MAINTAINING THE COMPETITIVENESS OF INDIAN EXPORTS.

3.8 ENVIRONMENTAL ISSUES

**3.8.1 OVER THE YEARS, THE SHIPPING INDUSTRY HAD TO CONFRONT A HOST OF ENVIRONMENTAL ISSUES AND IT HAS OFTEN BEEN OBSERVED THAT SOCIETY IS ADOPTING A MORE CRITICAL ATTITUDE TOWARDS THE SHIPPING INDUSTRY. WHILE MUCH OF THAT ATTITUDE MAY BE POLITICAL, THERE IS AN ONGOING BATTLE BETWEEN REGIONAL VERSUS NATIONAL VERSUS INTERNATIONAL AUTHORITIES IN THE DEVELOPMENT AND IMPLEMENTATION OF ENVIRONMENTAL STANDARDS. WHILE MANY ISSUES FACED BY THE INDUSTRY HAVE NO PRACTICAL SOLUTION WITHIN A FORESEEABLE TIME SCALE, THE REGULATORY REGIME IS BEING CONTINUALLY TIGHTENED, LEAVING THE INDUSTRY STRUGGLING TO CONTEND WITH ADDITIONAL MEASURES TO INTRODUCE MORE STRINGENT GLOBAL CONTROLS. COMMERCIAL VIABILITY HAS TO BE IN BALANCE WITH THE REQUIREMENT FOR ENVIRONMENT PROTECTION.**

3.9 EFFECTIVE REGULATION

**3.9.1 THE XTH PLAN MADE PROVISION FOR INCREASE IN MANPOWER FOR THE MERCANTILE MARINE DEPARTMENTS, BUT INSUFFICIENTLY SO, WITHOUT TAKING INTO CONSIDERATION EITHER THE NEED FOR INFRASTRUCTURE FOR A FIELD OFFICE TO BE EFFECTIVE, NOR THE CHANGING PATTERN OF PORT AND SHIPPING ACTIVITIES WITH THE MARITIME STATES ALL VYING WITH ONE ANOTHER TO OPEN AND COMMERCIALISE MINOR PORTS. THE ABSENCE OF NORMS MAKES THE CREATION OF PROPOSALS THAT CAN GET PAST THE RIGID DISTASTE OF THE FINANCE MINISTRY TO INCREASE GOVERNMENT EXPENDITURE A NEAR IMPOSSIBILITY, AND IS AMONG THE ISSUES TO BE ADDRESSED IF THE REGULATOR'S OFFICE IS TO BE OF CONTINUING RELEVANCE TO THE INDUSTRY, A FACILITATOR AND NOT A HINDRANCE. EMERGING ISSUES SUCH AS DISASTER MANAGEMENT, CASUALTY INVESTIGATION, ETC. NEED TO BE ADDRESSED.**

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## CHAPTER 4

### TARGETS/STRATEGY FOR THE XITH PLAN

#### 4.1 INDIAN TONNAGE PROJECTIONS

##### 4.1.1 JUSTIFICATION OF TARGETS

**THE X<sup>TH</sup> PLAN DID NOT FIX A TARGET FOR GROWTH OF INDIAN TONNAGE IN VIEW OF THE UNCERTAINTIES IN PREDICTING THE DEMAND GROWTH FOR SHIPPING PRIMARILY DUE TO THE UNCERTAINTIES OF LIBERALIZATION AND GOVERNMENT POLICIES. WITH LIBERALIZATION, THE OPERATION OF INDIAN SHIPPING COMPANIES UNDERWENT CHANGES AND NO LONGER REMAINED PURELY INDIA CENTRIC. PROGRESSIVE DISMANTLING OF APM FOR THE PETROLEUM SECTOR AND DWINDLING CARGO SUPPORT THROUGH TRANSCHART ALSO MADE IT DIFFICULT TO PROJECT TONNAGE DEMAND. IN SUCH A SCENARIO, THE ABOVE SKEPTICISM IS JUSTIFIED, SINCE THE SPURT IN TONNAGE TAKEN PLACE SINCE 2004, IS NOT BECAUSE OF THE GROWTH IN OPPORTUNITY PROVIDED BY THE BURGEONING CARGO AVAILABILITY AND GLOBAL GROWTH IN SEA BORNE TRADE, BUT TO A LARGE EXTENT AS A DIRECT CONSEQUENCE OF THE CHANGE IN FISCAL POLICY WITH THE INTRODUCTION OF TONNAGE TAX REGIME. IN MAKING PROJECTIONS FOR THE NEXT BLOC OF FIVE YEARS, AND IN DECIDING IF A TARGET SHOULD BE FIXED, IT IS IMPORTANT THAT WE ASSESS CORRECTLY WHETHER THE EQUALIZATION OF CHANCES FOR GLOBAL COMPETITION AFFORDED BY THE TONNAGE TAX WILL CONTINUE TO SPUR GROWTH, OR TONNAGE WILL SETTLE AT A NEW LEVEL OF STAGNATION. AN ANALYSIS OF THE TREND IN ACQUISITION OF THE FLEET OVER THE LAST TWO YEARS DID SHOW SOME INVESTMENT IN ACQUISITION OF SHIPS, BUT WHETHER THIS TREND WILL CONTINUE IS AN OPEN QUESTION. NO INDIAN SHIPPING COMPANY HAS MADE ANY DECLARATION OF PLANS FOR ACQUISITIONS THAT WOULD SUGGEST A ROBUST UPWARD TREND IN THE FLEET FOR NEXT 5**

YEARS. INDEED, THE DECLARATION OF PLANS IS FOR FLAGGING OUT SHIPS TO MORE CONVENIENT ONES. WORLD FLEET STATISTICS ALSO SHOW THAT THE NUMBER OF VESSELS UNDER OPEN FLAGS BY INDIAN COMPANIES HAVE INCREASED, SUGGESTING THAT THE ISSUES DOGGING THE SECTOR NEED TO BE ADDRESSED IN ORDER TO FACILITATE INCREASE IN NATIONAL TONNAGE.

TRUE NATIONALITY OF MAJOR OPEN REGISTRY FLEETS (AS OF 1.1.2005)

COUNTRY OR TERRITORY OF DOMICILE	Total foreign flag fleet	
	NO. OF VESSELS	DWT (000) Tonnes
INDIA	33	981

[ SOURCE : UNCTAD REVIEW MARITIME TRANSPORT 2005 ]

TABLE 15

- 4.1.2 TWO POINTS MAY WELL BE REPEATED AT THIS JUNCTURE. THE FIRST IS THE MODERATING INFLUENCE THAT A NATIONAL FLEET HAS ON FREIGHT COSTS, WHICH HAS BEEN DISCUSSED IN CHAPTER II. MOREOVER, IT IS THE NATIONAL FLEET WHICH CAN BE DEPENDED UPON IN TIMES OF WAR, FAMINE ETC. BESIDES CREATION OF JOB OPPORTUNITIES, DEVELOPMENT OF ANCILLARY INDUSTRY, AND CONTRIBUTION TO GDP GROWTH ARE ASPECTS THAT INDIVIDUAL ESTABLISHMENTS NEED NOT CONSIDER, BUT THAT NATIONS MUST TAKE APPROPRIATE MEASURES TO CONTROL THE OUTGO OF LARGE AMOUNT OF FOREIGN EXCHANGE TOWARDS THE FREIGHT BILL. MORE IMPORTANTLY, SECURITY AND SELF SUFFICIENCY ISSUES MUST CARRY WEIGHT, AND OFTEN LONG TERM NATIONAL AND ECONOMIC INTEREST HAS JUSTIFIED DECISIONS WHEN THE IMMEDIATE COMMERCIAL PROFIT IS NOT OBVIOUS. HENCE, THE DEVELOPMENT OF A NATIONAL FLEET OF ADEQUATE STRENGTH IS SEEN AS A MUST TO ASSIST THE COUNTRY'S TRADE AND ECONOMY, AND SUFFICIENT JUSTIFICATION FOR A POLICY IN SUPPORT OF GREATER ACQUISITION OF TONNAGE.
- 4.1.3 The other is the point that the Indian fleet should not be seen as a fleet of wholly Indian owned vessels. As the world flattens out, and mergers, acquisitions, consortia, joint ventures and multinational businesses widen markets and areas of operation in all fields

of industry and service, there should be every reason to examine if the shipping sector can augment its contribution to the country's GDP by a global presence. International shipping is an industry with very few entry barriers. As we move closer to capital account convertibility, our emphasis should shift to establishing a global presence and controlling the full logistics supply chain in international sea trade. Rather than a national fleet, our objective should be to put in place a policy to encourage and promote investments in international shipping services under the Indian flag, and to be proactive in changing legislation to permit it.

**4.1.4 THE EXAMPLE OF OTHER DEVELOPING ASIAN COUNTRIES WOULD, ON BOTH COUNTS, BY THEIR INDIVIDUAL EXAMPLES, SUPPORT THE THEORY THAT A LONG TERM STRATEGY FOR GDP GROWTH CANNOT AFFORD TO RELEGATE TO GLOBALLY COMPETING INTERESTS THE PROVISION OF A SYSTEM OF TRANSPORTATION THAT CARRIES 95% BY VOLUME AND 70% BY VALUE OF THE EXIM TRADE OF THE COUNTRY, AND TO THEREBY LEAVE OPEN TO INSECURITY AND THE THREAT OF LACK OF CONTROL IN THE EVENT OF AN EMERGENCY THE PROVISION OF SUCH SUPPLIES AS ARE ESSENTIAL FOR SURVIVAL AS ENERGY, OIL AND GAS. SIMILARLY, A LONG TERM POLICY FOR GDP GROWTH CANNOT IGNORE THE POTENTIAL AND THE OPPORTUNITY TO THE SECTOR TO TAKE ADVANTAGE OF THE BOOM IN THE GLOBAL INDUSTRY AND FAIL TO CREATE CONDITIONS THAT PERMIT IT TO COMPETE GLOBALLY. RECOGNISING THIS, THE DRAFT POLICY ON SHIPPING THAT HAS BEEN UNDER DISCUSSION BY THE MINISTRY HAS SET FOR ITSELF THE POLICY AIM OF EXPANSION OF INDIAN TONNAGE.**

**4.1.5 IT IS THEREFORE, CONSIDERED THAT THE XI<sup>TH</sup> PLAN NEEDS TO DEVIATE FROM THE APPROACH OF THE X<sup>TH</sup>, AND FIX TARGETS FOR THE SHIPPING SECTOR THAT WILL GUIDE THE DEVELOPMENT OF A WELL DEFINED STRATEGY FOR GROWTH, AND ENABLE THE MONITORING AND ASSESSMENT OF ITS CONTRIBUTION TO THE GDP.**

## **4.2 Target Fixation**

**4.2.1 THE INDIAN FLEET ON 1.4.2006 COMPRISED 739 VESSELS OF 8.46 M.GT. INSA EXPECTS THAT ABOUT 374 VESSELS OF 3.79 M.GT WOULD NEED TO BE SCRAPPED OVER THE NEXT 5 YEARS FOR CROSSING 25 YEARS, AS WELL AS FOR BEING SINGLE HULL.**

4.2.2 Three scenarios of 5-year tonnage growth targets have been presented by INSA, as hereunder:

**Case-I (10 m.gt)**

To achieve a target of 10 m.gt (approx. 830 vessels based on existing tonnage per ship averages) at the end of next 5 years would involve further addition of 279 ships of 4.16 m.gt to the Indian fleet over and above the new acquisitions/replacements of 560 ships of 4.67m.gt.

**CASE-II (12 M.GT)**

To achieve a target of 12 m.gt (approx. 955 vessels) at the end of next 5 years would involve further addition of 404 ships of 6.16 m.gt to the Indian fleet over and above the new acquisitions/replacements of 560 ships of 4.67 m.gt.

**CASE-III (15 M.GT)**

**TO ACHIEVE A TARGET OF 15 M.GT (APPROX. 1160 VESSELS) AT THE END OF NEXT 5 YEARS WOULD INVOLVE FURTHER ADDITION OF 609 SHIPS OF 9.16 M.GT TO THE INDIAN FLEET OVER AND ABOVE THE NEW ACQUISITIONS/REPLACEMENTS OF 560 SHIPS OF 4.67 M.GT.**

**4.3 Investment requirements**

4.3.1 The investment required for this under the three scenarios referred to above is estimated to be as under:

**CASE – I: RS. 35,000 CRORES**

**CASE – II: RS.55,000 CRORES**

**CASE – III: RS.80,000 CRORES**

**4.3.2. THE DRAFT MARITIME POLICY ANNOUNCED BY THE NATIONAL MARITIME PROGRAMME (NMDP) IN AUGUST 2004 SET A TONNAGE TARGET OF 10 M.GT TO BE ACHIEVED IN THE NEXT 3 TO 5 YEARS. AS AGAINST THIS, THE INDIAN FLEET STRENGTH ON 1<sup>ST</sup> APRIL 2006 STOOD AT 739 VESSELS OF 8.46 MILLION GT. TAKING INTO ACCOUNT OF THE LIKELY SCRAPPING OF 374**

VESSELS OF 3.79 MILLION GT OVER THE NEXT 5 YEARS DUE TO THEIR CROSSING 25 YEARS OF AGE, THE GROUP RECOMMENDS A MODEST TARGET OF 10 MILLION GT (PROJECTED IN CASE-1 ABOVE) TO BE ACHIEVED BY THE END OF 11<sup>TH</sup> PLAN UNDER VARIOUS CATEGORIES AS UNDER:

**TARGET FOR 11<sup>TH</sup> PLAN**

Sr. No	TYPE OF VESSELS	FLEET STRENGTH AS ON 01.04.2006		SHIPS LIKELY TO BE SCRAPPED (25 YEARS OF AGE AND ABOVE)		BALANCE OF EXISTING FLEET AT THE END OF 11 <sup>TH</sup> PLAN		PROJECTED FLEET AT THE END OF 11 <sup>TH</sup> PLAN PERIOD	
		No.	GT (IN LAKHS)	No.	GT (IN LAKHS)	No.	GT (IN LAKHS)	No.	GT (IN LAKHS)
1	DRY CARGO LINERS	69	1.42	30	0.76	39	0.66	75	1.68
2	CELLULAR CONTAINERS	8	1.17	5	0.51	3	0.66	12	1.90
3	DRY BULK CARRIERS	104	25.33	64	15.57	40	9.76	116	29.80
4	OBOs	2	0.95	1	0.67	1	0.28	3	1.12
5	CRUDE TANKERS	49	30.21	20	7.14	29	23.07	55	33.95
6	PRODUCT TANKERS	61	17.26	39	8.91	22	8.35	74	20.78
7	CHEMICAL TANKERS	4	0.75	1	0.12	3	0.63	5	0.88
8	LPG CARRIERS	14	2.84	8	1.60	6	1.24	17	3.35
9	TUGS	41	0.45	50	0.14	91	0.31	154	0.52
10	PASSENGER VESSELS	43	0.83	14	0.37	29	0.46	48	0.98
11	ETHYLENE CARRIERS	3	0.08	0	0	3	0.08	3	0.08
12	RO-RO	3	0.18	2	0.11	1	0.07	4	0.21
13	DREDGERS	20	0.90	13	0.51	7	0.39	22	1.06
14	OSVs	92	1.00	72	0.73	20	0.27	102	1.18
15	SPECIALISED OSVs	35	0.82	27	0.60	8	0.22	39	0.97
16	LNG	-	-	-	-	-	-	4	1.02
17	BARGES	91	0.45	28	0.17	63	0.28	97	0.52
	<b>TOTAL</b>	<b>739</b>	<b>84.64</b>	<b>374</b>	<b>37.91</b>	<b>365</b>	<b>46.73</b>	<b>830</b>	<b>100.00</b>

**TABLE 16**

**4.3.3 IN ORDER TO RAISE THE HUGE QUANTUM OF FINANCES FOR ACQUISITION TO ACHIEVE THE ABOVE TARGET OF 10MILLION GT BY THE END OF 11<sup>TH</sup> PLAN, ALL POSSIBLE METHODS OF FUNDING NEED TO BE TAPPED. SOME OF THESE ARE ENUMERATED BELOW:**

- INTERNAL RESOURCES,
- SUBSCRIPTION BY ISSUE OF SHARES IN THE CAPITAL MARKET,

- LOANS FROM FINANCIAL INSTITUTIONS FROM INDIA AND ABROAD,
- SHIPYARD CREDIT,
- TONNAGE TAX RESERVE,
- FDI,
- BBCD.

**4.3.4 THE SUB GROUP FELT THAT THIS TARGET WAS UNAMBITIOUS. GIVEN THAT THE WORLD TONNAGE IS EXPECTED TO GROW AT THE RATE OF 1% P. A., AND REACH ABOUT 680 M.GT BY 2012, A TARGET OF 10 M.GT WOULD GIVE US A WORLD FLEET SHARE OF ONLY ABOUT 1.47%. IT WAS OF THE OPINION THAT THE CONSERVATIVE APPROACH WAS THE RESULT OF DISBELIEF THAT A PROGRESSIVE POLICY WOULD BE PUT IN PLACE. THE SUB GROUP THEREFORE AGREED TO MAKE TWO PROJECTIONS, A CONSERVATIVE TARGET OF 10 M.GT BASED ON A CONSERVATIVE AND SLOW POLICY CHANGE, IN WHICH THE ISSUES ENUMERATED IN CHAPTER II WOULD REMAIN UNADDRESSED DURING THE XI<sup>TH</sup> PLAN, AND THE SHIPPING COMPANIES WOULD CARRY ON MUCH THE SAME AS BEFORE, RAISING THE SUBSTANTIAL QUANTUM OF FUNDS REQUIRED BY TAPPING ALL POSSIBLE METHODS OF FUNDING AVAILABLE TO THEM, OF WHICH THE TONNAGE TAX IS ONE. TONNAGE TAX HAS RESULTED IN SETTING ASIDE APPROXIMATELY RS.625 CRORES IN 2005 BY SHIPPING COMPANIES IN THE RESERVE. ASSUMING A RISE IN THE FIGURE OVER TIME, AND TAKING TOGETHER WITH IT THE ADDITIONAL FUNDS THAT CAN BE LEVERAGED AGAINST IT, THE TOTAL COMMITMENT FOR ACQUISITION OF SHIPS FOR THE NEXT 5 YEARS FROM THIS FUND MAY BE ESTIMATED AT APPROX. RS.14,000 CRORES. THE REMAINING REQUIREMENT WOULD NEED TO BE GARNERED THROUGH OTHER SOURCES SUCH AS INTERNAL COMPANY RESOURCES, SUBSCRIPTION BY ISSUE OF SHARES IN THE CAPITAL MARKET, SHIPYARD CREDIT, ETC. GIVEN THE OPPORTUNITIES, THE BOOMING ECONOMY, GROWTH IN PORT FACILITIES, HUGE CARGO AVAILABILITY, AND THE ENTREPRENEURIAL SPIRIT OF THE INDIAN INDUSTRY, IT WAS FELT THAT, EVEN IN AN 'AS IS' POSITION, 10 M.GT COULD PERHAPS BE REACHED. (IT MAY BE NOTED THAT INSA WAS AT ODDS WITH THE SUB- GROUP IN THIS TARGET, AND FELT THAT AN 'AS IS' APPROACH DURING THE XI<sup>TH</sup> PLAN COULD SEE AN DECREASE IN TONNAGE DUE TO INDIAN COMPANIES UNAFFECTED BY CABOTAGE PREFERRING TO FLAG OUT, AND THE LARGER NUMBERS TO BE SCRAPPED BEFORE THE SINGLE HULL DEADLINE).**

**4.3.5 WITH A PROGRESSIVE POLICY SUPPORT, HOWEVER, IT WAS AGREED THAT THE CLIMATE WAS RIPE TO ASPIRE HIGHER, AND THE TARGET COULD WELL BE FIXED AT THE CASE III FIGURE OF 15 M.GT. DEPENDING ON HOW INNOVATIVE AND SUPPORTIVE THE POLICY, IT COULD ALSO BE FIXED AT TWICE THE PRESENT SHARE OF THE WORLD FLEET, AT 2.6%, OR 17.55M.GT.**

**4.3.6 THE NECESSARY POLICY MEASURES ARE DESCRIBED IN THE FOLLOWING CHAPTER ON STRATEGIES**

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## CHAPTER 5 STRATEGIES FOR THE XITH PLAN

**5.1 THERE HAS BEEN A DEFINITE WORLDWIDE CHANGE IN THE PATTERN OF REGISTRATION OF SHIPS IN KEEPING WITH THE CONCEPT OF GLOBALIZATION. SEVERAL COUNTRIES HAVE SET UP OPEN REGISTERS, OR MADE EXISTING OPEN REGISTERS MORE ATTRACTIVE, SO MUCH SO THAT IT WOULD NOT BE WRONG TO SAY THAT THERE IS ALMOST A RACE BETWEEN COUNTRIES TO DRAW MORE OF THE WORLD'S TONNAGE TO THEIR FLAG. APART FROM THE TRADITIONAL 'FLAGS OF CONVENIENCE' COUNTRIES, COUNTRIES KNOWN FOR THEIR EMPHASIS ON STANDARDS, SUCH AS SINGAPORE, HAVE SEIZED THE OPPORTUNITY, AND BEGUN INTERNATIONAL REGISTERS THAT ENABLE COMPANIES FROM OTHER COUNTRIES TO REGISTER**

THEIR SHIP AND DO BUSINESS WITH THE MINIMUM OF FUSS, AND, IT SEEMS, THE MAXIMUM OF SUPPORT INFRASTRUCTURE.

TABLE BELOW SHOWS HOW THE OPEN/INTERNATIONAL REGISTERS HAVE RECORDED THE GREATEST GROWTH RATES.

COUNTRY	INCREASE IN TONNAGE (M.GT) IN LAST 5 YEARS	% OF GROWTH
PANAMA	27.75	24.80
HONG KONG	19.56	191.38
MARSHALL ISLAND	19.00	197.71
SINGAPORE	9.21	43.46
LIBERIA	8.05	16.00

TABLE 17

**5.2 WHAT MAKES THESE REGISTERS SUCCESSFUL? SUCCINCTLY PUT, THEY:**

- (1) OFFER THE MOST FACILITATIVE FISCAL REGIME TO SHIP-OWNERS, IN TERMS OF THE TAXES TO BE PAID BY THE SHIPPING COMPANIES;
- (2) DO NOT TAX THE INCOME OF SEAFARERS ON VESSELS ENGAGED IN CROSS TRADE;
- (3) IMPOSE NO CONDITIONS BEYOND THE INTERNATIONALLY MANDATED ONES ON THE MANNING OF VESSELS; AND
- (4) HAVE A REGULATORY REGIME IN PLACE THAT IS GEARED FOR QUICK AND FACILITATIVE RESPONSE.

**5.3 TRADITIONAL MARITIME NATIONS, SUCH AS THE UK, NORWAY, DENMARK, ETC. FROM WHERE THE GROWTH OF TONNAGE WAS BEING WEANED AWAY, HAVE RESPONDED TO THE COMPETITION BY INTRODUCING A SERIES OF REFORMS THAT HAVE INCORPORATED THE SAME ATTRACTIONS OR INCENTIVES WITHIN THEIR OWN REGIMES.**

**5.4 THE INDIAN RESPONSE HAS BEEN MORE CAUTIOUS. TONNAGE TAX WAS INTRODUCED, BUT MORE AS A CONCESSION TO THE INDUSTRY THAN A PART OF A CONCESSION POLICY OF PROMOTION. THOUGH THERE IS NATIONAL PRIDE IN OUR MARITIME HERITAGE, PERHAPS, FROM A HISTORIC POLITICAL LEGACY, MARITIME DEVELOPMENT HAS NEVER BEEN A**

CONSCIOUS NATIONAL AGENDA. WITH THE PRESSURE OF THE GROWING VOLUME OF INTERNATIONAL TRADE, THE FEAR THAT PORTS AND SHIPPING MAY DULL THE COMPETITIVE EDGE OF THE COUNTRY'S TRADE, THE NEED FOR A NATIONAL MARITIME DEVELOPMENT PROGRAMME HAS BEGAN TO CRYSTALLIZE. THE XITH PLAN NEEDS ALSO TO RESPOND TO INCREASE IN TONNAGE WITH A FOCUSED POLICY, THAT WILL

- (1) SEE THE RETURN OF THE FLAGGED OUT TONNAGE AND HOLD THE EXISTING TONNAGE FROM FLAGGING OUT TO MORE ATTRACTIVE REGISTERS;
- (2) MAKE THE INVESTMENT IN SHIPPING AT LEAST AS PROFITABLE AS ANY OTHER SERVICE INDUSTRY;
- (3) ATTRACT NEW INVESTORS AND GREATER INVESTMENT; AND
- (4) PROVIDE SPECIAL INCENTIVES AIMED AT NATURAL ENERGY SECURITY NEEDS.

5.5 THE ELEMENTS OF SUCH A STRATEGY WOULD BE THE FOLLOWING:

5.5.1 MAKING THE NATIONAL REGISTER ATTRACTIVE

5.5.1.1 CONTINUING CABOTAGE.

FLAGGING OUT OF SHIPS FROM THE INDIAN FLAG HAS BECOME A TREND; ONE, WHICH, MOREOVER, AS CAPITAL ACCRUAL CONVERTIBILITY ENABLES GREATER FREEDOM OF MONEY, MAY BE, EXPECTED TO GROW. THE ONLY REAL ATTRACTION OF THE NATIONAL FLAG NOW IS CABOTAGE OR THE RIGHT TO COASTAL CARGO TO A NATIONAL CARRIER, AND THE FIRST RIGHT OF REFUSAL TO A NATIONAL CARRIER IN INDIA'S INTERNATIONAL TRADE. SINCE IT IS THE SMALLER ENTREPRENEURS WHO BENEFIT WHEN BOTH THESE PRACTICES ARE INTERNATIONALLY APPLIED, IT IS PROPOSED THAT THEY SHOULD BE CONTINUED DURING THE XITH PLAN, AND A REVIEW OF THE POLICY SHOULD BE HELD OFF AT LEAST TILL THE CONDITIONS FOR GLOBAL COMPETITIVENESS UNDER THE INDIAN FLAG ARE EQUALIZED WITH THE REST OF THE WORLD.

5.5.1.2 RATIONALIZING THE FISCAL REGIME

IN TERMS OF A STRATEGY REFORMULATION, A RATIONALISATION OF THE FISCAL REGIME TOWARDS MORE OPENNESS AND GREATER EFFICIENCIES IN OPERATION, IS THE MOST IMPORTANT AND MOST URGENT. THE MINISTRY OF SHIPPING, ROAD TRANSPORT AND HIGHWAYS HAD CONSTITUTED A GROUP IN OCTOBER 2005 TO REVIEW THE TAX REGIME FOR THE INDIAN SHIPPING INDUSTRY AND TO RECOMMEND MEASURES FOR RATIONALISATION OF THE SAME. THE GROUP EXAMINED THE TAXATION REGIME OF FOREIGN SHIPPING COMPANIES ESPECIALLY THOSE OPERATING IN THE IMPORTANT MARITIME NATIONS OF THE WORLD, WHICH HAVE CONCESSIONAL/SPECIAL TAX TREATMENT FOR THEIR SHIPPING INDUSTRY. IT WAS NOTED THAT INDIAN SHIPPING, AS AGAINST ITS FOREIGN COUNTERPARTS, IS CURRENTLY SUBJECTED TO A VARIETY OF TAXES NUMBERING UP TO 12, SOME OF THEM INTRODUCED THE YEAR AFTER RELIEF WAS GIVEN THROUGH THE TONNAGE TAX WHICH AFFECT PROFITABILITY VIS-À-VIS OTHER FLEETS. THE GROUP WAS OF THE RECOMMENDATION THAT THERE IS A STRONG CASE FOR RATIONALISATION OF THE TAXATION REGIME FOR THE INDIAN SHIPPING INDUSTRY SO AS TO BRING DOWN THE EFFECTIVE TAX RATE TO THE RATE PAYABLE BY THE INDUSTRY WHEN TONNAGE TAX WAS FIXED, AT A LEVEL THAT WILL ENABLE SHIPPING COMPANIES TO COMPETE GLOBALLY ON A LEVEL PLAYING FIELD AND ALSO ENABLE THEM TO RAISE FUNDS FOR ACQUISITION OF FURTHER TONNAGE.

TONNAGE TAX ITSELF NEEDS TO BE RE-EXAMINED AS TO HOW IT CAN BE MADE ATTRACTIVE TO NEW INVESTORS, SO AS TO WIDEN THE BASE OF THE SHIPPING INDUSTRY IN THE COUNTRY. AT PRESENT, THERE ARE ONLY 46 COMPANIES WHO HAVE SUBSCRIBED TO THE TONNAGE TAX REGIME, AND OF THESE, THE LARGER ONES WHO MAY BE EXPECTED TO HAVE THE APPETITE AND ACCESS THE CAPITAL TO GROW MAY NUMBER ONLY ABOUT FIVE. CHANGES IN TONNAGE TAX, E.G., TO PERMIT INCHARTERS TO AVAIL OF TONNAGE TAX WITH ONLY MINIMAL LIMITS SHOULD ENCOURAGE COMPANIES TO CONSIDER DIVERSIFYING INTO THIS SECTOR. IN THIS REGARD, IT MAY ALSO BE NOTED THAT THE ATTEMPT TO ADD TO TONNAGE VIA A BARE BOAT CHARTER-CUM-DEMISE (BBCD) POLICY HAS NOT BEEN VERY SUCCESSFUL. HERE AGAIN, A LESS GUARDED AND MORE OPEN APPROACH TO AUGMENTING THE OWNERSHIP BASE OF THE TONNAGE UNDER THE NATIONAL REGISTER IS REQUIRED.

#### 5.5.1.3 ADDRESSING THE ISSUE OF MANNING

The Sub Group felt that the industry's complaint about the need for a restructure of the regulatory regime stemmed mainly from this issue. Indian ships have to mandatorily employ Indian seafarers, and do not have the dispensation to hire foreign seafarers.

**IN VIEW OF THE INCREASING WORLDWIDE SHORTAGES AT THE SENIOR POSITIONS, THERE IS INHERENT DISADVANTAGE TO THE INDIAN SHIP OWNERS AS EMPLOYERS. BY VIRTUE OF EXTRA BURDEN OF INCOME TAX ON INDIAN SEAFARERS' INCOME, IT MAKES THE EMPLOYMENT ON A FOREIGN FLAG THE FIRST CHOICE OF ANY INDIAN SEAFARER, AND THEREBY DENIES THE BEST TALENT TO THE LOCAL SHIPPING INDUSTRY. IT WILL BE NECESSARY TO TAKE A POSITIVE APPROACH ON THIS ISSUE AND GRANT FREEDOM FOR THE INDIAN SHIPPING INDUSTRY BY PERMITTING THEM TO EMPLOY FOREIGN SEAFARERS. IT MUST BE BORNE IN MIND THAT INDIAN SEAFARERS ON THEIR PART ALREADY HAVE SUCH FREEDOM TO SEEK EMPLOYMENT ON FOREIGN SHIPS AND NOT BE BOUND BY ANY DUTY TO SERVE INDIAN SHIPS IN THE INTEREST OF FREEDOM OF EMPLOYMENT LIKE ANY OTHER PROFESSION HAS. THE POSITION IS NEITHER COMPARABLE TO DOMESTIC INDUSTRY, SUCH AS AVIATION, FOR E.G., NOR THE COMPETING GLOBAL INDUSTRY IS EXPERIENCING VERY TIGHT MANPOWER SUPPLIES. DATA SHOWS THAT WHILE OTHER COUNTRIES DID HAVE SIMILAR RESTRICTIONS IN PLACE, E.G. NORWAY, WHICH IS LARGELY DEPENDENT ON EMPLOYMENT FOREIGN SEAFARERS IN THIS SECTOR, THEY HAVE SUCCESSFULLY ALLOWED RELAXATION SO THAT ONLY A PERCENTAGE OF THE MANNING COMPLEMENT IS MANDATORILY DOMESTIC NOW.**

**AT LEAST TILL THE BOOM LASTS IN THE SHIPPING CYCLE, AND A SHORTAGE IN MANPOWER PERSISTS, A CONTROLLED RELAXATION AT THE SENIOR POSITIONS IN THE PRESENT REGULATION SHOULD BE INTRODUCED.**

#### 5.5.2 OPENING A SECOND INTERNATIONAL REGISTER.

##### 5.5.2.1 THE DRAFT NATIONAL MARITIME POLICY HAD SUGGESTED THE FEASIBILITY OF A SECOND REGISTER BE EXPLORED. THE SUB GROUP WENT INTO THE MATTER IN SOME DETAIL, AND

CAME TO THE CONCLUSION THAT NOW IS THE BEST OPPORTUNITY TO DO SO. WITH WORLD TONNAGE PREDICTED TO INCREASE AT 1% PER ANNUM (AT LEAST AT THE SAME PACE AS IN THE LAST 5 YEARS), INDIAN INTERNATIONAL TRADE GROWING AT 15% PER ANNUM, PORTS RAPIDLY ADDING CAPACITY AND FACILITIES, A SECOND REGISTER WOULD OPEN THE WINDOW FOR FOREIGN SHIPOWNERS WITH INDIA ON THEIR LONG TERM HORIZON TO OPEN OFFICES AND FLAG-IN THEIR SHIPS HERE FOR PLYING ON CROSS-TRADES. IT WOULD HELP ATTRACT THE FDI THAT HAS SO FAR ELUDED THE SECTOR AND THIS IS NECESSARY FOR TONNAGE UNDER THE FLAG TO INCREASE. IT WOULD PROVIDE THE NECESSARY IMPETUS FOR THE GROWTH OF THE RELATED SHORE BASED INDUSTRY AND SERVICES (VIZ. SHIP REPAIR, DRY DOCK, SERVICE SHIP BUILDING, SHIP CHANDLING, SHIP MANAGEMENT, ETC.) AND INCREASE SHORE-BASED EMPLOYMENT WHICH IS THE RATIONALE FOR A POLICY FOR INCREASE IN TONNAGE.

5.5.2.2 NEEDLESS TO SAY, FOR A SECOND INTERNATIONAL REGISTER TO BE SUCCESSFUL, CONDITIONS OF REGISTRATION WOULD NEED TO MATCH THOSE OF COMPETING FLAGS, E.G. SINGAPORE, HONG KONG, MALTA, ETC. IT IS CONSIDERED THAT IF THIS IS DONE, TONNAGE UNDER THE INDIAN FLAG WOULD INDEED INCREASE.

5.5.2.3 EQUALLY OBVIOUS, A SECOND REGISTER WHICH IS MORE ATTRACTIVE THAN THE NATIONAL REGISTER WOULD BE POLITICALLY UNVIALE. NORWAY AND DENMARK WHICH HAVE FOLLOWED THIS ROUTE TO RETAIN THEIR OWN TONNAGE HAVE DONE SO BY PROVIDING FACILITATIVE LOGISTICS WITH EQUALLY LIBERAL TAX AND FACILITATIVE REGULATORY REGIMES AND BY ADJUSTING OTHER REQUISITES TO ENABLE A NATIONAL CARRIER TO CHOOSE HIS FLAG ACCORDING TO BUSINESS NEEDS. WE NEED TO FOLLOW THIS EXAMPLE, AND PROCEED FURTHER DOWN THE LIBERALIZATION ROUTE IF THE AIM IS NOT ONLY TO WEAN BACK SUCH COMPANIES BUT TO ATTRACT FDI FOR GROWTH OF THE SECTOR.

5.5.2.4 THE SENSITIVE ISSUES IN EQUATING TWO REGISTERS, THE SECOND OPEN TO FOREIGN COMPANIES, IS THAT OF CABOTAGE AND MANNING. IN REGARD TO CABOTAGE, WHILE THE NATIONAL REGISTER SEES THIS AS ITS MAIN ATTRACTION, AND FOR THE SIZE AND OPERATION OF THE INDIAN COMPANIES, IT IS FELT NECESSARY TO RETAIN THE PREFERENCE; THE PRESSURE FROM THE INTERNATIONAL REGISTER WOULD BE TO EQUALIZE OPPORTUNITY. A

RESPONSE MIGHT NEED TO BE MADE THAT IS GRADED AND ACCEDED TO THE CARGO AVAILABILITY, VESSEL AVAILABILITY AND PROFILE, RESPONSE TO THE SECOND REGISTER, THE ECONOMIC BENEFITS AND FDI ACCRUING FROM IT. WITH REGARD TO MANNING, THE NORWEGIAN EXAMPLE OF SOME PERCENTAGE OF MANDATORY NATIONAL MANNING ON BOTH COULD PROVIDE THE REQUIRED SOLUTION.

**5.5.2.5 THE 1<sup>ST</sup> OR 2<sup>ND</sup> YEARS OF THE XI<sup>TH</sup> PLAN SHOULD BE UTILIZED TO LIBERALIZE THE NATIONAL REGISTER AND PREPARE THE DETAILED PLAN OF ACTION FOR THE SECOND REGISTER INCLUDING SUCH DETAILS AS WHO SHOULD OPERATE IT, AND MAKE THE LEGISLATIVE CHANGE TO CONSIDER THE DEFINITION OF AN INDIAN SHIP TO PERMIT PART FOREIGN HOLDINGS OF THE SHARE IN A SHIP OR SUBSIDIARIES TO OWN SHIPS UNDER THE INDIAN 2<sup>ND</sup> REGISTER. IT IS CONSIDERED THAT, WITH THIS SECOND REGISTER, THE DESIRED DOUBLING OF INDIA'S SHARE OF THE WORLD FLEET BY 2012 IS ECONOMICALLY FEASIBLE.**

5.5.3 DEVELOPMENT OF SHORE BASED INFRASTRUCTURE.

**THE SUB GROUP CONSIDERED THAT THE MARKET AND DEMAND FACTOR SHOULD ENSURE ADEQUATE PARTICIPATION FROM THE PRIVATE SECTOR. FURTHER, THE PROPOSED INDIAN MARITIME UNIVERSITY WILL OVERSEE THE INDUCTION, TRAINING AND SUPPLY OF THE HIGHLY SKILLED MANPOWER NECESSARY TO OPERATE BOTH THE DOMESTIC AND INTERNATIONAL FLEETS.**

5.5.4 CREATING A SECURE ENERGY LIFE LINE

This element of the strategy is set apart because it is seen as an important security aspect of the policy, and not only because of the potential to increase tonnage. The issue has been discussed at length in Chapter II. It is considered that it is in national interest to take a decision to secure tonnage under the national flag for each kind of oil and gas carrier in numbers or carrying capacity as may be decided by the Ministries concerned in consultation with one another. While the country does not lack

oil tankers and some LPG carriers, there is not even one vessel for the carriage of LNG, and very few oil rigs. The Sub Group strongly recommends that this void be filled, and for this purpose, if need be, incentives that are required be framed and offered for the next ten years.

#### 5.5.5 RESTRUCTURING THE REGULATORY REGIME TO MEET EMERGING NEEDS.

**WITH GROWTH IN SHIPPING MOVEMENT ALONG THE COASTS, THE EMERGING DEMANDS, RISKS AND THE REGULATORY NEEDS MAY BE IDENTIFIED AS THE FOLLOWING:-**

- (i) GREATER RISK OF COLLISIONS, ACCIDENTS AND CASUALTIES ALONG THE COAST AND NEAR OFFSHORE INSTALLATIONS;**
- (ii) GREATER THREAT OF OIL SPILLS FROM THE GROWING NUMBER OF TANKERS AND FROM BUNKERS OF VESSELS IN DISTRESS;**
- (iii) GREATER POLLUTION FROM SHIPS' BILGES, WASTES AND BALLASTS AND RESULTANT THREATS TO THE COASTAL ECOSYSTEM;**
- (iv) GREATER THREATS TO SECURITY OF COASTLINE AND PORT FACILITIES;**
- (v) GREATER DEMANDS ON THE REGULATORY REGIME FOR TRANSPARENCY AND EFFICIENCY;**
- (vi) GREATER DEMAND FOR QUICKER LEGISLATIVE RESPONSES TO THE INTERNATIONAL CONVENTIONS AND MOUs BY WAY OF AMENDMENTS TO THE STATUTES;**
- (vii) MORE HEADWAY IN BILATERAL AND MULTILATERAL AGREEMENTS FOR GREATER PROTECTION TO SEAFARERS AND FOR MUTUAL ECONOMIC INTERESTS.**

**IN EACH OF THESE EMERGING DEMANDS, THE XI<sup>TH</sup> PLAN SHOULD AIM TO PROVIDE THE MEANS FOR AN ADEQUATE RESPONSE.**

#### 5.5.6 CASUALTY INVESTIGATION AND MARINE SAFETY BUREAU

In the last monsoon (2006 – 2007), this country witnessed 15 major marine casualties in its coastal waters, leading to about 27 fatalities, spillage of about 5000 tons of bunker oil into the sea; wreck removal costs of about Rs. 50 crores; loss of property

calculated at about Rs. 150 crores due to loss of ships and at about Rs. 15,000 crores due to losses in offshore installations. In addition, a large number of fishing vessels and sailing vessels were reported wrecked or lost in storms. In the coming years, as coastal and cross trade traffic increases, we may expect the figures to rise.

NEITHER THE NAVY, NOR THE COAST GUARD NOR THE MINISTRY OF SHIPPING HAS A FORMALIZED RESPONSE SYSTEM TO MARINE CASUALTIES. ALTHOUGH THE RESPONSIBILITY FOR CASUALTY INVESTIGATION HAS BEEN GIVEN TO THE NAUTICAL ADVISOR TO THE GOVERNMENT OF INDIA, HE IS NOT EQUIPPED WITH THE WHEREWITHAL OR THE AUTONOMY NECESSARY TO INVESTIGATE THE CASUALTIES IMMEDIATELY OR IMPARTIALLY OR WITH THE AUTHORITY TO ENFORCE SYSTEMATIC CHANGES ARISING OUT OF THE RECOMMENDATIONS MADE AS AN OUTCOME OF HIS INVESTIGATIONS. AT PRESENT, CASUALTY INVESTIGATIONS ARE BEING CARRIED OUT UNDER MERCHANT SHIPPING ACT PART XII (SECTION 357 TO 389) OF M.S. ACT, 1958. THESE SECTIONS MAINLY FOCUS ON FINDING FAULT AND PENALIZING THE GUILTY. THE INVESTIGATION IS DONE BY SURVEYORS OF THE DEPARTMENT WHO ARE PRE-OCCUPIED WITH MANY OTHER FUNCTIONS, AND BEAR PART OF THE ACCOUNTABILITY WHENEVER AN INDIAN SHIP IS INVOLVED. THERE IS NO INDEPENDENT REGIME IN PLACE DESPITE THE GROWTH OF INDIAN SHIPPING FROM 59 SHIPS TO THE PRESENT FIGURE OF 750, AND SEAFARERS TO A HUNDRED THOUSAND PERSONS SINCE 1958, WHEN THE ACT WAS FRAMED.

IT IS, THEREFORE, PROPOSED TO SET UP A CASUALTY INVESTIGATION AND MARINE SAFETY BUREAU (CIMS) IN THE XITH PLAN, WHICH IS EMPOWERED WITH SUFFICIENT FINANCIAL, LEGAL AND EXECUTIVE AUTONOMY FOR THIS PURPOSE. THE BUREAU WOULD BE SET UP ALONG THE LINE OF THE MARINE ACCIDENT AND INVESTIGATION BUREAU OF THE UNITED KINGDOM, INCORPORATING FEATURES FROM RAILWAY SAFETY CELL AND THE CIVIL AVIATION SAFETY BUREAU. THE HEAD OF THE BUREAU WOULD REPORT TO THE DIRECTOR GENERAL OF SHIPPING, BUT HAVE AN EXISTENCE AND FUNCTIONAL AUTHORITY INDEPENDENT OF THE DIRECTORATE.

#### **5.5.8 PREPAREDNESS FOR DISASTER PREVENTION AND MANAGEMENT**

**FOLLOWING THE UNUSUALLY LARGE NUMBER OF MARINE CASUALTIES THIS PAST YEAR (2006 - 2007), AND THE DISASTROUS COLLISION IN THE BOMBAY HIGH THE PREVIOUS YEAR (2005 - 2006), IT IS CLEAR THAT URGENT ACTION IS REQUIRED TO PUT IN PLACE A RESPONSE MECHANISM FOR:**

- (I) INTERVENING EFFECTIVELY BEFORE SHIPS ADRIFT RUN AGROUND OR COLLIDE WITH OTHER SEA INSTALLATIONS.**
- (II) DECANTING BUNKER OIL FROM SHIP WRECKS BEFORE IT SPILLS INTO THE SEA;**
- (III) SALVAGING THE SHIPS THAT RAN AGROUND BEFORE THEY BREAK UP;**

**A DISASTER PREVENTION PLAN HAS BEEN DRAWN UP BASED ON THE MODEL OF OTHER MARITIME COUNTRIES. MINIMALLY, THIS WOULD REQUIRE THE AVAILABILITY OF AT LEAST TWO 100 TONNE BOLLARD PULL TUGS ON EACH COAST; ASSOCIATED BASIC EQUIPMENT FOR TOWING AND DECANTING OF BUNKER OIL FROM TANKS OF SHIPS IN DISTRESS; AND A TEAM OF SALVORS WHO WILL BE AVAILABLE AT SHORT NOTICE. IT IS PROPOSED TO PURCHASE THE HEAVY DUTY TUGS AND THE BASIC EQUIPMENT AND, FOR THE SALVAGE EXPERTISE, TO INVITE WORLD RENOWNED SALVAGE COMPANIES TO SET UP THEIR FIRMS IN INDIA. SINCE SUCH TUGS AND EQUIPMENT WOULD DETERIORATE QUICKLY IF LEFT UN-UTILIZED TILL AN EMERGENCY ARISES, IT IS PROPOSED TO IDENTIFY AN ORGANIZATION WHICH WILL USE THE TUGS AND EQUIPMENT FOR ITS USUAL COMMERCIAL PURPOSES, BUT IMMEDIATELY MAKE THEM AVAILABLE FOR MARITIME EMERGENCIES AT DG SHIPPING REQUEST TO THE SALVORS AT THE REGULAR CHARTER COST. THE SALVORS WOULD BE UNDER AN MOU WITH THE GOVERNMENT TO RESPOND WHENEVER REQUIRED, AT COSTS AND TERMS AS PER THE MERCHANT SHIPPING ACT AND IMO CONVENTIONS. GIVEN THAT THE MOST SENSITIVE INSTALLATIONS ALONG THE COAST ARE THE OFFSHORE PLATFORMS AND PORTS, IT IS PROPOSED THAT THE OIL AND NATURAL GAS CORPORATION (ONGC) ON THE WEST COAST AND VISAKHAPATNAM/CHENNAI PORT TRUST ON THE EAST COAST SHOULD PURCHASE THE TUGS AND EQUIPMENT WITH A CERTAIN PERCENTAGE OF THE COST BEING BORNE BY GOVERNMENT.**

**PART OF THE STANDARD OPERATING PROCEDURES FOR DISASTER MANAGEMENT SHOULD INCLUDE THE DELEGATION OF POWERS TO THE DIRECTOR GENERAL OF SHIPPING TO HIRE THE BEST LEGAL EXPERTISE INTERNATIONAL, IF NEED BE, FOR OIL AND ACCIDENT COMPENSATION**

CLAIMS AND THE FREEDOM TO MAKE PAYMENT BY FEES PEGGED TO THE SIZE OF THE COMPENSATION OBTAINED. AT THE SAME TIME, ACTION SHOULD BE TAKEN TO ADOPT THE BUNKER SPILL CONVENTIONS AS IT IS NOT COVERED UNDER THE FUND CONVENTION AND CLC.

#### **5.5.9 COASTAL SURVEILLANCE AND NAVIGATIONAL CHANNEL SAFETY SYSTEMS**

INCREASING MARINE TRAFFIC WOULD ALSO INCREASE THE THREAT OF SECURITY TO THE COASTAL AND PORT FACILITIES. ALREADY A LONG RANGE IDENTIFICATION AND TRACKING SYSTEM TO COUNTER THE TERRORIST AND PIRACY THREATS HAS BEEN GRANTED INTERNATIONAL ACCEPTANCE, WHEREBY ALL SHIPS, IRRESPECTIVE OF FLAG, TRAVERSING THE TERRITORIAL WATERS OF ANOTHER COUNTRY WOULD NEED TO DECLARE THEIR IDENTITY AND POSITION TO THAT COUNTRY. AS ONE OF THE COUNTRIES FACING A HIGH TERRORIST THREAT, INDIA HAS BEEN ACTIVE IN SUPPORTING THE INTERNATIONAL MOVE FOR TERRITORIAL WATERS SURVEILLANCE AND WOULD NEED TO SET UP THE SYSTEM AS SOON AS POSSIBLE. FUNDS IN THE XITH PLAN FOR THIS PURPOSE WOULD NEED TO BE SET ASIDE.

ONCE THE OBLIGATION FOR DECLARATION OF IDENTITY IS IMPOSED BY THE INTERNATIONAL MARITIME ORGANIZATION (IMO), THE LRIT WOULD NEED TO BE BACKED BY LONG RANGE RADARS THAT CAN PICK UP AND TRACK VESSELS THAT DO NOT SO DECLARE THEMSELVES, AND A QUICK RESPONSE SYSTEM FROM THE COAST GUARD/NAVY FOR INTERVENTION IN CASE THE RADAR IDENTIFIES INTRUSIONS. RADARS CAN BE INSTALLED IN THE LIGHTHOUSES AND RADIO BEACON STATIONS OWNED BY THE DIRECTORATE OF LIGHTHOUSES AND LIGHTSHIPS AND THE RADAR SIGNALS SEND TO THE LRIT CENTER AND COAST GUARD/NAVY FOR NECESSARY ACTION. EQUIPMENT FOR THIS TRACKING SYSTEM WOULD ALSO NEED TO BE FUNDED DURING THE XITH PLAN.

#### **5.5.10 COASTAL ENVIRONMENT PROTECTION MEASURES**

THE MARPOL 73/78 CONVENTION REQUIRE WASTE RECEPTION FACILITIES TO BE CREATED IN ALL PORTS, WHEREIN SHIPS CAN DISCHARGE BILGE, SEWAGE AND OTHER WASTES. WHILE THE MAJOR PORTS HAVE, BY AND LARGE, REPORTED THE CREATION OF SUCH FACILITIES IN RESPECT OF OIL WASTE, RECEPTION FACILITIES FOR GARBAGE AND SEWAGE NEED TO BE

CREATED. MINOR PORTS NEED TO MAKE PROVISION FOR BOTH. THE ISSUE OF CUSTOMS DUTY ON THE RECYCLED OIL FROM THE RECEPTION FACILITIES SHOULD NOT BE MADE THE REASON FOR DELAYING APPROPRIATE ACTION. INSTEAD, RECOVERY OF COSTS SHOULD BE PLANNED THROUGH A PROPER SYSTEM OF USER FEES AND PENALTIES, BASED ON STRICT MONITORING OF COMPLIANCE. ALL PORTS WOULD NEED TO SHOW COMPLIANCE WITHIN THE XI<sup>TH</sup> PLAN AS PER MARPOL 73/78, ANNEXES II, III AND IV.

IN ORDER TO PROTECT COASTAL WATERS AND SHORELINE FROM BIO-INVASION BY THE INADVERTENT INTRODUCTION OF ALIEN ORGANISMS OR PATHOGENS INTO AN ECOSYSTEM, AN INTERNATIONAL POLICY HAS BEEN DEVELOPED TO IDENTIFY AREAS WITH POSSIBLE PATHOGENS SO THAT SHIPS CALLING THERE OR PICKING UP WATER THERE ARE QUARANTINED ON REACHING OTHER PORTS. IN ORDER THAT TRADE IS NOT DISRUPTED, IT IS NECESSARY TO MAKE PROVISIONS TO DEVELOP A SOUND "BALLAST WATER MANAGEMENT POLICY" IN ACCORDANCE WITH THE REQUIREMENTS OF IMO CONVENTION OF 2004. ONE OF THE COMPONENTS OF AN EFFECTIVE NATIONAL BALLAST WATER MANAGEMENT SYSTEM WILL BE THE DEMARCATION OF MARINE AREAS WITHIN WHICH BALLAST WATER SHOULD NOT BE TAKEN ABROAD, EG ADJACENT TO RIVER MOUTHS OR SEA-EDGE OUTFALL WHERE AN INCREASED RISK OF PATHOGENS AND SEDIMENTS. THIS REQUIRES PORT BASELINE SURVEYS AND RISK ASSESSMENT, AND FOR THAT PURPOSE, THE ESTABLISHMENT OF SMALL LABORATORIES MANNED BY SUITABLE TECHNICIANS. IT IS ENVISAGED THAT ALL PORTS SHOULD HAVE THIS PROGRAMME IN PLACE DURING THE XI<sup>TH</sup> PLAN. ALL PORTS NEED ALSO TO MAKE ARRANGEMENTS FOR CONTAINMENT OF OIL SPILLS DURING BUNKERING AND DURING CARGO OPERATIONS.

#### 5.5.11 PERMANENT REPRESENTATION IN IMO

THE INCREASING NUMBER OF INTERNATIONAL CODES AND CONVENTIONS, EMANATING FROM THE INTERNATIONAL MARITIME ORGANIZATION (IMO), HAS CHANGED THE MARITIME TRADE RELATIONSHIPS BETWEEN NATIONS, AS ALSO CREATED A WHOLE NEW STATUTORY STRUCTURE FOR MARITIME COUNTRIES. EXPERIENCES FOR THE LAST FIVE YEARS HAVE SHOWN THAT THE TREND TO INTERNATIONALIZE MARINE REGULATIONS WILL CONTINUE. EXPERIENCE ALSO SHOWS THAT THE COUNTRIES THAT PARTICIPATE ACTIVELY IN THE SUB-GROUP ACTIVITY FOR

THE DRAFTING OF CODES AND CONVENTIONS ARE THE ONES WHO ARE BEST PLACED TO INFLUENCE THE ULTIMATE DECISIONS. IT IS PROPOSED DURING THE XI<sup>TH</sup> PLAN TO REVIVE THE PERMANENT REPRESENTATION OF THE COUNTRY AT THE IMO AND TO INCREASE OUR PARTICIPATION IN THE DECISION MAKING ON SUCH IMPORTANT TRADE ISSUES AS SHIP RE-CYCLING, ANTI-FOULING SYSTEMS, BUNKER OIL AND ENGINE SPECIFICATIONS FOR CONTROL OF MARINE POLLUTION, ETC.

#### 5.5.12 CAPACITY BUILDING OF DGS

DESPITE THE TIGHT CONTROL ON NON-PAN EXPENDITURE, THE GROWING NEED TO FACILITATE A QUICK TURNAROUND OF MARINE TRAFFIC CAUSED GOVERNMENT TO APPROVE AN EXPANSION OF THE MMDs AND TO OPEN NEW MMDs DURING THE X<sup>TH</sup> PLAN IN KANDLA, NEW MANGALORE, PARADIP, HALDIA AND NOIDA. THE WORK OF SETTING UP OF THE INFRASTRUCTURE FOR THESE MMDs WOULD NEED TO BE CONTINUED IN THE XI<sup>TH</sup> PLAN WITH FUNDS FOR BUILDING AND EQUIPMENT. EQUIPMENT WOULD NEED TO INCLUDE IT WHEREWITHAL TO ENABLE THE MMDs TO BECOME A SEAMLESS PART OF THE E-GOVERNANCE SYSTEM OF THE DIRECTORATE GENERAL OF SHIPPING WITH WHICH QUICKNESS OF RESPONSE, TRANSPARENCY AND EASE OF TRANSACTIONS WOULD BE ENHANCED. IN ADDITION, GREATER EMPHASIS WOULD BE PLACED ON TRAINING OF STAFF TO ENSURE THAT THEY HAVE THE KNOWLEDGE AND THE CONFIDENCE FOR QUICK DECISION-MAKING. WITHIN THE DG'S OFFICE THE AVAILABILITY OF LEGAL EXPERTISE IS A CRYING NEED, AND HAS TO BE ATTENDED TO WITH URGENCY.

CHAPTER 6

FINANCIAL RESOURCES FOR THE XI<sup>TH</sup> FIVE-YEAR PLAN (2007 - 2012)

- 6.1. REQUIREMENTS FOR THE XI<sup>TH</sup> PLAN PERIOD ARE ESTIMATED AT ABOUT RS. 35,340 CRORES, OF WHICH RS. 35,000 CRORES ARE ESTIMATED AS THE REQUIREMENT FOR THE SHIPPING INDUSTRY.
- 6.2 THE TABLE BELOW GIVES OUT THE DETAILS OF THE FUNDS NEEDED, ESSENTIALLY FOR THE ESTABLISHMENT/RESTRUCTURING THE REGULATORY REGIME TO MEET EMERGING NEEDS, BROUGHT OUT IN CHAPTER 4.

PURPOSE	REQUIREMENT OF FUND (CRORES)
INDIAN CASUALTY INVESTIGATION BUREAU	6.75 (RECURRING & CAPITAL COST)
CRISIS MANAGEMENT OR MARITIME ASSISTANCE SERVICE (MAS)	5
NAVIGATIONAL SAFETY IN PORT COMMITTEE	6.75 (RECURRING & CAPITAL COST)
INTERNATIONAL SHIP & PORT SECURITY (ISPS)	5
GLOBAL MARITIME DISTRESS & SAFETY SYSTEM (GMDSS)	26.5
BALLAST WATER MANAGEMENT (BWM)	15
INTER MINISTERIAL INITIATIVES FOR BALLAST WATER TREATMENT TECHNOLOGY	50
SHIPPING TRADE PRACTICES ACT	4
CIVIL CONSTRUCTION UNDER 11 <sup>TH</sup> PLAN	16.5
OTHER BRANCHES E-GOVERNANCE	26.55
FINANCE & ACCOUNTS ADMN. BRANCH EXPENDITURE UNDER NON-PLAN	178.65
<b>Total</b>	340.65

TABLE 18

- 6.3 THE ESTABLISHMENT OF THE INDIAN CASUALTY INVESTIGATION BUREAU UNDER THE OVERALL SUPERVISION OF THE NAUTICAL ADVISOR TO THE GOVT. OF INDIA WILL INVOLVE DEDICATED TEAM OF SURVEYORS AND THE SUPPORTING STAFF IN ADEQUATE STRENGTH TO BE VIBRANT TO THE NEEDS OF SPEEDY INVESTIGATIONS INTO CASUALTIES THAT CAN CONVERT INTO MEANINGFUL ANALYSES LEADING TO EFFECTIVE STEPS TOWARDS CORRECTIVE ACTIONS INCLUDING MITIGATION OF DAMAGE TO THIRD PARTIES AND POSSIBLE PREVENTION OF THE LIKE SITUATIONS. IT IS ENVISAGED THAT THE ESTABLISHMENT OF THE BUREAU WOULD NEED 17 PERSONNEL WITH A CAPITAL COST OF Rs 1 CRORE AND A RECURRING COST OF Rs 5.75 CRORES DURING THE PLAN PERIOD.**
- 6.4 AS THE FIRST STEP TOWARDS EFFECTIVE AND IMMEDIATE RESPONSE TO INCIDENTS/ACCIDENTS WHICH THREATEN SAFETY OF LIVES AND PROPERTY OR THREATEN TO DAMAGE MARINE ENVIRONMENT AND TOWARDS MITIGATION OR PREVENTION OF FURTHER DAMAGE, WHICH SITUATION COULD ARISE EITHER ON THE EAST OR WEST COAST OF INDIA THERE IS A REQUIREMENT OF READY TO RESPOND CRISIS MANAGEMENT OR MARITIME ASSISTANCE SERVICE (MAS). THIS TEAM SHOULD HAVE ADEQUACY OF MANPOWER AND EQUIPMENT AND OTHER RESOURCES READILY AVAILABLE ON THE LINES OF SECRETARY OF STATE REPRESENTATIVE (SOSREP) OF UK. THERE IS AN URGENT NEED TO HAVE AT LEAST 4 EMERGENCY TOWING VESSELS (ETV) OF ABOUT 80 TONS BOLLARD PULL DEPLOYED ON BOTH THE COASTS. THE SAME ORGANIZATION CAN ALSO ACT AS VESSEL TRAFFIC SYSTEM AUTHORITY (VTSA), PORT OF REFUGE, OIL POLLUTION RESPONSE TO COMPLEMENT THE COAST GUARD AND OIL POLLUTION COMPENSATION REGIME. TO START WITH, 15 EMPLOYEES ARE ENVISAGED FOR THIS SET UP WITH A RECURRING EXPENDITURE OF Rs 5 CRORES.**
- 6.5 THERE IS ALSO A REQUIREMENT OF THE NAVIGATIONAL SAFETY IN PORT COMMITTEE (NSPC) TO ENSURE NAVIGATIONAL SAFETY OF PRIVATE PORTS AND TERMINALS. THERE ARE OVER 170 PVT. PORTS AND NUMEROUS TERMINALS WITHIN THESE PORTS WHICH ARE REQUIRED TO BE INSPECTED AND APPROVED BY NSPC AS PER GOVT. NOTIFICATION. FOR EFFECTIVE IMPLEMENTATION IT IS ESSENTIAL TO HAVE 17 EMPLOYEES IN THE SET UP WHICH WOULD ENTAIL A RECURRING COST OF 1 CRORE PER YEAR DURING THE PLAN PERIOD.**

- 6.6 WITH REGARD TO IMPLEMENTATION OF THE ISPS CODE REQUIREMENTS WILL BE IN TERMS OF LRIT INFRASTRUCTURE, EXCHANGE OF INFORMATION MECHANISM WITH REGARD TO. CARGO SECURITY WITH OTHER COUNTRIES, MONITORING OF PORT SECURITY & SHIP SECURITY. EMPLOYEE STRENGTH OF 15 IS ENVISAGED, WITH RECURRING EXPENDITURE OF 5 CRORES DURING THE PLAN PERIOD.**
- 6.7 UNDER GMDSS REQUIREMENT IT IS MANDATORY TO HAVE SHORE STATIONS ON THE INDIAN COAST TO RECEIVE DISTRESS MESSAGES FROM SHIPS. THE COST OF ESTABLISHING SHORE STATIONS AT MUMBAI & KOLKATA IS RECURRING COST FOR RENT AND GUARANTEE TO BSNL RS 6. 3 CRORES PER ANNUM AS AGREED BETWEEN THE MINISTRY OF SHIPPING & MINISTRY OF COMMUNICATION. OUT OF THIS, DG SHIPPING HAS ALREADY PAID RS. 5 CRORES. THE BALANCE OF RS 26.5 CRORES HAS TO BE PAID OVER THE NEXT 5 YEARS.**
- 6.8 THE SETTING UP OF BALLAST WATER TESTING FACILITY IN CONSULTATION WITH NIO IS A NEW SCIENTIFIC AND ENGINEERING VENTURE. 1.5 CRORES INVESTMENT IN 10 PORTS IS NEEDED TO CARRY OUT RESEARCH, RISK ASSESSMENT AND PORT BASE LINE SURVEYS.**
- 6.9 FOR COMPLIANCE WITH CONVENTION NO. 185 OF ILO CONCERNING THE SEAFARERS' IDENTITY DOCUMENT WHICH IS ABSOLUTELY ESSENTIAL IN ORDER THAT EMPLOYMENT OF OUR SEAFARERS' WORLD OVER IS GREATLY FACILITATED, THERE IS A REQUIREMENT OF RS. 4.5 CRORES. SIMILARLY, AN AMOUNT OF 4 CRORES ARE REQUIRED TOWARDS SETTING UP OF SUBORDINATE OFFICE, & INFRASTRUCTURE FOR IMPLEMENTATION OF PROPOSED SHIPPING TRADE PRACTICES ACT.**
- 6.10 THE ESTIMATED COST FOR CONSTRUCTION OF NEW OFFICE/ RESIDENTIAL BUILDINGS AT PLACES WHERE MMDs ARE SITUATED DURING THE XI<sup>TH</sup> PLAN IS 16.5 CRORES. THE EFFECTIVE IMPLEMENTATION OF E-GOVERNANCE ASSOCIATED WITH EFFICIENT FUNCTIONING OF THE DGS AND ALLIED OFFICES REQUIRES A FUNDING OF RS. 26.55 CRORES. THERE IS A 10<sup>TH</sup> PLAN SPILL OVER RS 5 CRORES, WHICH WILL BE SPENT IN 07-08. PROJECTED CAPITAL EXPENDITURE FOR E-GOVERNANCE FROM 2007-08 TO 2011-12 IS RS. 25 CRORES, OUT OF THIS 5 CRORES WILL**

**COME FROM 10<sup>TH</sup> PLAN. PROJECTED RECURRING EXPENDITURE FOR E-GOVERNANCE FROM 07-08 TO 11-12 IS RS. 4.5 CRORES, OUR OF THIS 0.55 CRORES WILL COME FROM THE 10<sup>TH</sup> PLAN.**

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**REPORT  
OF  
THE SUB GROUP  
(MARITIME TRAINING)  
SET UP BY  
THE WORKING GROUP ON SHIPPING  
&  
INLAND WATER TRANSPORT  
FOR  
THE ELEVENTH FIVE YEAR PLAN  
(2007-2012)**

**PRESENTED BY**

DIRECTOR GENERAL OF SHIPPING  
DIRECTORATE GENERAL OF SHIPPING  
JAHAZ BHAVAN, W.H. MARG  
MUMBAI - 400 001.

**Sub-Group's Report on**  
**Seafarers' Supply and Maritime Training**  
**under the Working Group on**  
**Shipping and Inland Water Transport (IWT),**  
**for Preparation of the**  
**11th Five Year Plan (2007-2012)**

## Preface

A Sub Committee for preparation of the draft XI plan was Constituted by the Government of India Department of Shipping vide Letter No.SY-11018/3/2006-SC dt. 22nd June 2006 (**Annexure V**) The Committee had three Sittings and numerous interactions with maritime training bodies, Industry Nominees and Various other shipping entities.

- 1) The terms of reference for the Committee set out by the Government of India are as follows:

INSERT TERMS OF REFERENCE HERE

- 2) The seriousness with which the Government has for the first time included the agenda of maritime training in the XI Five Year Plan itself is an indicator of the genuine intention of the government to bring about radical reforms in the way in which maritime training and training are run and administrated. The very fact that the government has constituted a sub group for this sector, signifies its importance. It is clear that the present system of maritime training has left much to be desired, and our goal should be to build on the good foundation that exists for Competency Courses, but also to impart higher learning that is sought to be introduced under the aegis of the proposed Indian Maritime University.

Further, the Committee had the unanimous feeling that the present system is more oriented to suit the needs of the training institutes rather than that of the student community. Many trainees are left high and dry after completion of the shore based training, without any provision or guarantee for obtaining sea time. This deprives them of the opportunity to complete their sea-going training and to obtain a professional licence, thus nipping a youngster's career in the bud, apart from inflicting financial loss and psychological damage. This came for a serious review and the recommendations of the Committee are, inter alia, meant to set right this basic anomaly.

Though the Committee sat together with that on Maritime Employment constituted by the DOS, certain discussions relating to induction of more rural youth into merchant navy could not fructify into solid decisions. Hence, there would be a separate report on these aspects.

I as the Secretary of the Committee, take immense pleasure in conveying the appreciation of the Chairman of the Committee to all its members, who put their hearts and valuable time for the accomplishment of the onerous task of compiling this report. Our sincere thanks are due to Capt. Shridhar Nivas, MASSA Maritime Academy, who made enormous contributions to the drafting of the report and the interpretation of statistics of world seafarer demand.. The Committee also feels privileged to express its gratitude to the Government of India for the trust reposed and the privilege offered by the Government in making this report.

Though baffling initially, the task was never short of delights and challenges and I take this opportunity to express my personal gratitude to all the members of the Committee

for their unstinted support and valuable contribution in bringing out this report.

(P.H.Krishnan)  
Deputy Director General of Shipping  
and  
Member Secretary

Place: Mumbai  
Dt.:15.11.2006

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## **Chapter 1**

### **1.1 INTRODUCTION**

A bustling and densely populated coastline over 7000 kms in length and a long maritime history has established India's position in the global maritime league. But her claim to maritime pre-eminence rises from her ability to supply well-trained and competent seafarers to an international client base. Indian seafarers have created a vast technical know-how pool in ship operation and management, and many individuals have risen to positions of global entrepreneurial leadership. Our knowledge base has also added great value to the functioning of the IMO and other organizations with leadership in and links to international shipping.

Given India's impressive record in conducting formal training for merchant navy personnel since 1927, and the rising world-wide acceptance of Indian seafarers as being efficient and cost-effective, when the global shipping industry entered the current boom

phase towards the end of the last century, and the BIMCO/ISF Manpower Report 2000 projected a worldwide shortage of an estimated 4%, or 44,000 officers, India positioned itself as a major manpower supplying nation to the maritime industry. Recognizing that, with the benefits of a structured and well-rounded secondary schooling system, good quality technical training, skills in communicating in the English language and ability to co-exist with communities with different lingual and cultural backgrounds, Indians are uniquely endowed to take up the major share of seafaring posts on board the world merchant fleet.

As a result of the Central Government's initiatives, maritime training, hitherto a preserve of the public sector, was thrown open to private investment. The number of marine training institutions rose from a figure of 4 in 1998, to 128 in 2005. They offer a wide variety of nautical and engineering courses that have been designed to international and industry standards. The Directorate General of Shipping maintains a system of inspections to ensure the quality of training. At the end of 2005, India's share of global maritime manpower rose to 26,950 officers and 75,650 ratings comprising an estimated 6% of the world's seafarers.

## 1.2. INCREASE IN WORLD TRADE AND TONNAGE

The boom in the shipping industry, thanks to a sharp increase in international trade, has continued unabated in the first part of the current decade, and between 2000 and 2005 the global fleet has risen by 4.5% with an estimated 48,500 vessels operating at the end of 2005 (Source: BIMCO/ISF Manpower Report and Update 2005). Expecting further growth in demand for shipping, shipowners have placed a record number of new building orders with shipyards throughout the world, and this tonnage will be delivered over the next five years.

### Growth of World Merchant Fleet

SHIP TYPE	NUMBER OF VESSELS IN 2005	PERCENTAGE GROWTH 2005-2015- 10 PER YEAR		PROJECTED NUMBER OF VESSELS IN 2015
TANKER < 500 GT	2,274	10.46	1	2,512
TANKER >= 500 AND < 1600 GT	2,284	10.46	1	2,523
TANKER >= 1600AND<10000GT	3,014	10.46	1	3,359
TANKER >= 10000AND<150000 GT	3,397	10.46	1	3,752

<b>TANKER &gt;= 150000 GT</b>	<b>324</b>	<b>10.46</b>	<b>1</b>	<b>358</b>
<b>DRY CARGO &lt; 500 GT</b>	<b>7,150</b>	<b>10.46</b>	<b>1</b>	<b>7,898</b>
<b>DRY CARGO &gt;= 500 AND &lt; 1600 GT</b>	<b>4,763</b>	<b>10.46</b>	<b>1</b>	<b>5,261</b>
<b>DRY CARGO &gt;= 1600 AND &lt; 5000 GT</b>	<b>6,625</b>	<b>10.46</b>	<b>1</b>	<b>7,318</b>
<b>DRY CARGO &gt;= 5000 AND &lt; 25000 GT</b>	<b>8,266</b>	<b>10.46</b>	<b>1</b>	<b>9,131</b>
<b>DRY CARGO &gt;= 25000 GT</b>	<b>4,972</b>	<b>10.46</b>	<b>1</b>	<b>5,492</b>
<b>FERRY &lt; 500 GT</b>	<b>1,971</b>	<b>10.46</b>	<b>1</b>	<b>2,177</b>
<b>FERRY &gt;= 500 GT</b>	<b>403</b>	<b>10.46</b>	<b>1</b>	<b>445</b>
<b>PASSENGER &lt; 1600 GT</b>	<b>302</b>	<b>10.46</b>	<b>1</b>	<b>334</b>
<b>PASSENGER &gt;= 1600 GT</b>	<b>1,107</b>	<b>10.46</b>	<b>1</b>	<b>1,223</b>
<b>SUPPLY</b>	<b>1,626</b>	<b>10.46</b>	<b>1</b>	<b>1,796</b>
<b>ALL TYPES</b>	<b>48,505</b>			<b>53,579</b>

(BIMCO/ ISF REPORTS MANPOWER UPDATES)

Forecasts for the future, in assessment of global economic and merchandise graphs, see the growth in shipping continuing for at least another five years. While it is difficult to come across definitive projections, most economists appear to believe that the industry will grow at a rate anywhere between 0.5% and 1.5% per annum till 2005. This has obvious and positive implications on manpower demand and maritime training policy.

### **1.3. SUPPLY OF SEAFARERS – RISE IN DEMAND FOR OFFICERS AND OVERSUPPLY OF RATINGS.**

According to the BIMCO/ISF Manpower 2005 update, the shortfall of around 4% in the officer ranks predicted in 2000 was estimated to have marginally reduced to around 2% by 2005. Despite an increase in the number of entrants into the profession, this shortage in the supply of officers has persisted due to two factors.

- (i) a substantial proportion of the new tonnage comprised of larger ships, requiring larger complements to operate them, and
- (ii) the accelerated decline in the number of OECD officers, putting pressure on supply of properly trained and certificated officers from other regions to replace the OECD nationals.

In the case of ratings, however, given the persistent over-supply position over the past decade, and only a marginal increase in demand, there continued to be surplus of more than 1,35,000 ratings in 2005

The 2005 BIMCO/ISF Update estimates that with an assumed annual growth rate of 1% in the global fleet, and a ‘conservative’ estimated growth rate

of 0.5% in the demand for officers and just a little less than that for ratings, there will be a requirement for an additional 23,000 officers and 21,000 ratings over the next decade. With a higher fleet growth rate of 1.5% per annum, the requirement increases to 44,000 officers and 44,000 ratings over the same period. In the largest demand scenario, with 1.5% increase per annum, no reduction in manning scales, and an increase in back up levels to cater to increased shore leave and additional shore-based training, the requirement increases to 62,000 officers and 69,000 ratings, and the total estimated workforce to 538,000 officers and 655,000 ratings by the end of 2015.

### **Projected Demand for Seafarers, Benchmark Scenario**

Figures' 000s

	2005		2010		2015	
	OFFICERS	RATINGS	OFFICERS	RATINGS	OFFICERS	RATINGS
BROAD NATIONAL GROUP	168	218	172	223	176	227
OECD COUNTRIES	30	29	30	30	31	30
EASTERN EUROPE	144	166	147	169	151	169
AFRICA / LATIN AMERICA	117	149	120	153	122	156
FAR EAST	18	23	18	24	18	24
INDIAN SUB-CONTINENT	476	586	488	598	499	607

Source : 2005 BIMCO/ISF Update

### **Alternative Demand Scenarios**

Figures' 000s

	2010				2015			
	OFFICERS		RATINGS		OFFICERS		RATINGS	
	000S	INDEX	000S	INDEX	000S	INDEX	000S	INDEX
BENCHMARK PROJECTION	488	100	598	100	499	100	607	100
LOW FLEET GROWTH	470	96	575	96	-462	-92	-561	92
HIGH FLEET GROWTH	498	102	609	102	520	104	630	104
NO REDUCTION IN MANNING SCALES	496	102	610	102	519	104	637	105
INCREASING BACKUP	515	106	628	105	538	108	655	108

Source : 2005 BIMCO/ISF Update

Depending upon the actual growth rate in the global tonnage, manning scales and policies, there is a global need to train and supply anywhere between 44,000 and 131,000 new entrants over the next decade.

## **1.4 INDIAN SEAFARERS' POPULATION**

1.4.1 Before we move on to studying the implications of this figure on the strategy and targets for maritime training in India, it would be necessary to know the number of Indian Seafarers. Unfortunately, a firm database is still in the process of creation, and only rough estimates are available. The Indian National Shipowners' Association (INSA) estimated in July 2006 that around 9,000 Indian officers and 21,000 ratings were employed in the national fleet and

around 18,000 Indian officers and 34,000 ratings on foreign flag ships. This translates to a grand total of about 27,000 Indian officers and 55,000 Indian ratings active in sea-going positions globally, i.e. a total of 82,000 active Indian seafarers in July 2006. This table does not differentiate between the various categories of officers.

### **INSA TABLE**

Seafarer Population	
Total Seafarers	78000
Registration under process	4000
<b>Total</b>	<b>82000</b>

Indian National Database of Seafarers (INDOS) contains a total of 1,22,400 entries, of which there were around 27,000 nautical and engineering certificated officers and 30,000 ratings in October 2006. Besides this, its database has registered nearly 18,000 officer trainees, 26,500 rating trainees and 22,000 officers of other categories (mainly Electrical, Radio, Medical, Catering Officers, Fitters, Welders, Pursers, etc.). Some 20,350 registrations are still being processed by INDOS. This number may be presumed to be equally distributed among the categories of officers, ratings and trainees. This takes us to 100,000 seamen, about 18,000 more than the INSA calculations and additionally a trainee pool of 44,000 trainees. We can reconcile the INDOS figures submitted by the industry and trade, if we presume that an estimated 18% of certificated officers and ratings of those registered do not actively sail on ships (retired, deceased, engaged ashore, etc.). Prima facie, it would appear that all the registered 27,000 Indian nautical and engineering officers are employed, while it seems likely that the total of 55,000 sea-going Indian 'ratings' listed by INSA would comprise of the 30,000 INDOS registered ratings, with 'officers of other categories', trainees and 'unregistered' seafarers making up the remaining 25,000 'ratings'. From this table, adding up all certificated officers and ratings, we obtain a total sea-going population of about 79,000. Allowing for about 15,000 active seafarers still to register with INDOS, out of the 20,350 registration still being processed, the total seafaring population would come to about 95,000, about 8,000 more than estimated by INSA.

### **INDOS TABLE**

Seafarer Population	
Officers	27000

Officer Trainees	18000
Rating Trainees	26500
Registration under process	20350
	91,850

### **1.5 INDIA'S SHARE OF THE GLOBAL SEA-GOING EMPLOYMENT (ANNEXURE I AND II)**

Given that the share of India's manpower was about the same in 2000, these figures come as a bit of a disappointment. It would suggest that the infrastructure built up has not been able to push as many seafarers into the profession as first glance at the increasing intake strength would suggest. An examination of the figures would isolate three main reasons - firstly, the intake capacity of pre-sea candidates in the new private institutes has increased substantially only in the last three years, and their candidates have not yet passed out in sufficient numbers; secondly, the shortage of sea time training berths creates a bottleneck in the throughput that makes the intake capacity or the numbers graduating irrelevant; and thirdly, the attrition rate, which has been estimated at 15%, and sees a large number of Indian seafarers quitting the sea at about the age of 45 years.

## Chapter 2 – Marine Training Programme

### 2.0 TARGETS AND OBJECTIVES.

#### 2.1 Targets for Marine Training Programme

The target for the marine training programme for the Xth Plan was, besides our retaining our share of the global seafarers' employment market (i.e. 6% of officers and ratings), to supply 20% of the additional manpower requirement, so as to be able to reach an overall 6.6%. Given that the aim is still not fulfilled, we may decide to retain the same target, of maintaining our share unchanged of the total workforce, while supplying an additional 20% of the current estimated shortages. In the case of officers, this would range from 32,560 (6% of 466,000 plus 20% of 23,000) to 40360 (6% of 466,000 plus 20% of 62,000) and for ratings from 48150 (7.5% of 586,000 plus 20% of 21,000) to 57750. Seeing how widely off the mark the BIMCO's projections for 2005 had proved, and how tentative the database is for all countries, it should be safe to plan on the higher figure. This would put our annual outturn target for officers, at the most, at 13,360 officers and 2750 ratings. However, we have to contend with a 15% attrition rate, which implies that about 4,050 officers have to be replaced every year, and therefore, 5,386 officers have to be turned out annually. For ratings, presuming 8.3% attrition, we would lose in ten years, 45,650 men, leaving us with 9,350 of the existing workforce, and if the target is 57750, we would need to add 4840 ratings per annum.

#### Annual Wastage Rates

Category	Nationality Groups					
	OECD	Eastern Europe	Africa/ Latin America	Far East	Indian sub-continent	All areas
Officers Company Questionnaire	8.5	4.6	1.0	3.8	15.0	6.6
Ratings Company Questionnaire	9.8	14.4	3.0	12.5	8.3	9.6

Source : 2005 BIMCO/ISF Update

#### 2.2 Trainees annual out-turn

That would still not define our target. This figure does not take into account the trainees in the pipeline, those who are swelling in number because of the bottleneck at the

sea time training slots to process them and their inability to pass the Certificate of Competency (CoC) examinations. Presuming that, having spent time, money and effort in maritime training, their motivation to complete the course would be high, we may presume a major portion of these trainees would eventually join the workforce. Annual outturn would need to be reduced commensurately, and our estimate moves closer to 3,886 per annum (all 18,000 officers) or, say, 3,800 per annum. For ratings, the annual out-turn of seamen would be reduced to 2720 per annum (at 80% of trainees staying the course).

### **2.3 Requirements**

This figure would be nearer the target. It may be noted that the figure of officers should further be divided into the requirement at the cadet, the junior and the senior levels of officers. About 25% of the senior or management level of officers in the world fleet are in the age group where they would retire in the coming decade. Demand at the cadet level is, therefore, to be appropriately reduced.

## Chapter 3

### 3.1 Quantitative Focus

An assessment may be made of the output of the current programme against the above target and objective, beginning with the quantitative.

### 3.2 Training Capacities - Officers

The table in **Annexure I** gives the annual increase in pre-sea nautical and engineering cadet courses since 1998. The intake capacities of all officer-training institutes have risen steadily, to reach 5,263 in 2006. Thus, the intake at pre-sea cadet levels, with averages of approximately 20% to cater to drop-outs and failures, has reached the necessary target. Further creation of training capacities will not be necessary; and until the waiting trainees are absorbed, fresh admissions may even have to be suspended for a year or two.

In 2006, calculating by the length of each course and the admission figures in the relevant years, superimposed by an estimated pass percentage, we may surmise that, about 3200 Indian officer pre-sea trainees emerged from the institutes and set out in search of sea time training slots abroad ships. The combined absorption of these officers by all shipping companies and manning agents operating in India for that year was put at only about 1,750 in nautical and about 1,000 in engineering streams, indicating that about 450 officer trainees were unable to complete the sea-going module of their training. In 2007, this figure will rise, and 2008, it will grow further, creating a wasteful overcapacity of 50% of the sanctioned intake in officer pre-sea courses, unless something is done to increase the sea time training slots commensurate with the pre-sea capacities. This mismatch in figures is based on the assumption that the average lead time for pre sea training is about 2.1 years for nautical, and 1.75 years for engineering officer trainees.

### 3.3 Training Capacities – Ratings

In 2006, India's intake capacity was 4,726. Against this, about 3400 were expected to be trained and available for employment by the end of 2006, and exact numbers of pre-sea trainees in the pipeline are not known. In order to replace the 8.3% retirement rate among ratings, an annual fresh induction of about 4,800 seafarers is necessary. Judging by the consistent drop in recruitment of ratings by employers, it would be a challenging task to successfully reverse this trend and then capture increasing market share in the global fleet. Therefore, it will be advisable to fully utilise existing capacity before increasing trainee induction. .

### 3.4 Scarcity of Sea Time Berths

From the above, it is clear that there is a disturbing shortage of sea time berths to absorb the number of pre-sea officer and rating trainees. This has had several negative effects:

- (i) the backlog of trainees waiting for sea time slots is building up
- (ii) a clandestine system has emerged of fleecing more money from financially stressed career-seekers for being granted a sea time berth, and

- (iii) quality high school graduates are no longer attracted to a sea-going career despite the growing opportunities and pay packets.

Despite the establishment of many training institutes, well publicized recruitment drives by prestigious shipping companies, the continued shortage of sea time berths suggests that the approach to the problem needs to be changed. In any event, in the coming five years, the quantitative focus needs to shift from increasing cadet intake in pre-sea training institutions to creating more sea time training slots.

### **3.5 The Qualitative Issues**

Qualitatively, while a great deal has been done, there can never come a time when an training system can afford to turn complacent. The truth is that the focus since 2000 has been on setting up a system; the time has now come to consolidate the gains of these years, and to shift the focus to quality; in particular, to improve

- the process of admissions, currently left to the discretion of the institutes under broad guidelines from the DGS;
- the effectiveness of inspections by the Academic Councils, which has due to high existing workload, deteriorated into a random infrastructure checklist;
- provision of resource support to faculty for improving the learning achievement of candidates, through attention to teacher training, improvement of communication skills, improvement of curriculum design, creation of relevant printed, audio-visual material or modular e-courses, question banks, simulator or practical training modules, etc;
- the process of examinations, again mainly left to the institutions to conduct on their own. The centralised system introduced for the GP rating courses has shown the tremendous gains of quality consciousness and accountability to the system due to this change;
- systematic monitoring of the admissions, results and learning processes by the DGS with repercussions on the institutes with high failure or non-conformity rates
- the process of rating and promulgating the performance and quality of institutes, so that trainees can make informed choices when seeking admissions to courses

At the post-sea levels, in which private institutes run DGS approved courses, candidates undergo written and oral exams conducted by the DGS, addressing the issue of quality would mean a review of the passing numbers, the time taken to pass, the efficacy of courses as evidenced by trainees' feedback, the strength and skills of the faculty employed. Finally, the examination system itself will need to be reviewed so as to avoid leakages and scams and to make them more objective and less harassing for the candidates.

## Chapter 4

### 4 THE QUANTITATIVE ISSUES

#### 4.1 Creation of Additional Sea time berths.

##### 4.1.1 Embedding Sea time Internship in Pre Sea Courses

The following strategy is recommended to bring about a match between intake capacity in institutes and sea time training berths:-

- For the time being, until the backlog of trainees on the INDOS register is reduced to a figure not more than twice the sea time berths available, no further increase in intake capacity should be encouraged.
- Training institutes, who take accountability only for the class room training of pre-sea candidates, should be given the responsibility to take the student through to the point where he is eligible to appear for his Certificate of Competency examination, namely through to the end of his compulsory sea time or on-board training. In the present system, an analogy may be drawn to medical training, in which the pre-sea training institutes are like medical institutes which have opened without the need to have a medical college attached, and who need to take the student only to the end of the 4 1/2 year classroom training, and then leave him to fend for himself and to find a hospital in which to do his 6 months compulsory internship to reach the point where he is eligible to appear for his MBBS finals, without which he cannot take up medical practice. Just as the 6 months compulsory internship in a hospital is an integral part of the MBBS course, with responsibility on the college to provide the tie-up, before it is given its approvals, it is proposed that no pre sea marine college should be given approval without a firm tie up for sea time berths for the compulsory on-board training, without which the marine student cannot appear for his CoC or enter the profession.
- It is strongly recommended that the existing institutes, together producing 5,293 trainees annually, should be put on notice to take responsibility to put the candidate through on-board training, and to arrive at long term and firm tie ups and MoUs with ship owners directly or through their duly registered their manning agents for sea time berths. The notice period is recommended as one year, so that the intake for August 2007 is conditional to providing sea time berths for on-board training. The number of sea time berths should be fixed at 80% of intake strength. Institutes should either obtain the tie up or reduce intake for the batch. The MoU signed should be subject to satisfying the Directorate General of Shipping (DGS) of its authenticity, reliability and quality. The DGS should satisfy itself by a process of cross verification that should include, wherever necessary, inspections of the ships directly or through Indian Register of Shipping (IRS) or other classification societies or organizations.

- To ensure that the institutes do not over estimate their ability to obtain berths, the sea time training should be embedded in the course, viz. internship training should be given, not at the end, as now, but after the first 6 months to one year of class room training.
- Only such institutes as can find tie-ups for sea time berths in excess of their existing intake capacities – generally due to their reputation for excellence or association with the industry – should be considered for increased intake, or expansion. So long as they can provide the necessary additional infrastructure and resources, these institutes may be permitted to absorb trainees transferred from defaulting institutes or to enter into collaborations designed to serve the interests of trainees and the industry at large.
- Such a pre sea course definition would impact meaningfully on the present process of training in several ways - firstly, it would draw in the user industry into the process of ensuring quality training. It is already seen that where institutes have been opened by or with investment from shipping lines to meet their own manpower needs, their quality of infrastructure and training is vastly superior. The shipping lines inspections and interaction on the learning achievement of the trainees turned out ensures that academic standards are rigorously maintained. It is expected that the shipping lines which tie up to provide sea time berths to institutes would also provide a positive supervisory and feed back mechanism in favor of quality, that would augment the efforts of the regulatory machinery. Secondly, institutes would themselves work to ensuring that 80% trainees pass, in order not to let their berths go waste. Thirdly, over time, the system would ensure that candidates can clear the CoC in large numbers. Having pre sea trainees return to the class room to complete their courses would provide institutes with a feed back mechanism with which to structure the sea time internship for best effect as well as to improve the relevance of the class room curriculum.
- In economic terms, due to the demand - supply position, sea time berths have a 'rent' on them, currently being collected by touts or manning agents from the hapless trainees. It may be expected that institutes, when asked to provide the tie-up, would be asked to pay the rent, and would in turn wish to collect it from the student. It is recommended that such practices are curbed, not only because it is illegal to make a trainee to pay for his internship, but also because the system would get institutionalized and institutes would certainly not reduce the training fees even after the demand - supply gap equalizes and the rent erodes. Instead, institutes should be required to strive to obtain as many berths as possible to reduce the rent. To encourage this approach, the DGS, which has not so far looked at the issue of training fees, should begin monitoring it. This monitoring should begin immediately, so that, by next academic session, the existing levels are known and undue increases can be questioned. In order to prevent irregularities, a system of payment through cheques, banker's drafts, credit cards or through the Indian Maritime University should be formalized. The accounts of training institutes will have to be brought under an independent audit scheme in order to prevent financial

malpractice. In addition, over the space of the next year, the DGS should progress towards a nationwide benchmark structure for course fees.

- If fees are to be monitored, undeclared rent or 'donations' for seats in the college cannot be ruled out in the present system where trainees are directly selected by institutes. Logically, the marine training programme would need to put in place a system for centralized selection in which all applicants meet qualifying standards and sit through a common test, and are allotted institutes according to their preference by a centralised computer system. The common test should be an aptitude test like the SATs and also include a psychometric testing that weeds out those who are psychologically unprepared or unsuited to a life at sea. The DGS should begin making preparations to introduce the common selection process, aiming, at the outside, for May - June, 2008.
- The question of sponsored candidates should not be allowed to become an issue. It can be easily married to a common selection process where candidates are selected by employers and put through their pre-sea and sea time course. They should be selected on the basis of results in the Centralised Aptitude Test (CAT), or should be selected by the sponsoring firms after they have cleared the CAT. The computerized college allocation system should take the sponsorship into account. On no account, empty seats or otherwise, should institutes be allowed to take in trainees directly.
- To enable the unsponsored trainees to take informed decisions as to the best institutes, it is strongly recommended that DGS maintains a public website in which it provides full information on approved training institutes, including their grading, fees structure and past results at DGS exams. This will also motivate the best institutes to keep fees low while assuring high quality of learning.

#### 4.1.2 Training Obligation Under Tonnage Tax

Simultaneously, Indian National Shipowners' Association (INSA) members should be co-opted into allocating 10% of each ship's safe manning scale exclusively to post-sea training berths. However, as the principle of recovering 'training cost' from the trainee is statutorily proscribed, this must be borne by the future employers and not by individual trainees. In fact, if INSA wants to attract the best, it would be well advised, like the best lines, to offer stipends for the internship. DGS in turn, should consider if it should not take into consideration 10% of the actual crew complement rather than the notional safe manning figure.

#### 4.1.3 Proposal to IMO for Compulsory Training Slots aboard all ships.

It is clear that the global demand for officers cannot be met because of the global shortages of sea time training slots, until the ship owners take stock of the position and

realize that no one can resolve this issue or wish it away except them. Unless ships provide training berths, cadets cannot obtain CoCs. The BIMCO/ISF 2000 update suggests an awakening to this problem, and discussions with foreign and Indian shipping lines vessels a greater readiness to commit to or accept a training obligation. It is felt that the time is ripe to approach the IMO with a proposal to make it mandatory for ships to have 10% of them manning added on as trainee/internee crew, to make provision accordingly.

## **4.2. Creating a Data Base**

If the review has revealed anything at all, it has laid bare the inadequacy of the current seafarer database available with the DGS. The initiatives needed are:

(a) obtain and record employment data for each seaman from all registered manning agents. At the same time, it would become essential to stop the operations of unregistered and unscrupulous manning agents. In this regard, the Sub Group considered as sound the suggestion to put a check through visa issuing authorities on seafarers going out through unregistered agents, and recommends that it be instituted.

(b) the INDOS database must be urgently collated, sorted and secured, if necessary, using more efficient computer software, and extra expenditure for this purpose, must be immediately sanctioned. A secure, computer-based national database is an indispensable tool for proper management of not only seafarers, but the entire citizenry. In addition to INDOS, a biometric identity cum smart card, capable of storing the individual's professional record in electronic form must be issued to every seafarer. This will finally put an end to the dubious distinction that India has of being a repository of fake certificates.

The central database shall accurately record the activities of all training institutes, seafarers, employers, trainers and efficient cross-referencing and search options will ensure data reliability and effective deployment of manpower and resource planning.

## **4.3 THE QUALITATIVE ISSUE**

### **4.3.1 Monitoring and Control**

The quality, management and performance of training institutes, including their faculty and passing trainees should be continuously monitored. In the past, such inspections have been mainly infrastructure oriented, resulting in a large number of sub-standard trainees entering the external examination stage and the job market. This is most urgently required for modular courses, where the institute independently conducts all assessments, and frequent doubts have been expressed in the proper conduct of courses.

This anomaly will be corrected under the proposed nation-wide consolidation and re-organisation of training systems under the Indian Maritime University (IMU), but the DGS

should begin even under the present arrangement, to put systems in place which the IMU can adopt or build upon.

#### 4.3.2 Rating of Training Institutes: Closure of Sub-Standard Ones and Transfer of Trainees / Faculty to More Efficient Institutes

In 2004, the Directorate General of Shipping made it mandatory for all training institutes to be rated by accredited rating agencies. The scope was later narrowed down only to pre-sea training institutes. At that time, some maritime associations proposed that the rating be done by a combined panel of experts representing all constituencies within the industry. It is suggested that this panel be in the form of an 'Advisory Group' and be empowered to closely monitor and continuously rate the performance of every training institute. Those establishments that repeatedly fail to attain benchmark performance standards will be ordered to shut down and the trainees/faculty transferred to other superior institutes.

#### 4.4 **Impact of Indian Maritime University on Training, Academic Support Processes**

4.4.1 The establishment of the Indian Maritime University (IMU) is nearing realization. It should play the role of a centralized nodal agency for coordinating and controlling maritime training throughout India. In due course, IMU must get affiliated to the World Maritime University, and become a centre of excellence in the content and quality of maritime training.

It is also hoped that the visibility and reputation of this University will regularly attract large numbers of high quality entrants to select a career in shipping, in a way similar to prestigious institutions like IIT's and IIM's.

#### 4.4.2 Reconstitution of Academic Council Into an Advisory Group

The important role presently being played by the Regional Academic Councils should be further strengthened by reconstituting them to form the Advisory Group, as suggested above. This group must be headed by a domain expert and comprise professional and technical bodies and organizations, industry veterans, trainers and Government officials.

Besides absorbing the existing roles of the Academic Councils, including inspecting institutes, this group will regularly review the entire training and certification processes, including rating of institutes, implementing timely changes in syllabi, training and assessment methods. It will be empowered to advise the Government on policy matters relating to training and manpower supply, and eventually to conduct all seafarers' examinations independently, thus freeing the Directorate to concentrate on core issues.

Initially, it is proposed that this team is established by volunteers, but once fully functional, it can be institutionalized and a central corpus, jointly funded by institutes, maritime training trusts and the Government, can pay a reasonable honorarium to the members and reimburse expenses.

#### 4.4.3 Regional and National Support Resource Centre

There is also a dire shortage of skilled faculty. The IMU and the Advisory Group should form a Regional and National Support Resource Centre, comprising a core team of expert faculty drawn from leading training institutes both by invitation and by rotation. Expert members of this body could create a comprehensive library of audio-visual training modules consisting of lectures, demonstrations and exercises, covering the entire syllabus of each IMO model course. Secure copies of these programmes could be then marketed to training institutes to supplement course delivery in classrooms. Such distance-learning methods have been very successfully used by The Open University in the United Kingdom and IGNOU and other training institutions in India. Besides ensuring a uniformly high level of learning, this mode could overcome periods of faculty shortage.

#### 4.4.4 Faculty Competence Improvement Schemes and Support Systems

As in all technical training, faculty and instructors in maritime training institutes must constantly keep themselves abreast of the latest technical developments within the industry as well as update their skills and competence. It is suggested that a system of providing all faculty with academic and practical training in teaching, and regular refresher courses, including sea-going opportunities, be instituted for achieving and maintaining the desired levels of competence.

During inspections of training institutes, it is suggested that the Advisory Group shall also interview and assess the competence and skills of active faculty members, and offer suitable advice and guidance to promote best practice. Such peer evaluation techniques are very effectively used in many professions throughout the world.

In order to attract and retain the best faculty talent, the IMU should ensure that the wage levels in training institutes are fixed at comparable levels to the earnings in appropriate sea-going ranks.

### **4.5 Review of Examination and Certification Processes**

#### 4.5.1 Examination and Certification:

The prevailing system is rather tedious with undue emphasis on lengthy, theory-based written answers and subjective oral examinations. Very effective and efficient objective-type assessment techniques can be used to reliably determine the level of knowledge, while simulator-based exercises can demonstrate the candidate's practical skills. Presently, some examiners seem to forget that seafarers are essentially operators of ships, not designers, builders or regulators, and quiz them on issues that betrays their own lack of training to pose appropriate questions suited to the level for which the student is appearing, and not the level at which he will fail. There is also need to review if orals is still the right way for examiners to judge the attainment and skill of the candidates, especially when the increasing technological levels on board ships would require them to possess more deftness on the

simulator and in practicals to satisfy their employers, and whether the combination of orals and writtens should not be admixed with simulator work to test skill levels.

Finally, the entire process of assessment and certification must be made more transparent, user-friendly, speedy and effective, as undue delay in passing an otherwise deserving examinee only exacerbates the manpower shortage and worse, gifts the shipboard vacancy to a seafarer from a rival seafarer supplying nation.

#### 4.5.2 Controller of Examinations:

It is proposed that a Controller of Examinations be appointed, one each for the Nautical and Engineering branches, who will be responsible for selecting, orienting and training the question setters, examiners, invigilators and interviewers and generally directing and controlling the examination system, as centrally as practicality will allow, and with a greater degree of security and lower probability of leaks. Under his/her guidance, a comprehensive question and answer bank can also be created, drawn on, and regularly reviewed, and updated, as appropriate.

#### **4.6 Shore Based Careers: Training Needs, Lateral Movement of Seafarers to These Positions**

With India's continuing economic growth, job opportunities for seafarers will proportionately rise in the wider shipping industry, e.g. Port Management, Agency Services, Maritime Law, Maritime Economics and Finance, Marine Insurance, Logistics, Cargo Surveying, Freight Forwarding, Recruiting, Training, Travel and Tourism etc. In addition, there is promising scope for higher studies and research in areas like Marine Biology, Marine Ecology, Ballast Water Management, Oceanography, Hydrography, Meteorology, Shipbuilding and Repair, Naval Architecture, Marine Electronics/Engineering, Material Sciences and several others. Hence, a lateral movement of seafarers to these positions and activities is inevitable, but this should be seen not as a drain of seafarers, but as an expansion and development of the industry in general and consolidation of knowledge and skills. The involvement of leading universities, training institutions and professions will have to be actively sought to ensure the attainment of acceptable standards in all these fields.

#### **4.7 Goal of at Least One Indian National on Every Foreign Flag Ship**

With the assured volume of job opportunities over the next decade, India's goal should be to place at least one Indian seafarer on board every merchant ship in the world. This will have an added benefit of transfer of knowledge and expertise from the most modern of vessels to our national knowledge pool.

#### **4.8 Working Conditions**

Employers will also be monitored for providing seafarers with a safe and conducive work environment, favourable employment conditions, fair treatment and continued in-service training. Although seafarer's trade unions and associations may take on this role, the Directorate and the Seamen's' Employment Office will vigorously pursue cases of gross violation of seafarers' rights.

## Chapter 5

### Indian Maritime University

#### **5.1 Objectives :**

The IMU will have the following objectives:-

- 5.1.1 To facilitate and promote maritime studies, research and extension work with focus on emerging areas of studies including marine science and technology, marine environment, socio-economic, legal and other related fields, and also to achieve excellence in these and connected fields and other matters connected therewith or incidental thereto.
- 5.1.2 To promote advanced knowledge by providing institutional and research facilities in such branches of learning as it may deem fit; to make provisions for integrated courses in Science and other key areas of Marine Technology and other allied disciplines in the training programmes of the University and ;
- 5.1.3 To take appropriate measures for promoting innovations in the teaching-learning process in inter-disciplinary studies and research, paying special attention to the promotion of the training and economic interests and welfare of the people of Union of India.

#### **5.2 Proposals :-**

##### **5.2.1 Formation of IMU as a Central University and Enactment of IMU Act :**

Keeping in view the need, and the recommendations of the Expert Committee constituted by the Central Government for the purpose, it is proposed to set up a new Central University called the Indian Maritime University (IMU) by an Act of Parliament. The draft Bill for the purpose is under finalized.

##### **5.2.2 Transfer of Employees :-**

Consequent upon the conversion of the above named four institutes constituting part of IIMS, into campuses of IMU all employees of IIMS who are on deemed deputation shall stand transferred to IMU. Similarly, all employees of NMA shall stand transferred to IMU. The employees will have the following options:-

- a) The employees of the four training institutes under IIMS who will stand transferred to IMU will have the option to continue on deemed deputation in IMU on Government terms and conditions and also continue to retain / to be allotted Government residential accommodation on turn and avail of Central Government Health Scheme (CGHS) facilities, till their retirement.
- b) The employees of National Maritime Academy (NMA) shall have the option to continue in IMU on existing terms and conditions of NMA, till their retirement.

- c) The employees of IIMS and NMA shall also have the alternative option to join IMU as per the service conditions of the University.

### **5.2.3 Financial Implications:-**

It is envisaged that the Union Headquarters will be in Chennai, and the existing IIMS, National Maritime Academy, Chennai will be subsumed by the IMU. It will be made private institutes to seek affiliation with the IMU. In addition to the existing courses, the IMU will run graduate, post-graduate and doctoral courses to provided trained manpower to the growing structured needs of the larger marine industry, under four or five departments - Nautical Services, Marine Biology and Services, Marine Engineering, Naval Architecture, Marine Management and Logistics Services, Port Management etc.

- a) The annual income of the proposed IMU would be generated from three major sources viz.: fees and other income, donations / receipts and grants from the Government. The projected revenue generation for the next five years of the proposed IMU is given at **Annex III**. Indicative details of non-plan expenditure are available at **Annex IV**.
- b) The revenue streams will be utilized for meeting the non-plan expenditure and development costs. The capital costs would be met either from Government or by public - private partnership in establishing the University as an option. The non-plan gap will be provided as budgetary support. Government shall build a corpus of adequate size over the next two to three years, the returns from which would cover the infrastructure development and maintenance costs in future.
- c) For the first three years, a plan support of Rs.200.00 crore has been proposed (Rs.67.50 crores in the first year, 77.50 crores in the second year and Rs.55.00 crores in the third year). A provision has been enshrined in the IMU Bill for the constitution of a Planning Board, which will work out the details of funds requirement in order to develop IMU as a centre of excellence.
- d) A Detailed Project Report (DPR) has been submitted by the NMA and the project has been accorded in principle approval by the life EFC.

## Chapter 6 - Financials

### 6.1 Plan Proposals

The plan proposals have been made under PPP model, wherever possible on a self-financing basis.

In all there are three proposals

1. Research Support Groups
2. Indian Maritime University
3. Strengthening of Indian Database of Seafarers

The details of the proposals and the financial outlay thereon are explained hereunder.

### 6.2 Research Support Groups for Indian Maritime Training Systems

The Research Support Groups are purported to function as Advisory Bodies cross-purpose compulsorily replacing the present inspectorial regimes.

### 6.3 Research Support Groups - Purpose

The purpose of the Group is to effectively monitor, support and coordinate the activities of maritime training institutes to continuously upgrade the skills of the teaching faculty, inculcating modern teaching methodologies, to suggest and implement better methods of curriculum development, study materials and installation of teaching aids and installation of conducive equipment of training, performance assessment for trainees, providing individual guidance to needy trainees so on and so forth. As envisaged, the proposed Research Support Groups are meant to develop proper monitoring and reporting systems and conduct system audit on a continuous and sustainable basis in the analogy of a resident audit. It is also enunciated that the Research Support Groups would identify the difficulties if any experienced by institutes in implementing the quality standards prescribed by the Indian Maritime Administration and serve as a watchdog. For this purpose, the proposed Research Support Groups need a headquarters office for administration and direction under the control of the Director General of Shipping assisted by a technical and administrative team comprising one Dy. Nautical Advisor, one Dy. Chief Ship Surveyor and one Dy. Director General of Shipping (Administration) and one Asst. Director General of Shipping. The office needs the following staff at the headquarters.

Office Superintendent	:	1
Assistants	:	4
UDCs	:	3
LDCs	:	2
Peons	:	1

### 6.4 Research Support Groups- Rest of HQs and Regional Offices

Rest of the headquarters and regional offices would comprise of experts from the Board of Examiners comprising the Company of Master Mariners and Institute of Marine Engineers, besides such of the trade bodies as could be associated on a honorary basis to start with and eventually to be replaced with domain experts paid out of the system on a suitable

honorarium nevertheless on cost-plus basis, the entire cost eventually being recoverable from the maritime institutes concerned. The Research Support Groups would also do the rating of the maritime institutes and conduct quality audit against the standards evolved as a part of the quality system under proposition. The institutes that are spending money for these purposes in the existing system separately like Quality Audits like BIS and Rating Agencies like CRISIL, ICRA and CARE would not be subjected to any extra financial burden. The all embracing quality system implementing by the RSG would also avoid multiplicity of inspectorial regimes that have different purposes and parameters and hence is apprehended to defeat the very purpose of the improving the standards of maritime training.

## **6.5 Research Support Groups – Regional Officers**

The regional offices of the Research Support Groups group will have a smaller setup for the regions, based on the number of institutes coming under the respective region. The physical infrastructure for the setup would be provided by the respective offices of the MMDs. However the travel and office expenses of the Research Support Groups have been factored into the cost of the project. All the departmental posts for creation of this project are proposed as Plan Posts, for the purpose of easy creation. The amounts recoverable from the institutes towards the Research Support Centers shall be adequate to cover the cost of deployment of inspectors, trainers, academicians and other resource persons as may be deployed for the purpose of developing, maintaining and improving the standards of training imparted in various maritime training and training institutes.

## **6.6. Pre-Sea /Post-Sea Training Institutes**

As of now there are 128 institutes out of which 67 institutes' are pre-sea institutes, the rest conducting modular and post-sea courses. As the standards and stipulations for a pre-sea institute is much more stringent than those applicable to post-sea courses and institutes running such course, the number of resource persons would be commensurate with the nature of courses. Accordingly the estimates for various kinds of courses have been worked out as follows.

### **6.7.0 Pre-sea institutes (New)**

Henceforth approval of pre-sea institutes will be in three stages.

#### **6.7.1 In-principle approval :**

No institute will be approved after its creation. No physical infrastructure will be asked for being created before the in-principle approval is given. The in-principle approval would be given on the basis of the reputation of the promoters, their financial solvency measured through tax returns, statement of affairs or audited balance sheets in respect of corporate or other bodies, availability of and potentials to acquire the requisite land ability to construct the infrastructure within the prescribed time-limit and so on. The Research Support Group would be asked to conduct such inquiries as to certify these aspects before the in-principle approval is accorded by the Director General of Shipping.

#### **6.7.2 Letter of Intent**

The second stage approval would be a letter of intent, which would be after preliminary inspection by the Research Support Group of the infrastructure created by the institute.

### 6.7.3 Final Approval

The final approval would be after certification of the academic structure such as appointment of faculty, Principal, Dean, Wardens and so on, development of curriculum, study materials, laboratories, workshop and complete infrastructure and tie-up Memorandum of Understanding arrangements for sea-time for the trainees. The Research Support Group stays on with the institute providing a concurrent efficiency audit to bring about value for money for the student in terms of academic and professional accomplishment. The man-hours estimate for a pre-sea institute would work out around 70 man-days, which at Rs. 3,000 per day comes around Rs.3.00 lakhs for a new institute and for a continuing pre-sea institute this would be in the order of 35 man days working out to Rs. 1.00 lakhs. On an average, each pre-sea institute spends around **Rs. 3 lakhs** on the Research Support Group apart from Travel and office expenses, which are apportioned at actuals or at such proportion as may be determined from year to year respectively. On an average the institute spends around Rs.2.50 lakhs if it is a pre-sea institute and half of it if it were a post-sea training institute. The total revenue for the system. This works out to Rs.1.00 Crore Per year, which should be all it would take to constitute the Research Support Center for starters. There would be special services and consultancy in the subsequent years that would take care of the additional and improvement cost.

Total Revenue			Rs. Lakhs
Pre-Sea Institutes	3.00 X 67	=	201.00
Post Sea and Modular Courses	1.00 X 61	=	61/-
Total			262.50
Other Consultancy			32.00
			204.00

Expenditure			Rs. Lakhs
Salaries as per the attached sheet ( <b>Annex-VI</b> )	:		384.00
	=		
Office Expenses			20.00
Misc. Expenses	=		30.00
Total	=		44.00
Govt. Support Needed	=		140.00

### 6.8 IMU – Major Aspects

The proposed maritime university will cater to three major aspects. Firstly, it would continue to offer and co-ordinate training programmes for the maritime sector in the country. The umbrella of the University will facilitate standardization and further improvement of quality. Secondly, the university will offer higher academic programmes and research leading to degree / diploma in the identified disciplines enabling the personnel to become more knowledgeable and to become innovators. At present, only limited number of personnel could afford the expenses to go to foreign universities to pursue such programmes. Thirdly, the university would become the nodal point for interaction between the academia and the industry and the university faculty could offer consultancy services to the industry. The University would also function as a knowledge and resource centre offering inputs to the Government for policy making.

## **6.9 Funding of Maritime Universities of Maritime Nations**

Most maritime nations whether it is in the developed western world or in the emerging countries in far-east, the maritime universities have been set up and funded by the Government to provide the growth impetus for the industry through supply of high quality manpower. The proposed Indian Maritime University would also require Government support in the initial ten year period. The University would aim for self-sufficiency in due course when the academic programmes get stabilized at an optimal level and the industry-oriented service brings higher earnings. The total capital outlay of Rs.230.00 crores is envisaged for setting up of university for the main campus at Chennai and regional campuses at Mumbai, Kolkata and Visakhapatnam. This capital requirement would be spread over a period of seven years from 2007-08 to 2013-14.

## **6.10 Non-Plan budget**

As far as non-plan budget is concerned, the major deficit area relates to the higher academic courses offered by the University and this deficit could be bridged through higher revenue from the industry oriented consultancy services. A non-plan budget support to the tune of Rs.10.00 crores will be required for the first year 2007-2008 and further support level will be in the order of Rs.20-25 crores per year over the first ten years as shown in the project details. It is expected that the university will commence its higher academic programmes from the year 2007-2008 onwards.

## **6.11 Requirements of funds:-**

As per the estimate presented above, the university will require funds to meet the entire plan expenditure for the construction of the campus and augmentation of existing facilities and also to meet the non-plan expenditure to the extent it falls deficit over the income generated. The entire capital (Plan) expenditure needs to be met as a one-time grant from the Government. The total requirement towards capital is to an extent of Rs.198.47 crores as given under the **Annexure IV**.

## **7.0 Indian Maritime University.**

The present institutes under the IIMS will be subsumed by the IMU. The IMU will for the starters will have the following departments:-

1. Maritime Operations

2. Marine Engineering
3. Management
4. Marine Environment
5. Port Management
6. Maritime Law

Adopting the prevailing fee structure, for certain courses and extrapolating there, the financial proposals, have been worked out of tables.

### 7.1 Indian National Seafarers Information System:-

The capital cost of the system has already been detailed at Chapter I. The running expenditure of the system are as follows:-

		Rs. in lakhs
Updates and System Improvement	:	5.00
Warranty and AMC per year	:	12.00
Connectivity by MPLS	:	7.00
		24.00 lakhs

Subscriptions		
USD @75000 seafarers @ USD 15 (Assuming the conversion rate, USD @ Rs.45/-)	:	50.63
Net Surplus	:	26.63

**REPORT  
OF  
THE SUB-GROUP  
(COASTAL SHIPPING)  
SET UP BY  
THE WORKING GROUP ON SHIPPING  
&  
INLAND WATER TRANSPORT  
FOR  
THE ELEVENTH FIVE YEAR PLAN  
(2007-2012)**

**PRESENTED BY  
CHAIRMAN, INDIAN COASTAL CONFERENCE  
SCINDIA HOUSE, BASEMENT,  
NAVROTTAM MORARJEE MARG,  
BALLARD ESTATE  
MUMBAI-400 038.**

## Preface

1. The Ministry of Shipping, Road Transport & Highways – Department of Shipping vide their letter no. SY-11018/3/2006-SC dated 22.06.2006, set up a Sub-Group (Coastal Shipping) of the Working Group on Shipping and IWT with the Chairman, Indian Coastal Conference as its Chairman with the terms of reference as follows:

### **Terms of Reference**

- (i) To assess the role of Coastal shipping and Inland Water Transport in achieving optimal inter modal mix.
- (ii) Suggest measures for development of Coastal shipping in the country, in order to relieve pressure on surface modes of transport.

2. The Composition of the Sub-Group is as under:

1.	Chairman, Indian Coastal Conference	Chairman
2.	Representative of INSA	Member
3.	Representative of ICICI	Member
4.	Representative of Central Board of Custom and Central Excise	Member
5.	Director (Transport), Planning Commission	Member
6.	Representative of IDFC	Member
7.	Representative of SCI	Member
8.	Director (SD), Department of Shipping	Member
9.	Deputy Secretary (MM), Department of Shipping	Member
10.	Director (Mechanical), Port Development DOS	Member
11.	President, Indian Barge Owners' Association	Member
12.	Representative of Andaman Shipowners' Association	Member
13.	Representative of IWAI	Member
14.	Representative of DG Shipping	Member/Convenor

3. The Sub-Group held its first meeting on 07.08.2006 and the subsequent meeting on 17.08.2006 for deliberating on the prevailing Coastal Shipping scenario in the country, the issues and constraints faced by the industry and evolving suitable strategies and measures for the growth and development of Indian Coastal Shipping. The Report of the Sub-Group has been prepared based on these deliberations and the comments and suggestions received from its members.

**Report of the Sub-Group (Coastal Shipping) of the Working Group on Shipping and IWT for the Eleventh Five Year Plan (2007–2012)**

**1. Role of Coastal Shipping in National Economy & Trade**

- 1.1 India is blessed with a long coastline of around 7,500 km, dotted with 13 Major Ports and some 185 Non-Major (Minor / Intermediate) Ports, which provide a natural opportunity for development of shipping. In fact, India has had a long history of flourishing domestic as well as international sea borne trade, which continues even today.
- 1.2 As per a study reported in “UNCTAD Review of Maritime Transport – 2005”, 95% of international trade by volume, and 76% by value, is moved by sea routes. Shipping is thus a critical Transport Infrastructural link in the total Supply Chain. Coastal Shipping, which caters to not only India’s domestic trade but also to her overseas trade through lighterages and feeding of EXIM cargoes along the country’s vast coastline, is thus an integral part of the transport / logistics infrastructure in the country.
- 1.3 With the economic policies and initiatives of the Government coupled with the concerted efforts of the Industry & Trade bearing fruit, the country’s economy has entered a phase of accelerated growth, which is expected to continue well into the coming decades. The massive projected increase in the outputs of various sectors of the national economy would require a world-class integrated transport infrastructure to be put in place in the country to cater to the burgeoning trade demand. There is, thus, an urgent need to develop a more efficient, cost-effective and environment-friendly transport system integrating all modes of transport with seamless connectivity offering quality services matching international standards.
- 1.4 It is in this context that Coastal Shipping / water borne transport mode needs to be perceived in a fresh light. It is widely recognized world over that Coastal shipping is environment friendly, more energy efficient and cheaper compared to the land based rail and road transport modes with great potential to relieve pressure on these already saturated and over stretched transport systems. It thus offers cost-advantages to Indian trade and industry coupled with the immense benefits of energy savings to the country’s economy and the boon of a cleaner and greener environment to society at large, making the development of Coastal Shipping an important, in fact, a critical goal for a maritime country such as India.
- 1.5 In the present scenario, in addition to the transportation of cargo and passengers by sea, Coastal Shipping in the country today also comprises a wide array of activities such as Offshore Supply & Multipurpose Support (for

Oil and Gas Exploration & Production), Port and Harbour Services, Dredging etc. As Coastal Shipping has evolved into a heterogeneous service industry today, there is an urgent need to widen the scope of “coasting trade of India” so as to include any service / activity performed within the coastal / territorial waters of the country up to the Exclusive Economic Zone (EEZ) as defined in the Maritime Zones Act, 1976. Accordingly, it would be necessary to suitably modify / incorporate the definitions of “coasting trade of India” and related terms such as “ship”, “coasting ship”, “coastal shipping”, etc. in the Merchant Shipping Act (MSA), 1958 as also to amend the other relevant sections of the MSA, 1958 so that the various activities proposed to be brought within the scope of “coasting trade of India” will be exclusively for Indian registered ships under the proposed new definition of “Ship” as mentioned above.

## 2. Coastal Shipping in India – An Overview

### 2.1 Coastal Traffic Handled At Major Indian Ports

2.1.1 Details regarding the Total traffic as well as Coastal traffic handled at Major Indian Ports and the Total traffic (in Million Tonnes) handled at Non-Major Indian Ports during the period from 2000-01 to 2005-2006 are given below.

Year	Major Indian Ports			Non-Major Ports
	Total Traffic	Coastal Traffic	% To Total	Total Traffic
2000-01	281.11	87.60	31.16%	86.90
2001-02	287.58	80.72	28.07%	96.27
2002-03	313.55	85.85	27.38%	105.17
2003-04	344.80	86.02	24.95%	120.84
2004-05	383.75	109.80	28.61%	137.83
2005-06	423.41	N.A.	N.A.	145.53
<b>CARG</b>	<b>8.54%</b>	<b>5.81%</b>	<b>-</b>	<b>10.86%</b>

**Source: IPA Statistical Publications**

2.1.2 It may be observed from the above table that during the period from 2000 to 2006 Total traffic at Major Indian Ports grew @ 8.54% (CARG) and @ 10.86% at the Non-Major Indian Port's. However, during the period from 2000 to 2005, Coastal traffic at Major Indian Port's grew @ 5.81% and the share of Coastal Traffic in the Total Traffic handled at the Major Indian Port's ranged between 25% to 31%.

2.1.3 In this context, it may be worthwhile to note that in a study on the “Development of Coastal Shipping & Minor Ports” undertaken by M/s. Tata Consultancy Services in December 2003 on behalf of the Directorate General of Shipping, Ministry of Shipping, Government of India, they had estimated that coastal traffic would increase from 116 million tonnes in 2002-03 to 220 million tonnes by the end of the 11<sup>th</sup> Plan period (2012).

2.1.4 **Review of the 10<sup>th</sup> Five Year Plan (2002-2007):** In order to assess the potential of Coastal Shipping for relieving the pressure on surface modes of transport and suggest measures for the development of coastal shipping in the country, the Government had constituted a Sub-Group on Coastal Shipping of the Working Group on Shipping for the preparation of the 10<sup>th</sup> Five Year Plan. Based on the extensive discussions held and inputs obtained, the Sub-Group identified various issues facing Coastal Shipping as also the opportunities that exist for this mode of transport and made several recommendations for the consideration of the Government covering areas such as Introduction of Tonnage Tax / other tax benefits, financing scheme (subsidy) for vessel acquisition, relaxation of customs procedures and formalities, exemption of customs duty, concessional cargo related charges, Regulatory aspects, Operational issues etc. Further, during the currency of the Plan, with a view to encouraging the growth of Indian coastal shipping, the Government has accorded various incentives / concessions to this sector such as certain relaxation in Customs procedures, benefit of Tonnage tax, lower vessel and cargo related charges at ports etc. Other initiatives are also being actively considered / taken up for implementation viz. soft financing through a dedicated fund, infrastructure development at Minor Ports, encouragement of public private investment partnership under the National Maritime Development Programme (NMDP), customs related matters, operational & safety / security issues etc. It may, however, be mentioned that there are several issues that require urgent attention of the Government and that a greater impetus needs to be given to the on-going efforts so as to realise the inherent potential of Coastal Shipping to benefit the country's trade & economy.

2.1.4.1 Accordingly, the Sub-Group (Coastal Shipping) of the Working Group on Shipping & IWT for the 11<sup>th</sup> Five Year Plan has identified various issues and constraints that hamper the growth of Coastal Shipping and the role it can play as an efficient and cost-effective mode of transport in the country's multimodal transport network, and has recommended wide ranging measures for the development of Coastal shipping.

## 2.2 **Profile & Evolution of Indian Coastal Fleet**

2.2.1 As on 31.03.2006, Indian Coastal Tonnage comprised 497 vessels aggregating to 8,17,453 GT (8,52,309 DWT). Over the last decade the Indian Coastal Fleet grew at a Compounded Annual Rate of Growth (CARG) of around 8% in terms of Number of Vessels but only around 1.5% in terms of GT, witnessing a remarkable growth in the smaller vessels segments viz. Liner, Passenger-cum-Cargo & other vessels (Tugs, Ro-Ro, Dredgers, Pilot / Survey launches etc.) with the Bulk carrier & Tanker sectors declining.

2.2.2 The Profile (as on 31.03.2006) of the Indian Coastal Vessels is as under:

Sr.No.	Type of vessels	Nos.	GT	DWT
1	Dry Cargo	65	98,666	144,913
2	Tug	139	35,754	13,101

3	Dry Cargo Bulk Carriers	10	233,982	362,677
4	Tankers (Product Carriers)	9	26,344	40,475
5	Tankers (Crude Oil Carriers)	2	50,080	82,246
6	Passenger-Cum-Cargo	17	71,690	24,739
7	Passenger Service	23	5,483	815
8	Ethylene Gas Carriers	3	8,727	6,558
9	Ro – Ro	1	956	1,386
10	Dredgers	18	75,070	12,408
11	Offshore Supply Vessels	84	85,070	100,191
12	Specialised Vessels For Offshore	35	80,709	47,373
13	Port Trusts & Maritime Boards	88	43,702	15,427
14	Barge	3	1,220	0
	<b>Total Coastal Trade Fleet</b>	<b>497</b>	<b>817,453</b>	<b>852,309</b>

### 3. **Coastal Shipping – An International Perspective**

3.1 Coastal shipping, is also referred to as Short Sea Shipping (SSS) in some parts of the world, and forms a vital link in the overall transportation infrastructure in the developed countries, especially in Europe, for catering to the transportation of massive amount of passengers and small-cargoes, particularly in channel crossings, inland waterways, river ways, seas etc. which connect major European ports / cities. In European Union (EU) 43% of cargo is handled by coastal shipping while in India it represents less than 10% of the domestic traffic. EU perceives SSS as an integral part of its transport policy to develop efficient, multi-modal transport system for meeting existing and future EU business requirements, achieve modal balance, reduce pollution, congestions, accidents etc. It has launched a modal shift programme titled “MARCO POLO”, guided mainly by the considerations of the need to alleviate congestion of the popular mode (Road transport). Marco Polo programme was adopted on 22 July 2003 and its objective is to reduce road congestion and to improve the environmental performance of the freight transport system within the community as well as to enhance intermodality, thereby contributing to an efficient and sustainable transport system. To achieve this objective, the Programme supports actions in the freight transport, logistics and other relevant markets. The programme essentially has two components namely, (a) Modal Shift action and (b) Catalyst action as highlighted below.

- a) Modal shift actions: provide Start-up aid for new services in the non-road freight market under which, 30% of the costs of setting-up a new service may be co-funded. After a maximum of three years of funding, these actions should be viable on their own. Their goal is to maximise traffic shift in order to reach the modal shift objectives of the programme.
- b) Catalyst actions: provide aid which is also limited in time, and should lead to viable non- road freight services. However, these actions are more ambitious than modal shift actions i.e. they should tackle existing structural

market barriers, which hinder the further development of non-road freight services. One example would be the setting up of “motorways of the sea” or high-quality international rail freight services, managed through a one-stop shop. These actions should change the way non-road freight transport is conducted in Europe. The maximum aid level is 35%.

- 3.1.1 The Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions in its Mid-Term Review of the Programme for the Promotion of Short Sea Shipping dated 13.7.2006 indicates that Short Sea Shipping has maintained its position as the only mode of transport able to challenge the fast growth of road transport. Between 1995 and 2004, the tonne-kilometre performance of Short Sea Shipping in the EU-25 grew by 32%, while road performance grew by 35%. Short Sea Shipping performs 39% of all tonne-kilometres in the EU-25 while the share of road is 44%. The corresponding shares for the EU-15 are 42% for Short Sea Shipping and 44% for road. Available data show that the fastest growing segment of Short Sea Shipping has continued to be containerised cargo with an average yearly growth of 8.8% since 2000.
- 3.2 The US Maritime Administration (MARAD) has also placed considerable emphasis on increased utilisation of marine transportation system through SSS (using inland/coastal waterways) to manage projected trade growth, which is estimated to double by 2020, and to relieve growing surface congestion / gridlocks, improve mobility, create jobs in ports, terminals & merchant marine, enhance national security and mitigate pollution.

### 3.3 **2020 Vision: China’s Transport Blueprint**

- 3.3.1 China’s Ministry of Communications announced its traditional end-of-year official blueprint for the future development of Highways, Coastal Ports and Inland Waterways in all major regions through to 2020. Highlights include the creation of three high-grade shipping networks (basically, port clusters) in the Pearl River Delta (PRD), radiating from Guangzhou; for the North-East – the Dongbei region of Liaoning, Jilin and Heilongjiang provinces-radiating from Dalian; and for the Yangtze River Delta (YRD), radiating from Shanghai and Yangshan. The Inland River Shipping Development Plan, concentrating on western China and radiating out from the inland port of Chongqing and covering Sichuan, Yunnan and other western Chinese provinces. 16 shipping channels are to be built by 2020, totalling 939 km, and by 2010, some 3,700 km of shipping channels will be improved. Constructions of additional highways are also envisaged to support onward logistics from Dalian port, as well as for providing better connections from Liaoning to Jilin and Heilongjiang provinces to reduce travelling time from the interior to Dalian. The blueprint envisages the creation of an additional 1,90,000 km of road by 2010, comprising 5,500 km of regional expressway, with second-grade highway extended to all counties and 90% of existing trunk highways to be upgraded.
- 3.3.2 By 2010, the total capacity of Coastal Ports is slated to reach 400 million tons, while container throughput at coastal ports should total 10 million TEU. By 2020, Coastal Ports is expected to reach 750m tons and the container

throughput of coastal ports is expected to reach 27 million TEU. A major effort is on to increase the number of shipping channels above the third grade. Mileage is expected to reach 2,8360 km by 2020. The number of Inland Ports is expected to rise to 252 by 2010 with total capacity of 22.6 million tons. Five new inland river ports, Yibin, Chongqing, Nanning, Guigang and Wuzhou are to be built along with 23 channels connecting the Yangtze and Beijing to the Hangzhou Grand Canal. This will be 4,200 km in total and would include the setting up of new 'State-Class' comprehensive transport hubs in Shanghai, Nanjing, Hangzhou, Ningbo, Wenzhou, Xuzhou and Lianyungang.

#### 4. **Advantages of Coastal Shipping**

4.1 The significance of Coastal Shipping has been widely recognised by maritime nations world over in view of its many advantages: It is fuel- efficient, environment-friendly, eco-effective and can ease traffic congestions and arrest loss of human lives caused due to accidents, which occur quite frequently in road transport mode. It is the most economical mode of transport of cargo or passengers for overcoming port, rail and road congestions. The several inherent, distinct advantages or benefits, both economic and social, that Coastal Shipping offers to the trade economy and society at large, over the other modes are highlighted in the following paragraphs.

#### 4.2 **Energy–Efficiency**

4.2.1 As per a comparative study undertaken earlier in Europe (EU: Progress Report on Short Sea Shipping: 1999), it is estimated that Fuel consumption by coastal shipping at 4.828 gm/ton-km is just 15% of consumption by road and 54% of that by rail. (The corresponding Fuel consumption by road is 31.330 gm/t km and by rail 8.911 gm/ t km). The lower consumption of fuel per unit of transportation (ton-km) contributes to further reduction in cost of transportation by Coastal Shipping thereby giving it an added advantage over road / rail transport.

4.2.2 As per another study (TCS Report: Study on Development of Coastal Shipping & Minor Ports: December 2003), the (energy) cost for carriage of goods by coastal shipping (only considering sea leg) works out to be 21% of the cost by road and 42% of cost by rail.

#### 4.3 **Economies of Scale**

4.3.1 The cargo carrying capacity of ships, which are the basic units deployed in transporting goods by Coastal Shipping, is several times greater than that of rail wagons or road trucks / tankers. Thus, a single unit (Ship) in Coastal Shipping can carry the same quantity of goods that by other land based modes would need many times more number of units (Wagon/Truck) resulting in much lower unit cost of transportation compared to the other modes. Coastal Shipping, therefore, offers the benefit of low transport / operating & logistics costs to the trade and industry, especially for transportation of large quantities of goods or cargoes.

4.3.2 With lower transportation cost, Indian goods for exports would be more competitive in the global market, which directly translates into greater profitability of Indian industries / businesses. Even for transportation of goods & cargoes in the domestic trade or in import consignments, lower transportation cost again directly benefits industry & trade in terms of improved returns.

4.3.3 The economic benefit of coastal shipping thus mainly consists in that a wide range of the bulk commodities such as coal, grains, ores, containers, petroleum products / other liquids (POL,) Iron and Steel, Cement, Fertilisers etc. are considered to be suitable to be moved by sea; which would result in considerably enhanced profitability to the trade and tremendous savings to the economy since these commodities would account for practically the whole range of domestic / inland traffic in the country.

#### 4.4 **Reduction in Costs of Congestion and Delays & Accidents**

4.4.1 As Coastal Shipping utilises the seaways (marine transport), it does not have to suffer the severe road traffic blockages / congestions and consequent delays that afflict road transport mode. In contrast, major road / rail systems quite often suffer from chronic congestion, capacity problems and delays. Further, Coastal Shipping offers reliable maritime transportation service with guaranteed transit times for ships / vessels plying between various ports.

4.4.2 Road / Rail transport has to quite often pass through densely inhabited areas whereas Coastal Shipping does not entail such movement through inhabited (land) areas. According to estimates of 2003, over 85,000 persons were killed and 12,70,000 injured on the highways. As against this, Coastal Shipping does not witness such accidents involving the common populace and can radically arrest the loss of human lives in the country resulting due to accidents.

4.4.3 Informatively, annual losses due to road congestion in the country are reported to be in the range of Rs. 200 – Rs. 300 billion and the cost on account of accidents Rs. 100 billion, putting the total loss / cost due to congestion & accidents at Rs. 300 – Rs. 400 billion annually. Thus, diverting just 5% of road cargoes to waterborne mode (coastal shipping) would result in savings of Rs. 15 - 20 billion annually for the economy, which would be a major socio-economic benefit for the nation. If larger share of cargo could be diverted to Coastal Shipping, the benefit to the nation would obviously increase manifold.

#### 4.5 **Environment-friendly / Eco-friendly Transport – Reduction of Social Costs**

4.5.1 Coastal Shipping has comparatively lower emissions of harmful chemicals such as carbon-dioxide, carbon monoxide, hydrocarbons, particulates and nitrogen oxides than road / rail transport thereby considerably reducing the

pollution related ecological and health hazards and the corresponding social cost in terms of the environmental degradation, deteriorating public health etc., and the various consequent effects and their socio-economic costs.

- 4.5.2 It is estimated that 47 million tonnes of carbon monoxide is pumped into the air by road transport annually, and that a small 5% diversion of road cargoes to waterborne Coastal Shipping mode would result in 6% reduction in harmful emissions & pollutants and savings in fossil fuels. This translates into savings in terms of lower health related adverse consequences & costs both to individuals and society as also lower ecological cost in terms of lower consumption of fossil fuel, which is a non-renewable energy source.

#### 4.6 **Lower Costs for further Development / Expansion of Transport Capacity**

- 4.6.1 As a water borne mode of transport and requiring hardly any use / encroachment on land (except for port / terminal area), Coastal Shipping entails negligible financial costs in terms of manufacturing / laying of railway tracks, building roads, bridges, their maintenance / up gradation etc. for the further development / expansion of transport capacity. Moreover, it involves negligible social costs for further capacity generation as there would not be any significant issues relating to displacement of families / properties, encroachment on farmlands / forests / public property etc. in this regard. Thus, Coastal Shipping is far more economic compared to land based modes in terms of development or expansion of transport capacity in the country.

- 4.6.2 In view of the above, it would be observed that Coastal Shipping involves considerably lower costs, compared to rail and road transport, be it financial cost (to trade & industry), economic cost (to the national economy) and social cost for catering to the present levels of transportation in the country and also for further development / expansion of transport capacity.

- 4.6.3 It may also be pertinent to note that Road transport has high social costs in terms of pollution of environment, risk of accidents, consumption of fuel and maintenance as elaborated in a subsequent paragraph.

#### 5. **Constraints & Impediments in the growth of Coastal Shipping**

- 5.1 In spite of the several obvious major advantages that Coastal Shipping has over land-based modes, it has not grown adequately over the years so as to play a far greater role in the country's economic development as an important link in the integrated Transport or Supply Chain. Unfortunately, the inadequacy / lack of port capacity and land-side infrastructure in terms of efficient cargo handling & evacuation systems, rail / road connectivity etc., have hampered the growth of this industry. Thus, despite the advantage of lowest unit transportation cost for the sea leg, the overall end-to-end cost by coastal shipping tends to escalate due to the lack of proper port / land side infrastructure as mentioned above resulting in a preference for road / rail modes by the Trade. Thus, a major reason for the slow growth of Coastal Shipping is the wafer thin margins in this industry due to lower effective

demand vis-à-vis land based modes of transport (which, at times receive subsidies or resort to trade distortive practices such as telescopic freighting etc.). It may be mentioned in this regard that Coastal Shipping had not been receiving sufficiently high priority for the support that it deserves, notwithstanding the several Committees / Study Groups constituted since Independence that have pontificated on the various aspects of Coastal Shipping and submitted their recommendations for its growth. Informatively, the Indian “Shipping” sub-sector accounted for hardly around 5% of the funds allocated by the Government to the entire “Transport” sector under the Five Year Plans (average of the first eight Plans), of which the share of Coastal Shipping is minuscule.

- 5.2 Road transport in India accounts for over 50% of tonne-mile cargo traffic, followed by rail with about 30% and less than 10% by Coastal Shipping. It would appear that since Coastal Shipping offers the highest economies of scale, followed by Rail transport, (in addition to several other economic benefits over road transport), Coastal Shipping should have been carrying a much greater share of the cargo than it does!
- 5.3 It may, however, be observed that while Coastal Shipping offers the benefits of economies of scale, energy-efficiency etc., the overall transportation cost involved in Coastal Shipping in India is, perhaps, higher than in road / rail transport, thereby discouraging the users from adopting it in preference to land based transport. In this regard, it needs to be appreciated that such a situation is not on account of any inherent disadvantages in Coastal Shipping per se, but due to other factors and reasons that would result in escalating the overall cost of using coastal shipping services as indicated below.
- 5.4 Some of the major constraints & impediments / problems inhibiting the growth of Coastal Shipping in India are highlighted hereunder:
  - i) Poor rail / road connectivity between ports, rail / road terminals and cargo generating centres in the hinterland.
  - ii) Inadequate integration of coastal shipping with inland waterway transport due to lack of basic infrastructure.
  - iii) Inadequate basic port infrastructure in terms of suitable terminals / cargo handling capacity, connecting roads, easy procedure for cargo clearance, etc.
- 5.4.1 The above mentioned constraints / factors obviously impose undue additional time / cost of transportation of the goods from the hinterland to the port & then loading on to the ship and, vice versa, for discharging or unloading the goods from the ship into the port and thence to the hinterland. Thus while the sea leg of transportation is much more economical compared to road / rail modes, it is the land side transport and handling in the total Supply Chain that escalates the overall cost of Coastal Shipping.
- 5.5 In addition to the above, there are other problems / issues also that adversely affect the economics of Coastal Shipping; these are briefly as follows:

- i) Compliance with the same stringent standards that are applicable for ocean going vessels in respect of “Manning” and “Construction” of Coastal Vessels -

Although Indian coastal shipping operates in a less stringent safety and security environment compared to its foreign going ships; yet in India the Maritime Administration has (in most respects) stipulated the same stringent requirements, viz. International Safety Management (ISM) code and International Ship and Port facilities Security (ISPS) code for Coastal Shipping as stipulated for its foreign going ships. Informatively, as per the International Conventions / regulations in this regard, these aspects have been left to the discretion of individual (i.e. respective countries’) Maritime Administrations. The imposition of these stringent safety & security requirements results in considerable additional cost burden on Indian Coastal Shipping apart from expenditure of additional time and efforts on the part of the Coastal operators and their sea faring & shore personnel.

- ii) Burden of Customs duties, cumbersome & complex Customs and other procedures etc. resulting in additional cost and delays -

Coastal Shipping operators have to purchase ‘Duty Paid’ Bunkers (fuel) at the Indian ports, with a very heavy Duty (Excise/Custom duties, tax etc.) of around 35% leading to further escalation of cost of transportation of goods by Coastal Shipping. Likewise, there is a levy of Customs Duty on Spare parts and stores as well.

- iii) Low productivity at ports and high tariffs particularly for cargo handling in ports.

- iv) Double Levy of Landing fees & related Service Tax charges at Ports.

- v) Non-availability of concessional finance for acquisition of vessels for coastal shipping.

- vi) Shortage of Officers

5.6 The above-mentioned issues / problems would be arising from a combination of inadequacy / inefficiency in the connectivity, infrastructure and port services and lack of facilitative / supportive policies etc. If these issues are suitably addressed, then the overall cost of transportation by Coastal Shipping can be minimized and, Coastal Shipping could then be used to the maximum extent (i.e. largest modal share), duly supplemented by a judicious deployment of rail and road transport modes.

## 6. **Need to promote Coastal Shipping**

6.1 With rapid and substantial growth in trade volumes expected in the coming years, the pressure on road and railways will only grow; and thus, significant diversion of domestic cargo from road and rail to Coastal Shipping is now a national imperative. Further, with increasing dispersion of production facilities / expanding hinterlands there is much greater emphasis on increasing

integration of Major Ports, Non-Major Ports, inland waterways, road, rail systems etc. into logistics / supply chains. In this scenario, the economic benefit of considerably lower economic (operational & logistics) cost offered by Coastal shipping is a major factor favouring a modal shift to Coastal Shipping, and hence, for its vigorous promotion so as to make it attractive to investors and users.

- 6.2 It may be mentioned, however, that in order to realize the true potential of Coastal Shipping, it is imperative that efficient port infrastructure and connectivity are provided for cost-effective seamless movement of cargoes from one mode to another in the integrated multi-modal transport system from the point of origin to the final destination. Also, adequate incentives are required to be accorded by the Government to encourage Indian companies engaged in coastal shipping to grow in the face of stiff competition from foreign lines. This, inter alia, requires providing a level playing field to these Indian companies / shipping lines vis-à-vis foreign lines. These aspects have been elaborated in a subsequent section of this note.

## **7. Concessions available to Coastal Shipping Sector**

The Government of India is already concerned with the well-being of Indian shipping sector; and with a view to protecting and preserving coastal shipping, the Government have extended certain concessions to it, which at present include the following:

- i) Coastal ships have been exempted from filing a bill of coastal goods at load ports and bill of entry at the discharge port.
- ii) Coastal ships are exempted from light dues.
- iii) Dedicated terminals have been provided for coastal shipping at various Major Ports in India.
- iv) Vessel related charges for coastal vessels and cargo related charges for coastal cargoes have also been reduced and now these are charged 60% of what is charged from other (foreign going) vessels.
- v) Now tonnage tax is available to coastal ships registered under the M.S. Act.

## **8. Measures under Government Consideration for Coastal Shipping Sector**

The measures for promotion and development of the Coastal Shipping under consideration of the Government are indicated below.

- 8.1 Efforts will be made to promote Coastal Shipping by creating infrastructure for integrating shipping with other modes of transport.
- 8.2 Wherever feasible, dedicated Terminals for coastal shipping will be constructed at ports so that coastal ships do not have to wait for berthing.
- 8.3 Coastal Shipping Infrastructure / Minor Ports will be developed with a view to promoting coastal shipping through a Centrally Sponsored Scheme.

- 8.4 In order to have an effective information system along the coast of India, coastal stations through BSNL or other suitable agencies will be set up to receive messages from ships.
- 8.5 An integrated (AIS) network will be established along the Indian Coastline encompassing all users, Regulatory and Search and Rescue authority for facilitating coastal shipping.
- 8.6 Efforts will be made to provide Duty free bunker for coastal vessels, as is the case with foreign going vessels in Indian waters.
- 8.7 Efforts will also be made to provide duty free import of spares / stores / equipment related to coastal vessels.
- 8.8 Coastal shipping will be promoted through a package of measures including reduction of dues vis-à-vis other categories of ships and rationalization of manning scale.
- 8.9 The stipulation regarding conversion under Customs' Act in the case of foreign going Indian vessels doing coastal run will be examined for appropriate relaxation in order to save time and costs in the interest of EXIM trade and Coastal Shipping. Efforts will be made to render coastal shipping free of all requirements to obtain Customs or Immigration clearance at all locations. Similar dispensation will be given to short sea shipments to SAARC countries.
- 8.10 Efforts will be made to put in place a Coastal Shipping Development Fund (CSDF) with a corpus of Rs. 500 crores to be funded by Budgetary Support for extending loans / finance on soft terms for coastal ship acquisition and coastal shipping related development.
- 8.11 Government assistance will be rendered for other developmental activities such as training of coastal shipping personnel etc. as well.

## 9. **Issues & Suggested Approach / Measures for Resolution**

- 9.1 While the above mentioned measures are welcome, there is an urgent need for providing considerably greater level of impetus and incentives so as to realise the full potential of Coastal Shipping in India. Accordingly, the broad contours of the ambitious National Maritime Development Programme (NMDP) launched by the Government envisage a major role for coastal movement of a variety of cargoes by maritime transport. These initiatives and measures would contribute towards achieving a substantial modal shift from road and rail transport to Coastal Shipping.
- 9.2 Recognising the urgent need for giving a fillip to Coastal Shipping in the emerging scenario, the Government of India have now, in recent years, accorded high priority to addressing the issues facing this industry and formulating effective strategies and measures for its growth and development.

Some of the important current issues and suggestions for addressing the same are described in the following paragraphs.

### 9.2.1 **Amendment of Indian Merchant Shipping Act, 1958 – Definitions / Sections pertaining to Coastal Shipping**

As Coastal Shipping has evolved into a heterogeneous service industry today, there is an urgent need to widen the scope of “coasting trade of India” so as to include any service / activity performed within the coastal / territorial waters of the country up to the Exclusive Economic Zone (EEZ) as defined in the Maritime Zones Act, 1976.

9.2.1.1 Accordingly, it would be necessary to suitably modify / incorporate the relevant definitions / sections of the MSA, 1958 on the lines suggested below.

(i) **Definition of “Coasting Trade of India” under Sec.3 (2) may be modified as:**  
Coasting trade of India means the carriage by sea of goods, passengers from any port or place in India to any other port or place in India or performing any services within the coast of India.

**Justification:** Sec. 407 of the MSA stipulates the control of foreign flag ships engaged in coasting trade. Further, as the existing definition of coasting trade is confined only to “the carriage by sea of passengers or goods”, in order to widen the scope the definition of coasting trade needs to include territorial waters up to the EEZ as defined in the Maritime Zones Act, 1976.

(ii) **Definition of “Ship” under Sec 3(45) may be modified as:**  
“Ship” does not include a sailing vessel but includes barges, mobile offshore drilling units, dredgers and special vessels such as high-speed crafts but excludes fixed installations.

**Justification:** The above amendment is proposed so as to bring more clarity to the concept of “ship” to include offshore support vessels (excluding fixed installations). This would also entail the application of the safety provisions of MSA to the offshore support vessels and personnel working on them.

(iii) **Definition of “Vessel” under Sec 3(55) may be modified as:**  
“Vessel” includes any description of watercraft, including non-displacement craft and sea planes used or capable of being used as a means of transportation on water or for performance of various services.

**Justification:** The above amendment is proposed so as to bring the meaning of “Vessel” in line with the definition of Coasting Trade of India so as to include and to be applicable to the offshore vessels as well.

(iv) **Application of Part (Sec 20 under Part V):**

**Sec.20 under Part V of the MSA may be amended by deleting words “fitted with mechanical means of propulsion” to read as follows:**

**This Part applies only to sea going ships.**

**Justification: The words ‘fitted with mechanical means of propulsion’ are proposed to be deleted as a number of mobile offshore drilling units (proposed by PSC for inclusion as a separate chapter IX B) are not fitted with mechanical means of propulsion.**

Further, there are number of vessels, such as accommodation barges etc. which operate in offshore fields and carry large number of personnel and are not fitted with mechanical means of propulsion.

It is therefore necessary that such vessels are brought within the purview of the MSA. For registration of such vessels under MSA, these amendments are necessary.

**(v) Application of Part (Sec 405):**

**Sec.405 of the MSA may be amended as follows:**

Application of Part – This part applies only to sea-going ships of not less than one hundred and fifty tons gross, but the Central Government may, by notification in the Official Gazette, fix any lower tonnage for the purposes of this Part.

**Justification:** The mobile offshore drilling units proposed to be covered in Part V at Sec.20, when engaged in the proposed “coasting trade of India” the scope of which is proposed to be widened, needs special treatment under Part XIV. By deleting the words “fitted with mechanical means of propulsion” any unit which is not self-propelled is expected to come within purview of Part XIV. By this change, the various activities within “coasting trade of India” will be exclusively for Indian registered ships under new definition proposed at Sec. 3 (45).

## **9.2.2 Infrastructure Industry Benefits for Coastal Shipping Industry**

It is understood that as per the existing guidelines / definition of “Infrastructure”, only the immobile assets of roadways, rail-ways, ports, airports etc. constitute “infrastructure” and not the mobile assets. Hence, in the maritime industry as well, it is the “ports” which are treated as infrastructure and not “shipping”. Thus, if “Shipping” cannot be granted infrastructure status, at least the applicable benefits from among those that are accorded to Infrastructure industries may also be extended to the Coastal Shipping industry in particular, and to Shipping in general, as indicated in the following paragraphs.

**9.2.2.1 Tax Benefits / Incentives:** For the Indian Companies engaged in Coastal Shipping that are not opting for, or are not eligible for, the Tonnage Tax

Regime, the following Tax benefits / incentives that are available to Infrastructure industries may be extended:

- (a) Automatic exemption from levy of Minimum Alternate tax (MAT), which is a big drain on the resources of the Coastal Shipping industry.
- (b) Tax holiday for the first ten years of start of operations;
- (c) Tax concession at a stipulated percentage rate of the Net Profits for the next five year.

9.2.2.2 **Quasi Equity Support:** The Government and Financial Institutions such as Infrastructure Development Finance Corporation (IDFC) to extend Quasi Equity support for financing the growth and development programmes of Indian Companies engaged in Coastal Shipping.

9.2.2.3 **Relaxation of ECB Guidelines:** The guidelines / norms for raising External Commercial Borrowings (ECB) to be relaxed and made investor friendly in order to enable Indian Companies engaged in Coastal Shipping to acquire second hand ships, equipment and other technology to augment / upgrade capacity and quality of their assets and operations.

### 9.2.3 **Coastal Shipping Development Fund (CSDF)**

9.2.3.1 It is observed that conventional financing through the established institutions is lacking, in view of the low rate of return in coastal shipping. It is, therefore, necessary to set up a dedicated fund for advancing loans for investment in infrastructure with low debt-servicing requirements to promote coastal shipping, without looking into return in the short run for the purpose of acquisition of vessels and for creation of other related infrastructure. The Government has proposed to institute a corpus of Rs. 500 crore to be funded by Budgetary Support for extending loans at soft terms for coastal ship acquisition and coastal shipping related development. It is estimated that, there would be additional demand of about 200 vessels for coastal shipping initially; once coastal shipping picks up, more such vessels would be needed in the various coastal shipping routes / sectors. In the next five years, an estimated investment of around Rs. 10,000 crore would be required for acquisition of coastal vessels for which the funding pattern would be Rs. 500 crore from budgetary support, Rs. 1,500 crore from reputed financial institutions and Rs. 8,000 crore from private investments. The fund is proposed to be administered through a Fund Manager to be selected from amongst the established financial institutions having expertise in the field.

9.2.3.2 The proposed scheme viz. Coastal Shipping Development Fund (CSDF) under the NMDP for promotion of coastal shipping may be kindly instituted / implemented expeditiously in a time bound manner.

9.2.3.3 It may however be mentioned that such large funding to the tune of Rs. 8,000 crore from private investments may not be forthcoming at least in the near foreseeable future. Hence, it is suggested that the proposed CSDF corpus be enhanced by an additional amount of Rs. 500 crore initially (in addition to the

corpus of Rs. 500 crore already proposed) aggregating to a total corpus of Rs. 1000 crore).

9.2.3.4 Even with the doubling of the proposed corpus initially as suggested above, the uncertainty with regard to huge private sector investments materialising in a reasonable time frame would still appear to be valid. In view of the above, it is further suggested that, insofar as the funding by Banks / Financial Institutions is concerned, the norms / parameters in respect of the Facility Amount, Rates of Interest, Tenure etc. may be based on the following lines:

- (i) The low interest Loans to be extended to the coastal vessel owner may be pegged at 90% of the cost of the vessels with promoters contributing the remaining 10% of the margin money in order to procure / build ships for coastal operation. Interest rates may be in the range of 5.5% to 6% and the tenure of the Loan may be for 15 years and above. (Informatively, in USA there is a scheme viz., TITLE-XI, under which the Govt. of America guarantees the bank, and based on their guarantee, the bank lends the money to the coastal vessel owner at a very competitive rate and for a period of around 20 / 25 years. The Loan disbursed by the bank is 87.5% with the remaining 12.5% arranged by the promoters. Needless to mention, the scheme is very important for the development of coastal vessel fleet and coastal shipping industry).
- (ii) The proposed / increased corpus may, inter alia, be utilised for Government Counter Guarantee for raising the Loan for 90% of the vessel cost backed by mortgage of vessels etc. and bridging / funding the Interest differential on the soft Loans.

9.2.4 Vessel building subsidy on the lines of Inland Vessel building subsidy (30% of the ex-yard price of the vessel) could be considered. The subsidy may be administered indirectly through the banks to have better control on disbursements.

#### 9.2.5 **Customs / Excise Duty On Bunkers (Fuel) and Stores – Waiver or Supply At Concessional Rates**

9.2.5.1 Presently duty-paid bunkers being supplied at Indian ports to vessels engaged in coastal shipping are quite expensive with the total effective duty being around 35% or even more. Likewise, there is a considerable incidence of duties / taxes on ships stores. These duties and levies impose a very heavy burden, which adversely impacts the already wafer thin margins of Indian Companies engaged in Coastal Shipping.

9.2.5.2 In order to alleviate this problem that is hampering its growth and to achieve the desired level of higher growth of this industry, it is suggested that the Customs / Excise Duty on Bunkers and Stores used in Coastal Shipping be waived. Alternatively, the effective rate of the total Customs / Excise Duties and other Taxes levied on Bunkers and Stores used in Coastal Shipping

should be substantially reduced to say 20% of their respective basic costs, by suitably linking / utilising the proposed “Coastal Shipping Development Fund (CSDF)” corpus vide Para 9.2.3 above for bridging the differential / reduction in the said Duties / Taxes.

#### **9.2.6 Duty on Spares – Vessel as an SRU**

9.2.6.1 A coastal vessel may be accorded the status of a Ship Repair Unit (SRU), whereby the benefit accorded to an SRU (i.e. no duty / charges etc. levied for import of spares) is also extended to an Indian coastal vessel / Indian company engaged in coastal shipping. Alternatively, import / custom duties on spares and stores for coastal vessels be exempted in view of the basis furnished under Para 9.2.5 above.

#### **9.2.7 Dredging, Maintenance & Development of Minor Ports**

9.2.7.1 It may be observed that the diversion of cargo from Rail / Road mode to water transport on a large scale and on a regular basis is possible only if the Minor Ports are properly maintained. Most of the existing Minor Ports are not dredged regularly though the responsibility for the same is that of the respective State Governments / State Maritime Boards. Presently, Shipowners are reluctant to operate bigger vessels in many tidal ports as the draught (draft) is insufficient and there is a lot of siltation, which has not been addressed for the years. This affects coastal shipping in two ways:

- i) Bigger size vessels, which afford economies of scale, cannot be deployed in many ports.
- ii) Loading, unloading and turnaround time increases substantially. If channels are maintained properly, the cargo movement from such Minor Ports will increase in quantity. A good example of this situation is Dharamtar Port, which can attract considerably more cargo if the necessary maintenance dredging is carried out regularly.

#### **9.2.8 Centrally Sponsored Scheme (CSS) for Development of Coastal Shipping Infrastructure**

9.2.8.1 Being cognisant of the urgent need for development of Non-Major (Minor) Ports and promotion of Coastal Shipping, the Government of India have also proposed another scheme under the NMDP viz. Centrally Sponsored Scheme (CSS). It is observed that almost all Major Ports are already facing serious congestion problems with containers lying un-evacuated all over the Port, and the spiralling costs on account of detention, ground rent, lease rent etc. do not relent. The solution to this problem is to develop the Minor Ports, which can sustain the growth of coastal shipping. It is, however, observed that there are infrastructural gaps at Minor Ports and the development of these ports would include capital dredging, building of breakwaters, berths, back-up areas and wharves. Minor Ports fall in the Concurrent List of the Constitution of India and the primary responsibility for their development and management rest with the concerned State in which the Minor Port is located. It is, therefore, necessary

to encourage the concerned State Governments to take up the necessary infrastructure works at Minor Ports that would promote coastal shipping by assisting the Maritime States in undertaking requisite infrastructure projects.

9.2.8.2 Under the proposed above referred CSS, initially, one Minor port in each of the seven (7) Maritime States has been proposed for development viz. i) Gopalpur (Orissa), ii) Azhikkal (Kerala), iii) Malpe (Karnataka), iv) Dharamtar (Maharashtra), v) Magdalla (Gujarat), Cuddalore (Tamil Nadu) and vii) Gangavaram (Andhra Pradesh).

9.2.8.3 The Central assistance will be limited to 33% of the project cost, remaining 67% being contributed by the respective Maritime State Government. Central assistance will be by way of grant-in-aid. The total estimated cost of development of the afore-mentioned 7 Minor Ports would be around Rs. 1,500.00 crore and the grant-in-aid through budgetary support would be provided to the tune of Rs. 500.00 crore as per details given at **Annexure – A.** The Central assistance would be limited to one project from each Maritime State. The scheme may be made operational for 5 years (2006-07 to 2011-12).

9.2.8.4 For the purpose of seeking the above assistance under CSS, the respective State Government will get the Detailed Project Report (DPR) prepared and on receipt of the proposal, the project will be scrutinized from the technical angle by the Coastal Shipping Cell of DG (Shipping). The Ministry of Shipping, Road Transport & Highways will then be guided by the recommendations made by DG (Shipping) for the purpose of sanction of the project.

9.2.8.5 In the interest of expeditious development of coastal shipping, the above mentioned Centrally Sponsored Scheme (CSS) for Coastal Shipping & Port Infrastructural development and related works in the identified Maritime States may kindly be instituted / implemented in a time bound manner.

9.2.8.6 It may be mentioned here that the CSS need not be restricted to development of Minor (non-major) ports only, but could be extended to development of all kinds of infrastructure, that have a bearing on promotion of Coastal Shipping. Such schemes may be modelled on the lines of CSS for IWT development with the funding pattern being 90% by the Central Government and 10% by the concerned State Government(s).

9.2.9 Of the country's 185 Non-Major Ports, only around one third are functional. The concerned States with non-functional ports viz., Maharashtra (46), Gujarat (23), Andamans (17), Kerala (10), Tamil Nadu (9), Andhra Pradesh (9), Goa (4) and Karnataka (4) may be advised to expedite development of such ports. The requisite Funds as approved may be provided by the Central Government to develop basic infrastructure at the selected non-major (Minor) ports.

9.2.10 The drafts at Non-Major Ports need to be increased to 6 Metres in order to accommodate up to 8,000 to 10,000 DWT vessels.

9.2.11 The Indian Dredging companies need to be provided adequate encouragement so as to attract private investment in this area by adopting facilitative policies, e.g. "Use Industry First" Policy as followed in USA by the Dredging Contractors of America (DCA).

#### **9.2.12 Creation of Dry-Dock / Ship Repair Yards**

9.2.12.1 Presently, the availability of Dry-docks and Ship Repair Yards at Indian ports for catering to the requirements of Coastal Ships is quite inadequate as preference is given to foreign going vessels or vessels belonging to the Navy. Consequently, Indian coastal vessels are forced to call at foreign ports in the region for carrying out their Dry-dock / repairs works entailing an additional cost burden.

9.2.12.2 In order to provide the requisite technical support, there is an urgent need to set up Dry-docks & Repair yards exclusively for Coastal Shipping for which the following suggestions may be considered:

- (i) Create Dry-docks & Ship Repair Yards such that only smaller (coastal vessels) can be accommodated i.e. provide a draft of around 4 to 5 metres only at the existing and new Non-Major Ports, that are being / proposed to be developed. This would require allocation of requisite land and water frontage exclusively ear-marked for setting up such Dry-docks & Repair Yards facilities.
- (ii) At Mumbai Port there is a small Dry-dock, which is, however, dysfunctional, and the same could be upgraded / converted into a suitable Ship Repair facility.
- (iii) The process of (overseeing) setting up the Dry dock / Ship Repair yards may be shifted from the Directorate General of Shipping to the Indian Register of Shipping (IRS) in order to obviate adherence to archaic Rules and Procedures and enable creation / development of the requisite facilities in the country expeditiously.

#### **9.2.13 Transshipment Traffic at Indian Ports**

9.2.13.1 Presently, major transshipment activity for Indian Cargoes / Containers is witnessed at the ports situated in some of the neighbouring countries such as Colombo / Singapore etc. In order to attract this transshipment traffic to Indian shores, suitable Indian ports may be identified as feeding hubs.

#### **9.2.14 Rail / Road Connectivity**

9.2.14.1 As connectivity is important for development of coastal trade and shipping, enhanced / adequate connectivity for the ports with Rail and Road transport to be provided. In addition to Major Ports, all Non-Major Ports to be also

adequately connected to the highways with four lane roads in order to evacuate cargo discharged in these ports.

#### **9.2.15 Concessional Tariff at Ports Of Call**

9.2.15.1 The concessional tariff at ports of call for coastal shipping should be replaced by a separate tariff altogether, to be formulated for the coastal vessels and not use a discounted structure for tariff based on that for the foreign-going vessels. Sufficient cost reduction can be brought about, if a separate tariff is initiated and applied for coastal ships. As several Minor (non-major) ports have indicated interest in assisting in the development of coastal shipping, the Central Government policy adopted for Major Ports to be mirrored by the Maritime States and applied to Non-Major Ports as well.

#### **9.2.16 Manning of Indian Coastal Vessels – Concern For the Coastal Vessel Operators**

##### **9.2.16.1 Manning Scales, Training**

The manning scale of coastal vessels needs to be made simpler, and adequate facilities need to be instituted for training the floating staff to ensure that the operating standards are not compromised and that there are adequately trained hands available for ships to undertake voyages in a safe manner. As it is difficult to get trained and skilled manpower due to a tendency for the skilled seamen to opt for foreign going vessels, it is suggested that a special Training programme may be drafted specifically for catering to the needs of coastal shipping. It is further suggested that, appropriate Training facilities should be developed in the country with a view to producing more cadet officers for employment on vessels that would be deployed only on Near Coastal Voyages (NCVs). It must, however, be ensured that certain minimum standards of quality / proficiency are met and, among other measures / requirements, appropriate minimum eligibility criteria for entry into such a Training course must be stipulated.

9.2.16.2 The requisite funding for establishing the above mentioned Training facilities would need to be contributed by the Government and a suitable policy to be formulated encompassing the various issues / suggestions highlighted above in addition to other relevant aspects. In this regard, recent initiatives taking place at the Spanish port of Barcelona, details of which are given below are noteworthy and could form the basis for evolving a suitable course of action.

9.2.16.3 The European School of Short Sea Shipping, due to be inaugurated at the end of September 2006, has been set up by the port of Barcelona in partnership with an Italian industrial (Grimaldi) group, ferry company Grandi Navi Veloce and Italian Port Genoa. The School aims to build on Short Sea Shipping education courses run by the Port of Barcelona since 2004 by offering four-day courses from October to May aboard working Ro-Ro and ferry vessels operated by the Grimaldi group and Grandi Navi Veloce between Barcelona and Genoa, and Barcelona and Civitavecchia. The School further

aims to promote innovative thinking and know-how required for the development of the Short Sea Shipping sector. The three basic courses to be offered are meant for (1) Transport sector professionals, (2) students of Logistics and International Trade and (3) Management Trainees in the same fields. Courses will include lectures on different aspects of short sea shipping, in situ sessions devoted to shipboard and port procedures and a case study in the form of a simulated creation of a short sea shipping line. According to the School's founder Director, (who is also the port's Business Development Director), the School is particularly looking to attract personnel from companies in the road transport and logistics sector with the objective of overcoming the industry's resistance to short sea transport as an alternative to all-road transport mode. The School is sought to be put on a wider European footing without itself taking on the burden of its development. It is being launched with a Euro 3 million (US\$ 3.8 million) budget to cover its operations over the next two years. The European Union via the Marco Polo programme would provide one third of the above funding with the founding partners providing another similar share and the remaining one third is due to come from the fees paid by the course participants. The School will also be relying on the support and input of the network of Short Sea promotion Bureaux, established in numerous EU countries.

#### 9.2.17 **Crew Wages**

As regards Crew wages, it is suggested that the same should be streamlined to the extent of making some elements of wages tax free, so that coastal shipping can become an attractive career.

#### 9.2.18 **Shortage of Officers**

In the recent past and even at present, coastal vessels have been facing the brunt of heavy shortage of officers, particularly senior ranks viz., Master, Chief Engineer, Chief Officer and 2nd Engineer. This shortage is understood to be impacting even the international ships, which has eventually resulted in a grave situation for the coastal vessel owners and operators, as seafarers are not opting to join coastal vessels. Manning is thus one of the main concerns in the operation of coastal vessels as the Indian ship-owners are highly stressed even to keep the requisite number of certified crew on board as per manning requirements, which would otherwise result in a situation where the vessel cannot trade. In order to effectively tackle this situation, it is suggested that coastal vessel operators need to be provided with some relief by way of granting dispensation for manning requirements as indicated below.

- i) 2nd Officers with two years of sailing experience on supply vessels may be allowed to sail as Chief Officers on the same category of vessels. Present regulations allow the same, provided that the dispensation is granted by the D.G.Shipping, which, however, is for a maximum period of 3 months only.
- ii) "Sea-time" calculation of officers serving on coastal vessels to be calculated at par with the foreign going officers. At present, it is taken as

one-third of actual service on coastal vessels, which results in candidates not opting for coastal vessels.

- iii) Fishing Mates and Skippers were being given dispensation to sail as officers on coastal vessels up to February 2002. As this has since been stopped, a large number of Fishing Mates and Skippers are now available in India. Their services can be utilised for coastal shipping.

#### 9.2.19 **Nation wide Modal Shift Programme**

In view of the tremendous economic and social benefits accorded by Coastal Shipping vis-à-vis land based modes as highlighted earlier, there is an urgent need to target a substantial modal shift to Coastal Shipping in India. It is, therefore, suggested that such a modal shift programme on the lines of "Marco Polo" Programme comprising the two components viz. (a) Modal Shift action and (b) Catalyst action as highlighted in Para 3.1 above should be launched in India so as to achieve the targeted modal shift mainly to coastal shipping and also to IWT, Rail transport. The contours of such a Programme could be worked out by consensus in the "Working Group on Shipping and IWT".

9.2.19.1 The following suggestions / issues may also kept in view which would complement the above referred initiative of formulating the contours of the proposed Modal Shift programme:

(i) The Central Government may kindly consider diverting its own cargo as well as that of its agencies to coastal shipping to the extent feasible.

(ii) **Non-Availability of Cargo for Return Voyages:** Coastal shipping has been facing a problem of non-availability of cargo for the return voyages causing immense financial loss to Indian ship-owners. Some appropriate incentives may be extended to the trade for adopting coastal shipping mode for transporting sizeable domestic cargoes in preference to rail / road mode. Thus, registered Multimodal Transport Operators and shippers etc. may be allowed a certain deduction from the taxable income based on traffic they divert to coastal shipping.

#### 9.2.20 **Implementation of Cabotage**

The provisions of Cabotage must be strictly observed to support Indian Coastal Shipping which would provide a level playing field to Indian Shipping. Relaxation in Cabotage may be considered only on a case-to-case basis as is the case presently wherever Indian ship-owners are either not providing the requisite service or are not expected to provide the same in the near future.

#### 9.2.21 **Shortage of Surveyors**

It is observed that there appears to be a shortage of surveyors and it is suggested that the work of surveying may also be assigned to Classification Surveyors, with a view to avoiding delays to vessels.

#### 9.2.22 **NOC Restoration**

For the past few years, the Director General of Shipping had been following a policy that, before a foreign registered vessel could ferry cargo anywhere along the Indian Coast, it had to first seek a No-Objection Certificate (NOC) from two Associations viz. the Indian Coastal Conference (ICC) and the Indian National Shipowners' Association (INSA). The system was working well until the D.G. Shipping issued a circular SD. No.1/2006 dated February 2, 2006 announcing that it was no longer necessary for the ICC to issue an NOC and the said authorisation was given only to the INSA, depriving the ICC of years-long privilege.

9.2.22.1 In the interest of small Indian shipowners, the previous position needs to be re-instated as a status-quo-ante, so that ICC and INSA can operate separately, taking care of their respective trading areas as well as the interests of their respective memberships, lest some of the ICC members be driven to extinction, which would definitely not be fair in terms of the national interest and the Central Government's policy to encourage coastal shipping. This will go a long way in instilling the confidence in small shipowners and seafarers and encourage development of national coastal fleet and provide safety and security to the Indian coast and coastal environment.

#### 9.2.23 **Role Of Coastal Operators In Mega Marine Projects**

Some of the important Mega Marine Projects relevant to Coastal Shipping are enumerated below.

- a) Laying Pipelines in High Seas, coastal areas, Inland Rivers and waters and offshore power projects;
- b) Development of new ports, inland waters;
- c) Dredging / Reclamation for refinery, ports canals, shipping channels;
- d) Drilling for Oil and Gas Offshore and in coastal waters;
- e) Creating a naval base at Karwar / Vizag;
- f) Cruise Vessels

9.2.23.1 The above projects necessitate requirement of large pipe-laying vessels, drilling vessels and dredging vessels. If these requirements are visualised at the planning stage itself, these types of vessels can be built in India. Further, such vessels would be valuable assets for meeting the requirements of various marine projects in India itself or they can be deployed for the projects abroad.

9.2.23.2 For in-chartering of the vessels for the marine projects such as those indicated above, it is understood that the licence is being given under the ostensible reason that Indian flag does not have such vessels. However, Foreign flag vessels of very common type like small tugs, deck hopper

barges, survey vessels, anchor handling vessels, jack-up or platform accommodation barges etc. are also brought with the large vessels and operated, at times without any licence. The general plea of the foreign vessel owner (operator) is that the ports / customs authorities do not even visit these project areas. Since many of these project sites are not accessible, many Indian Shipowners or even the Directorate General of Shipping does not know that such small type / size vessels of foreign companies are operating for such projects. Some of the examples are: i) Paradip Pipelaying Project (IOC); ii) Reliance Gas Project near Kakinada; iii) Power Project near Mangalore; iv) Gujarat Pipavav Port Project and v) Gangavaram Port Project.

9.2.23.3 In view of the foregoing, it is suggested that while granting specified licence for large vessels, the Directorate General of Shipping may also kindly consider obtaining entire project details, duration of entire project, number of vessels, period of requirement etc., from the project owner / developer first, before issuing the licence to operate the identified (large) foreign flag vessel(s). Further, no licence may be granted for small vessels, until the requirements are circulated to everyone concerned i.e. ICC / other relevant bodies, and the process of obtaining the NOC from ICC, etc. is duly completed.

#### 9.2.24 **Technical Matters – Safety, Pollution Control & Others**

9.2.24.1 There is sufficient scope in having separate set of rules for coastal vessels (in contradistinction to foreign going vessels) pertaining to their construction as well as their operation in terms of adequately addressing the safety and pollution control matters on board the ship. It is considered important that the authorities should at least provide a 10% reduction in the scantling of new building vessels which, the as confirmed by Classification Societies will not compromise the safety of the vessels in their intended trade.

9.2.24.2 As coastal vessels will always be operating within the coastal limits, some of the stringent safety requirements may not be necessary. Therefore, there should be a logical relaxation in terms of the requirement of keeping Safety Equipment on board, adherence / compliance to ISPS Code, etc. for Coastal vessels. Equipments like 'Oily water separator' etc. can be made simpler, so that the pollution issues are also taken care of at the same time.

#### 9.2.24.3 **Requirement Of High-Value Equipment**

The requirement of keeping certain High Value Equipments on board foreign-going vessels which is also made mandatory for coastal vessels is not considered to be justified, and may therefore be waived.

9.2.24.4 In view of the above, it is suggested that a comprehensive list of separate rules regarding the Design, Construction, Operation, Safety, Pollution aspects etc. for Coastal Vessels / Shipping should be formulated, incorporating the specific relaxations as relevant.

### 9.2.25 **Double Levy of Landing Fees**

Landing fees are being charged at both loading port as well as discharging port. Similarly, service tax is also being charged at both ends. Thus, the same goods get doubly taxed. This is unlike the charges levied for railway or road transport. Further, there are Octroi charges levied by State Governments. The higher landing & related charges / taxes prevents a large number of manufacturers from transporting their goods by the coastal shipping mode who would, instead prefer road / rail modes. In order to encourage a modal shift to coastal shipping, the Landing Fees structure and related charges including Service Tax need to be rationalised and, as in the case of rail / road transport, should be levied only once i.e. either at loading port or at discharging port.

### 9.2.26 **Development of New / Emerging Areas In Coastal Shipping**

Adequate facilities and requisite infrastructure at ports need to be created / provided for developing and encouraging some of the new / emerging areas with promising growth potential such as (i) Ro-Ro service, (ii) Chemical Tankers, (iii) Heavy Lift vessels (iv) Passenger transport and Cruise Shipping service (v) Tugs & Shallow Draft Barges for Bulk / Container transport (vi) Offshore Supply & Multiple Support vessels / Drilling Rigs etc.

### 9.2.27 **Organic Integration of Coastal Shipping & IWT**

Coastal Shipping and Inland Water Transport (IWT) are similar in many ways in terms of energy efficiency, intermodalism, infrastructure requirements etc. Together, they provide seamless connectivity to hinterland at many places for example, (i) Eastern region adjoining Kolkata and Paradip port; (ii) Goa region; (iii) Kochi port-West Coast canal region; (iv) proposed NW5 and NW6 linking East Coast Canal and Eluru, Buckingham canal etc. to some Minor / Major Ports on the East Coast. In view of the above, synergies could be realized through organic integration of Coastal Shipping and IWT by bringing the two modes under a single organization which would help achieve their development in a focused manner.

9.2.27.1 In order to facilitate integration of the operations of these two modes in the Eastern region and Goa region, it is suggested that concerted R&D activity for designing low draft (3m) vessels of 3,000 DWT may be suitably instituted. Some of the areas where such combined operation would be possible with 3,000 DWT vessels are: Coal movement between Paradip and Farakka (coastal-NW1); Container movement between Paradip and Narayanganj (coastal-NW1-Bangladesh Protocol route); and Iron ore movement from hinterland to Goa port region (IWT-coastal mode).

9.2.28 As the quantum of work in the Coastal Shipping sector would increase tremendously, it may be emphasised that a dedicated institutional mechanism would effectively guide the growth and development of Coastal Shipping, and hence a Coastal Shipping Cell may be created in the Ministry of Shipping, RT & H on the analogy of the Directorate General of Shipping, Mumbai.

#### 9.2.29 **Creation of a New Class within Merchant Shipping Act, 1958**

There is a segment within domestic shipping service network, operating comparatively smaller vessels such as self-propelled barges, dumb barges, other watercraft etc. that ply very close to the coast or exclusively operate hugging the coast unlike the regular larger coastal vessels. Presently, such smaller vessels are covered / registered under the Inland Vessels (I.V.) Act, and consequently, are not eligible for the benefit extended under the provisions of the Tonnage Tax regime.

9.2.29.1 In order to encourage the growth of the above mentioned nascent segment of domestic shipping industry, the possibility of carving out a new Class of vessels in the Merchant Shipping Act, 1958, may be explored so that those Indian Shipping Companies that are providing such services would be eligible for the benefit extended under the provisions of the Tonnage Tax regime. In this regard, suitable guidelines may be issued by the Directorate General of Shipping stipulating the relevant Design, Construction, Safety and Operational specifications / parameters that would be maintained at a certain appropriate level between the comparatively lower, less stringent specifications applicable as per the I.V. Act and the more stringent requirements as per the M.S. Act, keeping in view the requirements and safety aspects specific to these operations.

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**ANNEXURE - A****Development of Minor Ports under National Maritime Development Project  
(NMDP)**

Name Of Minor Port	Estimated Cost	Funding Pattern		Year of Project Preparation	Year of Completion
		Budgetary Support	State Govt.		
Popalpur (Orissa)	35.00	13.00	22.00	2006-07	2011-12
Chikkal (Kerala)	30.00	10.00	20.00	2006-07	2011-12
Malpe (Karnataka)	200.55	70.00	130.55	2006-07	2011-12
Naramtar (Maharashtra)	484.56	132.00	352.56	2006-07	2011-12
Madgalla (Gujarat)	50.31	18.00	32.31	2006-07	2011-12
Madalore (Tamil Nadu)	569.00	200.00	369.00	2006-07	2011-12
Madhavaram (A.P.)	150.00	58.00	92.00	2006-07	2011-12
<b>Total:</b>	<b>1519.42</b>	<b>501.00</b>	<b>1018.42</b>		

**REPORT  
OF  
THE SUB-GROUP  
(MULTIMODAL TRANSPORTATION)  
SET UP BY  
THE WORKING GROUP ON SHIPPING  
&  
INLAND WATER TRANSPORT  
FOR  
THE ELEVENTH FIVE-YEAR PLAN  
(2007-2012)**

**PRESENTED BY  
JOINT SECRETARY (SHIPPING)  
MINISTRY OF SHIPPING, ROAD TRANSPORT & HIGHWAYS  
DEPARTMENT OF SHIPPING  
PARIVAHAN BHAVAN  
NEW DELHI - 110 001.**

**Preface**

1. The Ministry of Shipping, Road Transport and Highways – Department of Shipping vide their letter no. SY-11018/3/2006-SC dated 22.06.2006, set up a Sub-Group (Multimodal Transportation) of the Working Group on Shipping and IWT under the Chairmanship of the Joint Secretary (Shipping) with the terms of reference as follows:

**Terms of Reference**

- To review the position with regard to Multimodal transportation of goods in the country and suggest measures for its promotion.

2. The Composition of the Sub-Group is as under:

1. Joint Secretary (Shipping), Department of Shipping	Chairman
2. Representative of Department of Commerce	Member
3. Deputy Secretary (MM), Department of Shipping	Member
4. Representative of Deptt. of Road Transport and Highways	Member
5. Representative of Ministry of Railway	Member
6. Representative of Ministry of Civil Aviation	Member
7. Representative of IWAI	Member
8. Representative of DG Shipping	Member
9. Representative of FICCI	Member
10. Representative of CII	Member
11. Representative of Federation of Indian Exporters' Organisation	Member
12. Representative of Reserve Bank of India	Member
13. Representative of CONCOR	Member
14. Representative of the Association of Multimodal Transport Operators of India	Member
15. Representative of Western India Shippers' Association	Member
16. Representative of Eastern India Shippers' Association	Member
17. Representative of INSA	Member
18. Director (LandPS), SCI	Member / Convenor

3. The Sub-Group held the first meeting on 08.08.2006 for deliberating on the various issues and opportunities with regard to the multimodal transportation scenario in the country and relevant developments in the international context, and has obtained the inputs, views and comments from its members through periodic communications and extensive correspondence; and the Report of the Sub-Group is a culmination of these efforts.

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**Report of the Sub-Group (Multimodal Transportation) of the Working Group on Shipping and IWT for Eleventh Five Year Plan (2007–2012)**

## 1. **Development of Multimodal Transport – An International Perspective**

1.1 The developed economies of the world have witnessed an increasing thrust towards containerisation over the past five decades, which eventually became one of the key drivers for growth of multimodal transport sector in those countries. There were, however, several other drivers and factors as well that have impacted the growth of Multimodalism globally such as, the remarkable growth and development of ‘mega container ships’, aided by technological advances in shipbuilding and design enabling the building of larger and faster ships capable of carrying various types of finished, semi-finished goods and even raw materials in Containers, the development of modern cargo handling systems and superior rail / road infrastructure, the on-going process of globalization, development of web-based IT & Communication systems, the emerging field of Logistics & Supply Chain Management etc.

### 1.2 **Factors Impacting Multimodalism**

#### 1.2.1 **Shipping**

Modern ocean transport ships and especially Container Ships have had a profound impact on modern society. The sheer variety of goods on display at the supermarket, including tropical fruits and non-seasonal produce are all available because of economic and efficient shipping. The container speeding along the highways could have been loaded and sealed up three weeks earlier in Japan and its contents could be in the supermarkets tomorrow. All these activities and businesses are made possible by modern, efficient and reliable container shipping systems combined with land based infrastructure, which enable goods to be sourced from all over the world, in the expectation that they will be delivered precisely when they are needed, by a delivery system that has large fast container ships at its centre.

#### 1.2.2 **Economies of Scale and Globalisation**

1.2.2.1 The size of ships has been dictated firstly by the strength of materials, secondly by the abilities of shipbuilders and thirdly by the constraints of size in ports or canals. In modern times, technical limitations on the size of ships have all but vanished. Economies of scale, facilitated by technical progress in ship and machinery design saw the size of ships leap rapidly over the years. Bigger ships were found to be highly cost effective, with the unit costs of carrying cargo in large vessels being far less than in smaller craft. For example, large Ships carrying as much as four times the cargo compared to a smaller vessel could be built for only twice the cost and their daily operating costs might also be only twice that of the smaller ship.

1.2.2.2 Thus, both trade and shipping lines preferred to deploy ships as large as possible, and the process has continued in virtually every sector of the

shipping industry including Container shipping, Dry bulk trade, Crude Oil & Petroleum Products trade etc. Side by side, with the trend of globalisation integrating various national economies world over, the growing competitive pressures on trade demanded solutions that would optimise the total cost of transportation / supply chain. The ever increasing demands of the consumers need to be fulfilled in terms of reliability, price and integrity / quality of the goods delivered. Thus, the increasing trade (cargo) volumes on the one hand, and the growing pressures to offer efficient & cost-effective transportation & logistics services on the other, together provided an impetus to the development of multimodal transport system. Moreover, development of modern cargo handling & transport technologies, Management Systems and a supportive business environment ushered in Multimodalism in a big way in the developed world.

## **2. Overview of Multimodalism in India**

- 2.1 In India, Multimodalism is still in a nascent / preliminary stage as the country has been rather slow in going in for containerisation in a major way. However, growth in containerisation has accelerated in the nineties with the liberalisation of the Indian economy, which brought rapid growth in industry and trade. The increasing freight transport intensities, especially the volume of container traffic in EXIM trade between the hinterlands and the sea ports gave an added impetus to Multimodal Transportation in the country.
- 2.2 However, presently such heightened transport intensities are facilitated by logistics systems that are perceived to be less efficient and inadequate in terms of cargo carrying capacity (for both rail and road networks), which have adversely affected the development of true multimodal transport / logistics value chains, depriving the Indian trade of the benefits of seamless flow of goods and resulted in higher transaction costs for Indian Shippers / Consignees / Trade.
- 2.3 The increase in containerisation in the future would, inter alia, depend upon the pace of industrialisation, and the recent impetus to industrialisation and the advent of manufacturing hubs / Special Economic Zones etc., are expected to propel the demand for containerisation and multimodal transport in the country. According to an estimate, the share of containerised cargo in India's total general cargo trade is expected to increase to around 73% by the year 2011-12 from the present level of 45%. With its unique and crucial role in making exports and imports not only competitive but also facilitating their delivery to the door of the final receiver / consignee, Multimodal Transportation is set to occupy "centre-stage" in the whole gamut of logistics services that support Trade and Industry.
- 2.4 It is, therefore, difficult to over emphasise the importance of multimodal transportation in a country as vast as India. The sheer size of the country, the distances that cargo must travel and the various modes of transportation on offer, make the presences of an cost effective and efficient multimodal system a key input in the development of a seamless mode of transportation that does not require an exporter or importer to devote large amount of time over transport arrangements / formalities. The presence of an efficient, truly

integrated multimodal transport system will, thus, enable the exporter or importer to freely concentrate on the core areas of concerns such as productive efficiency, time to market etc.

#### **2.4.1 Review of the 10<sup>th</sup> Five Year Plan (2002-2007)**

2.4.1.1 Cognisant of the tremendous potential of multimodal transportation, the Government had constituted a Sub-Group on Multimodal Transportation of the Working Group on Shipping for the preparation of the 10<sup>th</sup> Five Year Plan to review the position with regard to multimodal transportation of goods in the country and suggest measures for its promotion. The Sub-Group deliberated at length on the various issues connected with multimodal transport, the lacunae and hindrances affecting it and submitted various suggestions and recommendations for the consideration of the Government in its Report covering areas such as amendment of the Multimodal Transportation of Goods (MMTG) Act, 1993, evolving a suitable mechanism for Co-ordination of various agencies / entities involved in multimodal transport and issues relating to infrastructure & operational aspects. Informatively, several initiatives and measures have been taken by the Government in the above mentioned areas for alleviating the problems / bottlenecks experienced in the Indian Multimodal Transport Sector. It may be mentioned in this regard that further amendment to the MMTG Act, 1993 as amended in 2000, is under active consideration with the Ministry of Shipping as indicated below.

- (1) include the import leg after the goods have landed in India,
- (2) make the Act applicable to domestic multimodal transportation,
- (3) a person registered to carry or any person who commences the business of Multimodal Transportation shall quote the registration number on every Multimodal Transport Document (MTD) and produce the proof of registration to the custodian concerned,
- (4) the prescribed MTD so issued may be negotiable or non-negotiable at the option of the consignor,
- (5) only the recognised transport document like Bill of Lading or MTD would be allowed in order to avoid illegal transportation / contracts of carriage.

During the last two years i.e. from January 2005 to December 2006, a total 141 number of MTOs (Multimodal Transport Operators) have been registered under the MMTG Act, 1993.

2.4.1.2 While various initiatives and steps have been taken by the Government, it may be mentioned that in order to realise the full potential of multimodal transport, further initiatives and improvements would be required in terms of simplification / harmonisation of the regulatory & administrative framework / liability regime, increased private sector participation, development of port infrastructure, connectivity, logistics services, etc. In light of the above imperatives, the Sub-Group (Multimodal Transportation) of the

Working Group on Shipping & IWT for the 11<sup>th</sup> Five Year Plan has reviewed the prevailing position with regard to multimodal transportation of goods in the country, identified the relevant issues / problems and has made appropriate recommendations for promoting Multimodal Transportation as brought out in this Report.

## 2.5 **Prevailing Multimodal Scenario in India**

### 2.5.1 **Documentation**

In the early years, the Foreign Exchange Dealers Association of India (FEDAI), on the basis of International Chambers of Commerce (ICC) Rules, were accepting only Ocean Bill Of Lading issued by Carriers as a negotiable document; and did not recognize the Freight Forwarders or Multimodal Transport Operators (MTO) as Carriers. With the enactment of Multimodal Transportation of Goods Act (MMTG ACT) of 1993, MTOs can now issue their own document viz. Multimodal Transport Document (MTD).

2.5.2 In consonance with the prevailing international trends, Indian legislation on Multimodal Transport permits all transporters including Freight Forwarders to operate as MTOs subject to the conditions laid down in the MMTG Act, 1993. Apart from the obvious advantages of Multimodal Transport, the MTD, being negotiable on issuance after receipt of cargo at an inland point, allows the inland shippers to realise their moneys swiftly by negotiating the MTD with the Banks.

2.5.3 MTOs offer the flexibility for providing customised solutions to meet the varying needs of shippers / consignees adopting various modes of transport and bringing greater efficiency and cost effectiveness in international transportation. Value-added services are thus provided at the origin / destination such as Delivery of Goods on either "Destination Duty Paid" (DDP) basis or "Destination Duty Unpaid" (DDU) basis; warehousing; preponement / postponement and kitting etc. Multimodalism thus optimizes the whole operation by maximising efficiency in carriage of goods, achieved through door-to-door delivery under a single Contract.

2.5.4 However, in spite of the enactment of the MMTG ACT, the progress of Multimodal Transportation in India has been rather slow. It is observed that the proportion of traffic moving between gateway ports and inland centres, Inland Container Depots (ICD) / Container Freight Stations (CFS) has been comparatively small - only about 32%. Out of the total traffic handled by ICDs & CFSs, ICDs share is almost 28% and CFSs about 72%.

## 2.6 **Concentration of Traffic on West Coast**

Presently, around 60% of the country's container traffic is routed through Nhava Sheva (JNPT) in spite of many difficulties and against various odds. The container terminals at this port are working well above their planned capacity despite the bad approach roads, congestion at terminals, reduction in the available draft due to siltation etc. But despite such odds, there are many shipping lines that are prepared to start new services from the port, but are unable to get a window for berthing. JNPT was and continues to remain the

only port in the Public Sector, which was exclusively developed to cater to burgeoning container traffic on a dedicated basis having facilitative Customs & port procedures, equipment, connectivity to hinterland, EDI and many other trade friendly measures. Such trade facilitative measures have not been implemented with such vigour at other Indian ports, contributing to the increasing concentration of container traffic on the West coast.

2.7 Notwithstanding its many merits and advantages, there are several problems that have hindered the growth of Multimodalism in our country, mainly relating to lack of adequate / efficient port Infrastructure, hinterland connectivity and lacuna in Port – Rail – Road interfaces as also Institutional & Legal Issues. Despite its amendment in the year 2000, certain shortcomings still remain in the MMTG Act. For instance, the Liability regime is not fully clarified. As regards the Customs and other concerned authorities also, although several measures have been taken to simplify / streamline procedures and reduce documentation, more efforts are required in this direction. The various issues / constraints affecting Multimodalism, and suggestions / recommendations for promoting Multimodal Transportation of goods in the country are highlighted in the succeeding paragraphs.

### 3. **Issues / Constraints Affecting Multimodal Transportation in India**

The progress in respect of Multimodalism in India, if evaluated on the basis of factors that have been responsible for its growth in the Western / developed world, would point to certain lacunae in the Indian context as described below.

#### 3.1 **Infrastructure**

##### 3.1.1 **Container Shipping**

The inadequacy of port infrastructure / superstructure would rank high as the major constraint, which has slowed down the growth of Indian container shipping sector. Skewed allocation of resources in the past has adversely affected the development of Indian Ports and Shipping sector (average investment in Shipping sector per Plan period was about 5% as against 51% for Railways & 32% for Road sector); and the earlier protected Indian industry / markets and low export growth had also not forced the Indian Ports sector to commit resources to keep pace with technological changes and management systems being adopted internationally. During 2005-06, cargo handled by major ports was 423.41m tonnes, while total capacity was 440.2m tonnes, which indicates about 96% of port utilisation.

3.1.1.1 There is a definite trend globally of rapid rise in the size of containerships, but, unfortunately, most of the ports in India are not in a position to receive these bigger vessels and have reached their maximum utilisation levels. There is, thus, an urgent need to enhance port capacity both in terms of infrastructure i.e. by increasing the available drafts, lengthening / strengthening quays, modifying channel depths, widening turning basins etc., along with the requisite superstructure i.e. staging / back-up areas (container yards, storage & transfer areas, operational buildings etc.), container equipment (container cranes, gantry cranes, reach stackers, straddle carriers

/ heavy fork trucks, etc.), value addition facilities such as warehouses, assembly, packaging facilities, logistics / distribution parks etc. Besides, it is also imperative to enhance / create the much needed road / railhead / short sea (coastal shipping) connectivity for the Indian ports to handle the projected container traffic in India as well as to relive (decongest) the enormous pressure that would be brought to bear on the already over burdened seaside / landside infrastructure.

### 3.1.2 **Evacuation of Containers**

Another important bottleneck faced by the container terminals in India has been in the aspect of timely evacuation of containers. Generally, container evacuation is done through Railways unlike in the West where Road transport is the major mode of evacuation. As mentioned earlier, the inadequate landside infrastructure requirements, vital to the effective and efficient management of the Indian container shipping / multimodal sector has been over the years, characterised by less efficient and inadequate cargo carrying capacity in terms of both rail and road networks, which have adversely affected the development of true multimodal transport / logistics value chains, depriving the Indian trade of the benefits of seamless flow of goods. Lack of synchronisation and time lags in logistics infrastructure development (ICD / CFS), operating problems, sub-optimal returns / yield from port assets, inability to create integrated transport networks, inadequate logistics infrastructure for other services viz. Customs facilitation, EDI, ICDs / CFSs etc. have meant higher transaction costs for Indian Shippers and consignees. The slow pace of privatisation, lack of intra-port competition, large labour force, low productivity etc., have also contributed to clouding investor perception.

3.1.3 Despite the huge potential, Indian ports are not well equipped to meet international standards to handle the container traffic. High percentage of nonworking time at berth per vessel has been identified as one of the main reasons for low performance by Indian ports. Moreover, container handling cost in India is estimated to be about considerably higher than other developed countries, despite availability of cheaper labour.

### 3.1.4 **Rail Movement of Containers**

It is, however, noteworthy that the efforts taken by the Indian Government (Indian Railways) in allowing private participation in inland container transport which has attracted a large number of private players for entering into the markets (earlier dominated by CONCOR) is expected to give ocean carriers and shippers more choice and is expected to usher in a more competitive freight transport environment, delivering greater efficiency with consequential lower costs and increasing trading volumes. The entry of private players in this sector is expected to bring down transportation costs, which at present are high when compared to most countries. Another development also bears a mention here namely, the movement of Double Stack Container trains between Jaipur and Pipavav which would further reduce the transportation cost on this route. Reportedly, the tonne / km costs for rail in India are three times those in China. While the cost of rail transportation in India was put at

US cents 7.9 per km, it was 5.5 cents, 3.7 cents, 2.6 cents and 2 cents in France, Japan, China and Canada respectively.

## 3.2 **Road Transportation**

Road transport has inherent advantages of flexibility, door to door service capability, reliability, speed, etc. Commercial viability and profitability of a multimodal transport system in a competitive market largely depends on the infrastructure facilities available with the Road Transporters for providing the requisite services to customers with reliability. While the large investments made for the development of the transport sector in India have resulted in the expansion of the overall transport infrastructure and facilities, road transport has not been developed to the required extent for effectively addressing the problems of accessibility and mobility in the transportation of people and goods. Also, the existing road transport network suffers from serious deficiencies, removal of which will require large amounts of financial resources. Besides, the road transport industry in India is very fragmented and not managed quite professionally.

### 3.2.1 **Specific Problems in relation to Multimodal Transport**

3.2.1.1 Equipment utilization rates for the Indian trucking fleet, which averages 60,000 km to 100,000 km per truck-year, are less than a quarter of those in developed economies. These low utilization rates are caused by long delays at checkpoints en-route, excess trucking capacity which results in idle trucks, slow speeds on most roads, especially in congested areas, and lack of tractor trailer units that enable the tractor to keep operating while loading and unloading are carried out on the trailers.

3.2.1.2 Truck delays at checkpoints have been estimated to cost the economy anywhere between Rs. 9 billion and Rs. 23 billion a year in lost truck operating hours. The estimate does not include "Facilitation Payments" made at the checkpoints to circumvent various regulations, and these have been estimated to range between Rs. 9 and Rs. 72 billion.

3.2.1.3 The trucking industry today uses mainly 2- and 3-axle rigid trucks with a small sleeper cab and an open top freight box of 30 to 40 cubic meters. In the prevailing competitive market conditions, the existing fleet mix is, overall, the most economical, given the array of vehicles currently available to the Indian trucking industry. However, that is likely to change as the road network improves, the mix of traffic changes, and the array of available vehicles is widened. In view of the low cubic capacity, current vehicles are not so economical when moving light-loading freight for which the freight rate is almost doubled per ton-km due to the smaller weight of cargo that can be accommodated.

#### 3.2.1.4 **Need for Induction of Tractor – Trailer Units**

It is estimated that an increase of 10% in the market share of tractor-trailer units would result in a reduction in transport costs to the order of Rs. 5 billion per year. With improved fleet management enabling more intensive use of the

tractor units, the potential savings could increase to Rs. 8 billion. Further, these units also have the advantage of more modern technologies, which enhance driver comfort and the safety of operations. Introduction of tractor-trailer multi-axle vehicles would reduce not only transport costs but also road damage caused by the higher axle-loadings of 2- and 3-axle rigid trucks.

#### 3.2.1.5 **Need for Enhancing Load Limit of Road Network**

The legal single axle load limit in the country is now 10.2 tons, however, most Highways, both National and State, were constructed for axle loads of 8.16 tons, the previous legal limit. It is estimated that strengthening this older network for the increased load limit would require investments of Rs. 200 to Rs. 300 billion. Controlling axle loads is critical to protecting these investments once they are made. To protect the investments in the Golden Quadrilateral and its diagonals, it is estimated that the physical infrastructure (weigh bridges, etc.) for axle load controls would cost around Rs. 2.5 billion, which is well worth the expense considering the size of investment protected.

### 3.3 **Institutional Impediments and Legal Aspects**

Apart from the inadequacy of the physical infrastructure, there are certain institutional (Customs / Excise / Ports etc.) impediments and legal aspects that also affect the smooth and efficient flow of goods across the entire supply chain. Multimodal Transportation involves multiple agencies such as Railways, Roads, Shipping, Customs, Forwarders and Customs House Agents, Ports, CONCOR, Warehousing Services and other governmental agencies and has several interrelated and complementary functions / activities and procedures being undertaken / discharged, which need to be coordinated under the overall control of a single authority. Presently, these agencies are regulated by different ministries and departments of the Government, and are administered by different legislations leading to organisational / departmental interests and controls coming into conflict resulting in overall inefficiency and undue cost burden which ultimately has to be borne by the shipper / consignee / Trade.

#### 3.3.1 **Multimodal Transport & Customs Facilitation**

As in many developing countries, duties and taxes on foreign trade constitute the largest source of government revenue. In many instances, manual systems are used to process Customs declarations, procedures are generally found to be inefficient and costly, and are often subject to irregular practices. The numerous forms that have to be filled out are complicated and at times redundant. As a result, the process can be excruciatingly slow. Delays of several days and often weeks, result in high overheads (transaction costs) for both Customs Administrations and traders, importers, exporters etc., and are inevitably reflected in the prices of both imports and exports. This combination of high tariffs and slow movement of goods also has a harmful effect on exports and foreign investments, the main source of hard currency in the country. By repeatedly failing to meet delivery deadlines with international buyers, local businesses cannot build up or maintain their customer base and lose out to faster, more reliable suppliers. Likewise, foreign investors and

firms seeking joint venture opportunities are not attracted due to industrial supplies being delayed by Customs formalities and lack of efficiency. Further, there is also a serious lack of accurate, up-to-date trade data, which hampers the formulation of realistic economic policies. Not only are the manually produced statistics misreported or essential data non-recorded, due mainly to human error, but they also take considerable time for preparation. For Customs mechanisms to become more efficient and contribute to economic growth and development, the solution is computerisation. Experience in many developed countries has shown that when computerisation is implemented, countries can expect an average 10% increase in revenue, substantial reductions in clearance times and generation of reliable trade statistics. The latest version of the software products includes business-to-government and government-to-government transactions, and is expected to have a significant impact on the development of e-governance driven reforms.

3.3.2 Some of the other lacunae in the Multimodal Transportation that could be identified are: Lack of a well defined liability regime coupled with minimum standards of entry for MTOs; Lack of ready availability / access to appropriate Liability Insurance Cover; and lack of simplified / streamlined documentation and procedures that ensure smooth flow of documents resulting in seamless flow of goods at each change of mode and jurisdiction.

### 3.3.3 **Role of Trade / Industry Associations in Policy Formulation**

It may also be pertinent to mention here that in most developed countries, multimodal transportation has evolved as a focused and responsible industry. There exist large and truly representative associations of freight forwarders / MTOs and also users which are very effective in providing valuable feedback thereby enabling Governments to give concrete shape to a truly facilitative policy environment for encouragement and development of Multimodalism. In the Indian context, there is a perceived need in terms of formulating such a policy that is aimed at ushering transparency and regulating trade practices applicable to all individuals, firms, companies and undertakings carrying out multimodal transport functions either by air, sea, road, rail and / or a combination thereof, which should also cover CFS / ICD operations, terminal operations & any other operations connected to ports / vessels.

## 4. **Evolving Customer / Trade Requirements**

4.1 As in any other sphere of economic endeavour, times have certainly changed in the container shipping sector also. Shippers have become increasingly demanding, looking for better and innovative goods and services that are specifically customized to meet their unique needs. In search of greater value, companies (shippers) are seeking out new markets and cheaper sources of raw materials and components, with facilities sometimes spread across the globe requiring single logistics service provider who can handle all logistical activities across all regions. There is also an implicit requirement on accuracy, timeliness, convenience, responsiveness, quality and reliability of the service offered to them and all of this is desired at ever-lower prices. Factors such as reliance on core competences and customer-centricity require companies to work with different partners in fulfilling each customer order resulting in

formation of “Trading Partner” ecosystems. There is a heightened expectation of financial markets in terms of having shorter cash-to-cash cycles and greater return on assets, which has led to a need for supply chain and financial chain integration and adoption of the value framework for corporate decision making. The significantly higher costs of not meeting performance expectations due to incorrect market forecasting or delayed delivery to customers has resulted in application of risk management techniques for supply chain planning and realtime monitoring and control of logistics chains to quickly respond to exceptions. There is also an increased pressure to improve profitability resulting in application of revenue management and dynamic pricing strategies.

- 4.2 As such there has been a paradigm shift in terms of Shippers’ expectations regarding their logistics chains including the container logistics industry in terms of competition (competition between networks rather than between individual service providers), the manner in which companies are operated, and the tools, systems and technologies employed etc. The prime drivers in the future would include the desire to survive and excel the competition by improving the efficiency and responsiveness of the logistics chain operations using new technologies such as the wireless, Internet, data mining and some already deployed technologies including RFID (Radio-frequency ID) tags, sensors etc. In the future, we would see a world where food “squeals” if spoiled or tampered with, packages “tell” what and where they are, warehouses “talk” to each other, trucks “converse” with central computer systems and weather systems to optimize routes, important information “finds” the decision maker wherever he or she or it is, shelves “restock” themselves and “signal” changes in customer tastes. Furthermore, disruptions anywhere in the supply chain are dealt with before they cause substantial damage either to the customer or any other stakeholders. Cash to Cash cycles are compressed and use of secure payment systems are in place. The technology is available to achieve all that is mentioned above, and parts of the above are already a reality in some parts of the world. The challenges before the domestic container logistics sector is to acquire, assimilate and integrate these technologies, solutions etc. into their systems so as to provide the Indian Shippers with a true integrated, multimodal transport / logistics value chains and the benefits of visibility, control and seamless flow of goods.

## 5. **Supply Chain Security**

- 5.1 More than 200 million containers are shipped between the world’s seaports annually, with the United States receiving approximately 17,000 containers per day. With increasing security concerns since 9/11 came the realisation that physical inspection of all imported goods is untenable. In fact, as of 2004 only 6% of the containers imported to the U.S. were physically inspected. Most companies and the government recognise the need to implement comprehensive and integrated end-to-end security that extends beyond asset protection. This has led to several initiatives on the part of the U.S. government to assess and minimize the risk involved in the transportation of goods. They include:

### 5.1.1 **The Advanced Manifest Rule (AMR) / Advance Cargo Information (ACI)**

Instituted by U.S. CBP (U.S. Customs and Border Protection) in conjunction with the Trade Act of 2002, and fully implemented in 99% of the ports by January 2005, it requires detailed cargo data for all modes to be submitted to U.S. CBP prior to arrival.

#### 5.1.2 **The Customs-Trade Partnership Against Terrorism (C-TPAT)**

C-TPAT was launched in November 2001 with the guiding principles of voluntary participation and jointly developed security criteria, best practices and implementation procedures. In exchange for the security investments they had made, C-TPAT partners receive reduced inspections at the port of arrival, expedited processing at the border, and other significant benefits, such as 'front of line' inspections and penalty mitigation.

#### 5.1.2 **The Container Security Initiative (CSI)**

With the CSI, the U.S. government and more than 25 trading partner governments are pursuing supply chain security by pushing inspections and screening upstream to originating ports. This calls for pre-screening of containers coupled with fast tracking when the cargo reaches the U.S.

#### 5.1.3 **The Free and Secure Trade (FAST) initiative**

It allows low-risk goods transported by trusted drivers via trusted carriers for trusted firms to pass rapidly through border crossings while reserving inspection resources for unknown or high-risk shipments.

#### 5.1.4 **The Smart and Secure Trade-lanes (SST) program**

This initiative was established in October 2002 by the container shipping industry to ensure the security of cargo containers globally. SST's objective is to rapidly deploy a baseline infrastructure that provides real-time visibility, physical security

through non-intrusive, automated inspection and detection alerts, as well as a complete audit trail of a container's journey from origin to final destination.

- 5.2 Multiple security initiatives are also taking place outside the U.S. One of them is the publication in 2005 of the ISO/PAS 28000:2005 standard, "Specification for security management systems for the supply chain" by the ISO. The Standard outlines the requirements to enable an organization to establish, implement, maintain and improve a security management system, including those aspects critical to security assurance of the supply chain. These aspects include, but are not limited to, financing, manufacturing, information management and the facilities for packing, storing and transferring goods between modes of transport and locations.
- 5.3 In addition, the World Trade Organization (WTO) seeks to facilitate trade by moving controls and inspection to the export stage and through the sharing of uniform information among government agencies, firms, suppliers, carriers and customers. The World Customs Organization (WCO), a Brussels-based consortium of 169 Customs Administrations, which represent 99% of global trade, promotes trade facilitation by developing and promoting guidelines to help Customs Administrations work together to promote rapid clearance of low-risk cross-border shipments, and has also been developing standard sets of Customs data elements and guidelines for member countries to enable advanced electronic transmission of such data. Specifically, WCO members have developed the Framework of Standards to Secure and Facilitate Global Trade (SAFE Framework), which outlines a strategy that aims to secure the movement of global trade in a way that does not impede but rather facilitates the movement of that trade. By June 2006, a total of 135 countries have expressed their intention to implement the WCO SAFE Framework, including 25 member states in the European Union (EU).
- 5.4 In 2003, the EU launched a reform package for Customs controls, which is designed, among other things, to ensure higher standards of security while trying to ease import and export flows. As part of this initiative, the European Commission presented a series of measures to accelerate implementation of the WCO SAFE Framework security related provisions, including the Authorized Economic Operator (AEO) program.
- 5.5 **Proposed Legislation**

"Sail Only if Scanned 5 Act of 2006" – A Bill "to prohibit the entry of ocean shipping containers into the United States unless such containers have been scanned and sealed before loading on the vessel for shipment to the United States, either directly or via a foreign port" was introduced in the House of

Representatives on 08.03.2006 which was referred to the Committee on Homeland Security.

- 5.6 New security measures following 9/11 are estimated to cost the U.S. economy alone more than US\$ 150 billion, of which US\$ 65 billion is for changes in supply chains. It is observed that companies have been investing more in security in recent years, either to comply with trade initiatives mandated by the Government, or in an effort to reduce risk through voluntary initiatives. While these initiatives allow companies to maintain their level of operations and / or to reduce risks, they require significant levels of investments.
- 5.6.1 In this context, it is also worthwhile to note that in the aspect of financing of transport security there is little transparency as regards what money was raised for security, the levels of charges or taxes levied, and how the money was actually spent. It is desirable to achieve greater transparency as regards security levies and charges, as maritime security costs are significant and they are currently largely borne by the users. It is also understood that different approaches exist in the funding of the implementation of security measures, reflecting the different philosophies. The heterogeneity of approach and the lack of transparency in generating revenue that is wholly for the implementation of security measures mean that there is also a possibility of some distortion of competition. This is particularly relevant in cases where certain ports require additional, more stringent measures than those imposed by relevant legislation. However, distortions may also arise on a macro level due to different approaches towards the funding of security measures.

## 6. **Development of Integrated Transport Networks**

- 6.1 Over the last two or three decades, there have been a number of forces, which have precipitated the need for developing sustainable and integrated transport networks. Primarily, technological change coupled with deregulation and liberalization in the transport and communications sectors have made a significant contribution towards a rapid growth in movement of goods. This growth has in turn placed considerable pressures on uni-modal transport infrastructure systems and their associated services as well as the modal interfaces between them. Secondly, there has been a shift away from meeting output and production targets and towards meeting the needs of customers. Focusing on the needs of customers, whether they are intermediate producers or final consumers, requires the provision of efficient and reliable transport services that provide value for money. The search for increased efficiency, reliability and cost effectiveness demands not only improvements in existing systems but also a search for alternative means of providing acceptable, cost effective final outcomes to customers.
- 6.2 Further, there has been an increased recognition of, and commitment to, social inclusion with a specific focus on addressing the needs of the poor and marginalized communities. Physical access to economic and social

opportunities is one of the contributions that a truly integrated transport network can make towards this commitment. Integrated transport also offers the opportunity to considerably reduce the negative impacts of transport through, for example, the utilization of more energy efficient and less polluting forms of transport such as coastal shipping, inland waterway etc., compared to road / rail transport.

## **7. Suggestions / Recommendations for Promotion of Multimodal Transportation**

- 7.1 Multimodal Transport is a vital sector with considerable growth potential for the country. The various constraints and impediments that have hindered the growth of this industry need to be adequately addressed and resolved in a time bound manner. Initiatives already being taken by the Government for facilitating the development of Multimodalism in India such as the “National Maritime Development Programme”, “Freight Corridor” (between Delhi-Mumbai, Delhi-Kolkata and the envisaged Chennai-Kolkata golden quadrilateral “freight corridor”), “Rail Privatisation By Opening Up Container Operations”, “Road Connectivity Projects Of Ports” (being handled under the National Highways Development Programme (NHDP)), “Rail Connectivity Projects” (being undertaken under the National Rail Vikas Yojana (NRVY)) etc., are beginning to make a positive impact. However, further efforts are needed to ensure seamless flow of goods across the supply chain at each change of mode and jurisdiction. In this regard, it would be appreciated that, the relevant Rules, Procedures & Documentation need to be simplified and streamlined, besides putting in place a harmonized Liability regime in line with the globally accepted regulations and practices. Suitable Liability Insurance Cover facility should also be made available for the MTOs. Moreover, greater participation of the private sector needs to be encouraged to generate the required levels of investments for modernisation of infrastructure, induction of latest IT & Communication systems across the entire Supply Chain. The Government is fully seized of these issues and considerable efforts are being made to address the same.
- 7.2 In this context, it is also worthwhile to note that it is vital that the MTOs are able to piece together a truly seamless service in a comprehensive manner where the client / shipper gets the benefits of a “one-stop-shop” operation providing end-to-end supply chain logistics solutions and does not feel insecure about the reliability of the service, where a failure in any one of the components could cause a major problem. Service providers in the multimodal transport industry, thus, have a very important role in terms of instilling confidence in the users of their service by developing expertise and efficiency in all areas of multimodal transportation.
- 7.3 Against the above backdrop, the specific suggestions / recommendations for addressing the issues / constraints and resolving them in a time bound manner are highlighted below.

### **7.3.1 Amendment to MMTG ACT**

The Multimodal Transportation of Goods Act, 1993 to be suitably amended and made more trade friendly. Likewise, the proposed Shipping and Trade Practices Act should be made trade friendly. It is better to have few Acts which can be easily administered than to have many Acts which are difficult to administer. In this regard, it is felt that multiplicity of legislations for governing the Multimodal Transport sector could, in all probability, overlap on existing legislations such as the MMTG Act 1993, Major Port Trusts Act, Bills Of Lading Act, Carriage Of Goods By Sea / Air / Road Act, Railway Act, Customs Act, Airport Authority Of India Act, Competition Act, Contracts Act & Functioning Of Tamp / Conferences etc. as also on International Conventions having implications on Carriers liability regimes viz. Hague / Hague-Visby, Hamburg, COTIF, CMR etc. Moreover, there would be considerable administrative difficulties in registering 1,00,000 or more EXIM trade intermediaries.

### **7.3.2 Establishing Uniform Liability Regime for Multimodal Freight Operations**

Presently, different liability regimes are applicable in the Indian context with different entities using different documentation viz. the Shipping Lines using Combined Transport Document (CTD or Combidoc), Freight Forwarders using the FIATA principles and the MTOs using the MTD. It may be mentioned that, multimodal transportation documentation as per FIATA and CTD are accepted internationally. In order to harmonise the liability regime in India with internationally prevailing norms and practices, the following suggestions may be considered:

- (i) MMTG Act, 1993 to be amended such that there is no reference to any particular Document (i.e. MTD or CTD of FIATA) in the Act itself; but, only the minimum essential / common elements and aspects that feature in the above mentioned documents may be reflected in the Act so as to avoid any possible conflict of liabilities arising from references to different Documents in the Act. In this regard, it is understood that with the exception of a couple of countries, there is no separate legislation for multimodal transportation of goods in the rest of the countries; and even in the cases where there is such legislation, the same is at a basic level containing only the bare essential elements required for enabling multimodal transportation.
- (ii) In view of the above, it may be mentioned that, with the amendment to the MMTG Act 1993 on the above mentioned lines, the determination of precise liabilities would be made on the basis of (a) the common elements / aspects of documentation as reflected in the amended Act and other relevant provisions in the said Act and (b) the terms & conditions / provisions contained in the specific Document used by the Multimodal Transport Operator in a given Contract.

### **7.3.3 Development of Port Infrastructural Facilities & Services for Multimodal Transport**

### **7.3.3.1 Capacity Expansion Plans**

It is observed that actual capacity expansion plans in ports are carried out much later than the time when the requirement for such additional capacity arises, thereby creating a disruption for trade. For example, the expansion of JNPT Port, became operational only this year, whereas, the volume of trade had already exceeded the capacity of the Port. Therefore, there should be a policy guideline for capacity augmentation and the increased capacity should be made available much in advance, prior to the volumes reaching optimum capacity. Further, Ports on the East Coast of India should improve their infrastructure as also initiate / implement various trade friendly measures relating to Customs and port procedures, equipments, connectivity to hinterland, EDI, incentives etc. for promoting faster development of Multimodalism in the country while easing the congestion at Nhava Sheva. Alternatively, dedicated container ports on the lines of JNPT or Mundra should be commissioned where the entire thrust will be on container related activities with affordable and reasonable Port & Marine dues. In this regard, the following factors / issues may kindly be kept in view while formulating the capacity expansion plans of the various ports.

- (i) Master Plans for capacity augmentation of the various ports should be prepared taking into consideration the existing / potential cargo-mix, cargo generation, consolidation and consumption points, existing traffic vis-à-vis the available facilities and the extent of expansion / upgradation relevant for catering to the projected rise in traffic.
- (ii) Development of Logistics requirements for the ports to take into account the back-end integration available vis-à-vis the requirements for meeting the projected incremental traffic with specific emphasis on back-up space, warehousing, road / rail linkages and other related service requirements such as the availability of CFSs / ICDs for servicing the concerned port.
- (iii) Maximum automation to be put in place in due course for the management of cargo-handling process, cargo evacuation systems, gate operations etc. encompassing computerisation of all processes and procedures, full scale introduction of EDI facilities interconnecting all the players connected with cargo transportation, customs examination, storage, banking etc. – both at the ports as well as the servicing agencies such as the Shipping Lines, ICDs /CFSs, Transport Intermediaries in the Road, Rail, Coastal Shipping sector, etc.
- (iv) Contingency Plans with detailed Action Plans to be evolved and put in place as part of the overall Capacity Expansion Planning process itself, so as to meet any possible fluctuations in traffic.
- (v) An Integrated Approach to be evolved for the development of capacities at the Major and Non-Major Ports to facilitate complementarity besides ensuring the efficient and effective management of scarce resources both in terms of infrastructure as well as finance.
- (vi) Facilitate the increased inflow of private investments – both domestic and foreign into terminal operations and management so as to ensure a competitive environment that would preclude prospects of possible emergence of monopolies, facilitate the introduction of modern cargo handling / evacuation technologies besides offering services of international quality at competitive costs.

- (vii) Identify suitable ports / activities for fostering port specialisation and inter-port / intra-port complementarity to achieve overall optimization of port facilities as well as their efficiency.
- (viii) Provide institutional safeguards to ensure adherence, by the Logistics Service providers catering to the terminals and other connected services, to the specified standards of Service and Performance levels as required by the users. The safeguards should also provide for ensuring accountability of such service providers to the appropriate authorities concerned.

#### 7.3.3.2 **Impetus to Coastal Shipping / integration of Transfer Nodes**

Sea-transport, with its inherent advantages of being a cheaper, energy efficient and environment friendly mode, should be given high priority and impetus for transporting containers on the coast. Presently, if an export container is feedered to Colombo / Singapore from an Indian port for connecting to a main line vessel, then such container is allowed 'export' status, but the same status is not accorded to the same container if it connects a main line vessel at an Indian port. Such anomalies must be suitably resolved. Further, Transshipment (t/p) Rules must be relaxed keeping due margin for safety and security for container traffic to flourish. In conjunction with the above, other modes of transport i.e. railways, roads, inland waterways should also play an important role and hence, adequate emphasis should be laid on the development of these modes and in the interfacing / integration of all modes of transport. Accordingly, all linkages / infrastructures related to ports such as road connectivity, rail connectivity, container freight stations etc., need to be developed in a coordinated manner. While capacity expansion is seen to be progressing, infrastructure development seems to be following a fragmented approach. Strengthening of infrastructure in the Inland Water Transport (IWT) sector also needs to be accorded due priority and importance especially for tapping the export potential of the country's Eastern & North-Eastern regions.

#### 7.3.3.3 **Policy on Rail connectivity**

The position in regard to rail transport is not quite satisfactory with bottlenecks disrupting the smooth movement of cargo / containers in the inland transportation network. As such, the quality / capacity of rail transport service for catering to container traffic needs improvement. Besides, the progress in the modernization and technological upgradation of railways has been rather slow. There is an urgent need for a dedicated freight corridor between the major destinations / ports. More regular scheduled rail services carrying containerized cargo connecting ICDs and gateway ports are also necessary. Further, rail connectivity to non-major ports should also be explored. Concurrently with planning port development, rail connectivity should also be planned, which currently seem to be somewhat disconnected. In view of the above, a policy on rail transport is the need of the hour. It is suggested that the existing inequalities as also the fiscal and operational constraints faced by the already Licensed Operators should be ironed out so as to ensure a level-laying field for achieving prompt and speedy implementation of the privatisation of the Running of Container Block Trains. It is also suggested

that the rail connectivity projects being undertaken under the National Rail Vikas Yojana (NRVY) could be fast tracked for early completion.

#### 7.3.3.4 **Road Infrastructure / Connectivity**

The national highways are already overburdened to cope with the increasing volume of container traffic. In order to reduce the load on the railways, greater movement by road transport needs to be encouraged, especially on short hauls. This can only be achieved if the condition of the roads is improved and rules regarding inland movement of containers under Customs bond are relaxed. In view of the Supreme Court judgement restricting overloading of trucks, there is a need to invest in modern and better quality of trucks & trailers which are designed to carry more loads. Further, there is also an urgent need to promote hinterland connectivity to ensure least-distance access between the cargo generation, consolidation and consumption centres and the gateway ports, which would provide the trade the choice of ports in the region as well as choice of terminals inside the concerned port. In this regard, the ports should establish synergies with the agencies providing road and / or rail connectivity to ensure the smooth and effective back-end integration in ports infrastructure. This would additionally act as a catalyst for developing satellite cargo handling facilities (dry ports) in the hinterlands contiguous to the ports, or in the SEZs etc. adjoining such ports. While developing the roads connecting to ports, it should be made clear to the concerned authorities that the roads need to be of good quality and long lasting; also poor road construction should be severely penalised so as to act as a strong deterrent. In view of the massive financial resources required for upgradation / expansion of road transport network, the importance of corporate participation needs to be recognized and encouraged. In addition to the obvious benefit of expansion of the road transport infrastructure, the other benefits of private sector participation would include induction of superior technology, improvement in the quality of infrastructure and services, as also lower cost of services.

##### **Government Measures / Initiatives Suggested:**

- a) In developed economies, one prime mover can tow 2 Trailers instead of only one, as is currently allowed in India, with each Trailer capable of carrying 1x40' container or 2x20' containers. In the current context of high fuel cost, allowing Multi axels and trailers to be used on the roads would result in considerable savings to the country, besides yielding higher efficiency and environmental benefits. Thus, the cost rationalization for the consumer would be tremendous, and the Indian road sector may, probably, be able to compete with the railways thereby also helping decongest the rail transport system.
- b) Government could develop incentives to expand the multi-axle truck fleet as these trucks cause less pavement damage and are of more modern design resulting in lower per unit costs, higher fuel efficiency and reduced emissions of pollutants. The incentives for introduction of multi-axle trucks could include reduced tax rates and highway toll rates in recognition of the lower costs these trucks impose on public infrastructure.
- c) For reducing delays at border crossings, particularly for high value or time-sensitive goods, the Government could consider the introduction and use of a system such as the European T.I.R., to permit sealed trucks, which

elect to use the system to operate without en-route inspections on the basis of a certificate issued at origin by a duly authorized and bonded issuing entity.

- d) Road Safety is a major concern, with fatality rates about ten times those in the developed economies with trucks being responsible for a disproportionate share of these accidents with the annual economic loss estimated to exceed Rs. 550 billion. Improving the safety record, driver training, licensing, working conditions of drivers, and enforcement of safety regulations must become a priority. Since a significant portion of the driver population is illiterate, suitable audio-visual driver training materials could be developed. Also, to prevent excessive hours of driving, trucks operating outside their home state could be required to carry two licensed drivers at all times.
- e) To improve axle load controls, expand the enforcement authority beyond the officials of the Motor Vehicles Department; introduce measures to distinguish between minor (up to 5% of gross vehicle weight) and more excessive overloading, for which there could be levying of extreme penalties; and make abetment an offence to enable initiation of action against the broker or transporter arranging the load.
- f) Investment in permanent weigh stations at strategic locations on the National Highway network for enabling random checks of trucks passing the weigh station, and trucks which are found to be over-loaded could be directed to unload the excess load at their own cost and risk.
- g) Taking into consideration that road transportation contributes around 4% of country's GDP, there is an urgent need to focus attention to address the challenges, particularly by raising the outlay of road infrastructure development. Further, the aspect of road transport infrastructure development needs to be treated as a high priority area for continued resource allocation as it is critical to moving India Inc's trade & commerce cheaply, efficiently and reliably. It is estimated that by 2010, the country's annual investment for road infrastructure would require to be increased three to four times from the present level. It is also suggested that road connectivity project of ports being handled under the National Highways Development Programme (NHDP) could be fast tracked for early completion.
- h) It is suggested that a "Coordination Council", preferably under the Chairmanship of the Port concerned, be established in each of the Container Ports, comprising Representatives of all the Service Agencies in the Roads and other Infrastructure Sectors so as to ensure centralised, concerted efforts at resolving the issues arising in the day to day operations as well as for resolving issues, if any, related to approach roads servicing the ports. As regards addressing issues pertaining to approach roads, since it involves more than one Agency overseeing the construction, maintenance, improvements / modifications aspects, it is suggested that the "Coordination Council" could co-opt Members from the State / or Local Authorities concerned such as the Area Development Agency, SEZ, CPWD, State PWD, etc.
- i) It is also essential that the Inter-State Transportation Cell, which has been created under the Chairmanship of the Union Minister for Commerce and Industry, also looks into such issues either on their own or on the motions put forward by the proposed "Coordination Council",

and issue suitable Policy Guidelines and Administrative Orders, wherever, appropriate.

- ii) The Monitoring Group under the Inter-Ministerial Group (IMG), in charge of monitoring the working of the ICDs / CFSs should regularly meet to review the workings of the ICDs / CFSs licensed by the IMG. The review process should, inter alia, encompass not only their performance as against the licensed conditions, but also their capabilities to handle the projected incremental traffic with specific reference to the requirements of upgradation of capacities, equipments, procedures and practices as well as the issues related to port connectivity.

#### **7.3.4 Roll on – Roll off (Ro-Ro) Service**

Ro-Ro service basically consists of carrying several Trucks on board a Ro-Ro Ship from the loading port, where these laden trucks roll into the ship to the unloading port, where the trucks roll out of the ship and proceed by road to the ultimate destination to deliver the containers / cargo. Such a service offers several benefits by way of savings in fuel consumed by trucks, economies of scale combined with the advantage of door-to-door delivery while considerably mitigating the harmful effects of road transportation over long distances such as pollution, accidents, congestion etc. Ro-Ro services can be provided either by Ro-Ro ships or also by a Train service, as being done by the Konkan Railway service on the Mumbai-Goa-Mangalore-Kochi route. In view of the significant merits of Ro-Ro services, it is suggested that considerable impetus needs to be given for developing the requisite port side infrastructure as well as acquisition of Ro-Ro ships, and compatible trucks etc. for induction of Ro-Ro services in the country on a comprehensive scale at suitable locations.

#### **7.3.5 Captive Power Plant**

All major ports should explore the possibility of building captive power plant inside or near the vicinity of the port as an alternate source/ backup for their own use.

With the power situation in the country at a delicate level it would be disastrous for the economy if there were a power crisis at the ports.

### **7.3.6 Port City Complexes**

Government could encourage the concept of “Port City Complexes” to provide world class facilities / Infrastructure in and around port area for trade & transport industry professionals to reside there, so as to facilitate and ensure that they provide seamless services to the entire trade. In this regard, the possibility of connecting JNPT by passenger rail network could be explored.

### **7.3.7 Need for a National Coordinating Agency**

Multimodal transport requires efficient transport systems supported by efficient infrastructural and institutional facilities so that goods move smoothly, safely and rapidly from door to door. Apart from these factors, the trade appears to be besieged with a number of problems relating to documentation, handling and more importantly lack of coordination among the agencies involved such as ports, Customs, railways, carriers' agents, etc. There are several inter-related and complementary elements - procedures and formalities - at different points in the multimodal transport chain which need to be co-ordinated preferably under the overall control of a single authority in order to ensure smooth and efficient operations. In order to be able to take into account all interests involved in the development of multimodal transport, it becomes essential to rationalise and coordinate transport policies through a closer relationship between the many different players, transport services providers and users, and the various regulatory authorities / agencies that formulate / set the rules. This implies not only changes of responsibilities, but also the establishment of new coordinating entities. In view of the above and to bridge these gaps, there is a need for an active high powered National Coordinating Agency (NCA) comprising Members drawn from the various concerned ministries / governmental agencies & trade / industry bodies such as Ministry of Commerce, Ministry of Shipping, Road Transport & Highways / Directorate General Of Shipping, Ministry of Civil Aviation, Ministry of Finance / Central Board of Excise & Customs, Ministry of Railways, Indian National Shipowners' Association, Association of Multimodal Transport Operators of India, Representatives of Major Ports, Representatives of various Users' fora i.e. Trade related Bodies / Associations of Users etc.

7.3.7.1 The Ministry of Shipping, Road Transport and Highways under its O.M. No. SR-15020/51/2003-MA dated 04.09.2003 has already constituted a National Coordinating Agency (NCA) pursuant to the Recommendations made by the Sub-Group on Multimodal Transport constituted under the 10<sup>th</sup> Five Year Plan. The NCA had held one Meeting in 2003-04 to discuss the Amendments to be made in the Multimodal Transportation of Goods (MTG) Act. It is suggested that this NCA should be revived and re-activated.

### **7.3.8 Simplification of Customs procedures and formalities**

Coupled with the increasing degree and scope of computerisation of Customs formalities & procedures, the Government could consider introducing more and more innovative systems for Customs clearance. Business enterprises could obtain better service and a simplified handling of their Customs procedures by getting their routines quality assured. The system could be based on a set of mutually approved preventative measures and a partnership between the National Customs Authorities and the business community. Through such an innovative approach, companies can become certified by the Customs Authorities by getting their routines quality assured, in order to obtain a simpler and more efficient handling of their Customs procedures. Customs and companies co-operate by ensuring that the information is correct from the beginning, which then in turn, offers a quicker and smoother border passage. The process could then be opened for all importers, exporters and forwarding agents, regardless of size or line of business. The Customs Authorities could consider developing the above mentioned system with the cooperation of various organisations from the business community, public authorities, large export houses etc. To facilitate the conception, development, and eventual assimilation of a truly responsive quality assurance system, it is suggested that a sequential process as outlined below could be used as the pre-conditions for gaining quality assurance.

7.3.8.1 In the initial stage, for companies that are not quality assured and have not obtained the requisite permits (e.g. Customs credit, or for having their goods released after summary declarations) their handling of Customs procedures should continue as before, in the traditional manner, with no changes at all. For non-quality assured companies, with one or more permits (e.g. credit, summary declaration etc.) their handling of Customs matters would also continue as before i.e. in the traditional manner, with no changes at all, and their relationship with the Customs Authorities would remain unchanged. For a company having at least one Customs routine quality assured, the Customs Authorities could then start a quality assurance process for the company's Customs routines, with interruption from the Customs Authorities only directed on the flow of goods that have not been quality assured. In other words, Customs Authorities will then not have to check the flow of goods that are quality assured, which means a smooth border passage. Finally, for companies that have had all their Customs routines quality assured, there will be no interruption in the flow of goods from the Customs. Similarly, for companies, which can trace goods on an article level in all their Customs routines, there should be no interruption in the flow of goods from the Customs.

7.3.8.2 The above course of action is suggested in view of the fact that the world of international trade is changing more and more rapidly, posing new challenges on all parties comprising / concerned with the supply chain. Globalisation and Information Technology are only but a few factors that have great impact on international trade as well as Customs Administrations. Customs Administrations may contribute to a high degree to the prospering of their respective economies inasmuch as to facilitate legal trade, allocate resources to high risk areas, and also opt for integrated electronic information, based on commercial systems and reuse that information for Customs purposes. To add to the full perspective is also the fact that world over,

Customs duties are decreasing at the same time as trade volumes are increasing, meaning that administrative and compliance costs will become higher and higher, if measures are not taken to decrease those costs for both Customs and trade. An efficient means to face that challenge is to apply efficient risk management in order to separate high risk trade flows from low risk or mainstream flows. In order to be able to detect and establish criterion for low risk flows, one solution is to make it possible for compliant operators to receive a Customs-accreditation and hence, simplifications and more efficient logistics, all based on partnership between Customs and trade, and covering all aspects of the supply chain.

7.3.8.3 It is also suggested that export goods shipped under free Shipping Bill should not be subject to Customs examination. In any case, in the next 2-3 years Customs tariff and Special Incentive to exporters is expected to be rationalized, thereby, nullifying the requirement of Customs examination for exports. Further, with the reduction in benefits to Exports in the form of drawback, advance license etc, the examination of export cargoes is slowly but surely losing its relevance. It is also suggested that the Customs may resort to random / surprise checks on shipments where they have suspicions, which may be restricted to a small percentage. Doing away with Customs examinations for export cargoes will contribute a lot to reduction in transaction costs, which is very high in India as compared to its neighbouring country, China.

#### 7.3.9 **Longer tenure for officials**

In order to achieve desired results in terms of developing required infrastructure, it is suggested that the officials who are handling government owned Port Trust and other shipping related establishments should be appointed for longer tenure. The government should encourage and create an environment of trust with public servants; this will attract more honest and professional persons. Give additional power to Chairmen and Boards of the Ports Trusts to invest and develop additional facilities and improve equipments.

#### 7.3.10 **Management of Supply Chain Security Costs**

Coupled with the eventual opening up of India's retail industry, which is estimated to be worth over US \$ 200 billion, and is expected to grow at a CARG of 30% over the next 5 years, and the setting up of Special Economic Zones (105 proposals have been granted approval and 388 new applications have been received as on 26.07.2006) as a result of the enactment of the SEZ Act, 2005 (in force from 10.02.2006), the Country could witness a

massive surge in non-traditional exports, heightened activity in domestic manufacturing sector. The above developments would place considerable stress on domestic supply chains in terms of capacity building, acquisition, assimilation and integration of new security technologies, solutions etc., adoption of security initiatives such as collaboration among supply chain parties, building organizational awareness and proactively investing in technology, that have shown promise to create collateral benefits and improved business performance. However, a balanced approach would have to be arrived at for managing the impact of such huge costs on account of securing the supply chain, while at the same time maintaining the competitiveness of Indian exports.

7.3.10.1 The issue of financing of transport security also needs to be addressed, so as not to disadvantage the Country's maritime transport industry in comparison with its competitors from outside the country, with its consequential negative effect on economic growth. It should therefore be ensured that similar principles are being applied to the domestic transport industry as is the case with competitors in third countries, preferably in the form of agreements in international fora such as IMO. This could take the form of rules on the hypothecation or ring-fencing of money collected for transport security so as to ensure that it is spent solely and wholly on security. A second option would be that security taxes and charges are explicitly explained to users where charges and levies are broken down in order to show users what they are charged for. This would be particularly relevant for EXIM trade where security costs are bundled into a much higher figure covering overall levies and charges. Increased transparency relating to security taxes and charges would give users of transport services better information and provide a clearer insight into possible effects on competition. The current lack of transparency increases the difficulty to identify potential distortions. It would also afford the desired comfort level to users as to financing being limited to a compensation of the costs incurred and a reasonable profit, and does not give rise to any overcompensation.

### **7.3.11 Issues for Efficient & Cost Effective Movement of Goods**

7.3.11.1 It is suggested that easier norms should be devised for the movement of bonded goods from domestic locations allowing MTOs to set up bonded warehouse. Further, coastal movement of bonded goods should also be simplified.

7.3.11.2 Import of Containers into the country must be made duty free and, as a natural corollary then, the existing system of execution of Customs bond for containers by shipping lines for re-exporting containers within 6 months, could be waived automatically.

7.3.11.3 It is suggested that the Government may permit the free movement of cargoes between various ICDs, CFSs and Ports without the requirement of a separate Bond and Bank Guarantee. Permitting the free movement of containers between different ICDs under Custodian Bond of either the

Shipping Lines or the Transporters or Consolidators will give a boost to marginal exporters, who can avail of export facilities at an affordable price. Further, Government could establish transparent and time bound systems and procedures for the swift disposal of un-cleared goods. (e.g. setting up of General Order Warehouses). It is also suggested that the Government may allow loading in multiple ICDs i.e. LCL cargo from one CFS may be allowed to be moved to another CFS for stuffing as this would help the optimum utilization of space in the truck. The Government could also plan for the development of a single EDI platform for all the CFSs, port, Customs, shipping lines, forwarders and shippers.

### **7.3.12 Import Laden Containers**

7.3.12.1 At any given time there are a sizeable number of import laden containers, which are delayed in delivery or not delivered due to various reasons like cargo detained by Customs / DRI, confiscated / seized by Customs, problems with import documentation, or cargo abandoned by consignee. As per the existing procedure laid down in the Major Port Trust Act, if a consignee does not claim the cargo within a period of 60 days, the cargo may be deemed as abandoned by the consignee. The auction proceedings may then be initiated. The process of auctioning gets delayed due to the time taken by the Customs authorities in valuation and setting up the reserve price for the cargo to be auctioned. The above process takes considerable time and for the carrier it is not only a revenue loss but also an item of expenditure as the carrier ends up paying rentals to the leasing companies for such units. The clearance of such containers gets delayed for days together ranging from some 100 days to as high as around 4000 days (i.e. 10 years). With the cost of rental per TEU being about US\$1.2 per day and additional outgo by way of ground rent, the adverse implications of such delays for both carriers and eventually the trade are very grave.

7.3.12.2 In view of the above, it is suggested that appropriate procedures need to be put in place to ensure following:

- (a) All containers not taken delivery of beyond 30 days must be treated as abandoned.
- (b) Auction proceedings to be initiated thereafter.
- (c) Reserve price fixing mechanism should be completed within maximum of 15 days of the initiation of the auction proceedings.
- (d) In case of further delays in auction proceedings, the cargo should be destuffed for storage in the Customs bonded warehouses and the containers to be released to the carriers.

7.3.13 Develop ICDs as complete logistic hub. It may be mentioned in this regard that the Indian Railways is planning to create / develop Logistics Parks on its Dedicated Freight Corridor network through Public Private Partnerships.

7.3.14 Give incentives to investments in infrastructure for multimodalism.

7.3.15 Permit movement of Groupage containers from port to port and ICD to ICD similar to ICD-gateway ports.

- 7.3.16 In order to achieve optimal utilisation of the Rail Freight Corridor (RFC) which is presently being developed, and to minimise the movement by Road of the cargoes / containers between the originating and destination ICDs / CFSs, once the RFC is developed and fully operational, the shippers / trade should be encouraged to limit such Road movements of cargoes / containers upto a maximum radius of 200 / 300 kms. This will help facilitate quicker, efficient and cost-effective movements of cargo.
- 7.3.17 Bring appropriate laws towards overloading as per Supreme Court order, so that each state or district or the Port follows similar rules, penalties etc. to avoid irregular and uncertain expenses to the transporters who are in a very unpredictable situation and cost.
- 7.3.18 Rationalize Service tax issues and explore uniformity in taxation which helps avoid confusion, misuse, undirected penalties that bring about bad name to the industry and unnecessary harassments.
- 7.3.19 There is a need to open more ICDs in the country especially in areas which are export zones, and more importantly, there should be a uniformity in the application of Customs laws across these ICDs. Generally, the smaller ICDs are under the control of Central Excise, whose interpretation of various laws may be at variance with that of Customs. However, there should be stringent norms and a system of annual approval mechanism / certifications / safety & quality audits of Ports & ICD in the country, so that efficiency and safety of goods and people working is assured. Also, this builds a level playing field for all operators.
- 7.3.20 The streamlining of documentation requirements in Imports and Exports trade is necessary; as also avoiding / minimising all kinds of bottlenecks such as Octroi, multiple checks, hold ups at port gates etc. There are different procedures for bulk cargoes which typically move rather smoothly between ports and factory, whereas containerized cargoes move across many hurdles, surely somewhat due to the different nature of cargo, considering security aspects etc. In this regard, it is suggested that instituting suitable trade facilitative measures may be considered for smooth and swift movement of cargoes / containers, taking due cognisance of the good track record of reputed Companies and accordingly extending appropriate priority / expeditious clearance of their containers, but at the same time taking exemplary penal action against serious offenders .
- 7.3.21 There are many instances where heads of prudent business houses have been issued with warrants by local Courts in small towns in the interior of India on certain commercial matters such as damages to cargo, delay in delivery of cargo etc. This is a serious issue since, in the absence of clearly defined liability and related aspects; it carries great amount of risk and loss of reputation and, needs to be suitably addressed.
- 7.3.22 Clear definition of the liability of ICD / CFS operators, road transport providers and Container Corporation.

7.3.23 **Human Resource Development**

Developing HRD strategies for extensive training and development of personnel in all aspects of multimodal transportation and related areas, inter alia, including shipping & ports / terminals management, freight forwarding, logistics & supply chain management etc. This will benefit the entire trade and also provide another a stream of education to the students for pursuing suitable careers in the field of multimodal transport, in turn leading to creation of more jobs in India and overseas.

## 8. **Conclusion & Way Forward**

- 8.1 Logistics plays a key role in ensuring sustainable mobility and also contributes to meeting other objectives, like a cleaner environment, security of energy supply, etc. The Country's transport policy has been characterised by liberalisation and harmonisation over the years. This has slowly shaped the transport system into what it is today. Economic progress, globalisation and the concept of widening production / consumption hinterlands create further challenges. The fast growth of freight transport – driven to a large extent by economic decisions – contributes to growth and employment but also causes congestion, accidents, noise, pollution, increased reliance on imported fossil fuels, and energy loss. Infrastructure resources are limited and any disruption in the supply chain has necessarily a negative impact on the economy. Without adequate measures, the situation will continue worsening and increasingly undermine the country's competitiveness and the environment that we all live in.
- 8.2 To overcome such problems, the country's transport system needs to be optimised by means of advanced logistics solutions, which can increase the efficiency of individual modes of transport and their combinations. As a result, fewer units of transport, such as vehicles, wagons and vessels should carry more freight, and the impact on the environment will decrease accordingly. Rail and inland waterways need to be modernised and Air freight should be more closely integrated in the system. The positive development of Coastal Shipping / Inland Waterways etc. should be accelerated. Deep-sea shipping and its hinterland connections need to be enhanced. Shifts to more environmentally friendly modes must be achieved where appropriate, especially for long distance movements, in urban areas and in congested corridors. At the same time, utilisation of each transport mode must be optimised, and all modes must become more environmentally friendly, safer and more energy efficient. Thus, finally, co-modality, (i.e. the efficient use of different modes on their own and in combinations), will result in an optimal and sustainable utilisation of resources.
- 8.3 In order to maintain and increase trade competitiveness and prosperity in line with the renewed economic vigour, there is a need to integrate logistics thinking in the National Transport Policy. The approach should be market-oriented, include social and environmental dimensions, and create a win-win situation for all actors / stakeholders. To achieve these objectives, the present Sub-Committee Report examines whether and where the Government could offer added value to enhancing the development of freight transport logistics in the country. This work could lead to establishing a framework strategy for

freight transport logistics. After consultations on the present Report, the Planning Commission could present an Action Plan for Freight Transport Logistics in the 11<sup>th</sup> Plan Document.

- 8.4 As transport is an integral element of the logistics supply chain, the Planning Commission's approach could focus on logistics in freight transport and cover all modes of transport. The approach should cover a vast variety of areas, such as pure uni-modal logistics and multimodal logistics, and should place emphasis on the need for optimum complementarity of modes in an efficient and seamless transport system that can provide the best possible services to transport users. Advanced quality solutions are needed for maintaining and improving the country's logistics position in the world market which, coupled with the appropriate measures and incentives in place, would help economic, social and environmental sustainability of the Nation and attenuate negative trends, such as relocation of business activities and employment moving away from India to other regional competitors such as China, Vietnam etc. Co-modality and high efficiency in the transport system are also indispensable for the country to manage the increasing flows of goods that are transported every day on our land transport infrastructures and waterways. This Report presents a set of ideas that might be further elaborated into a strategic framework, taking into account the views from other institutions, stakeholders and any other interested parties on the feasibility and added value of elaborating a comprehensive strategy for freight transport logistics and on including the above or other areas of action in it. The present Report and subsequent consultations could lead to the development of an Action Plan for Freight Transport Logistics in the 11<sup>th</sup> Plan Document and could set a landmark for advanced freight transport logistics development in the country, and may, if appropriate, be accompanied by specific proposals.

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**REPORT**  
**OF**  
**THE SUB-GROUP**  
**(LIGHTHOUSES & LIGHTSHIPS)**  
**SET UP BY**  
**THE WORKING GROUP ON SHIPPING**  
**&**  
**INLAND WATER TRANSPORT**  
**FOR**  
**THE ELEVENTH FIVE YEAR PLAN**

**(2007-2012)**

**PRESENTED BY**  
**DIRECTORATE GENERAL OF LIGHTHOUSES & LIGHTSHIPS**  
**(MINISTRY OF SHIPPING, ROAD TRANSPORT & HIGHWAYS, GOVT. OF INDIA)**  
**DEEP BHAWAN, A-13, SECTOR-24, NOIDA(UP)-201301**

**DIRECTORATE GENERAL OF LIGHTHOUSES and LIGHTSHIPS**  
**FORMULATION OF 11<sup>TH</sup> FIVE-YEAR PLAN PROPOSALS (2007-2012)**  
**ELEVENTH FIVE YEAR PLAN PROPOSALS (2007-2012)**

**PREFACE**

- 1.1 The Ministry of Shipping vide O.Mo.No.SY-11018/3/2006-SC dated 22<sup>nd</sup> June, 2006 constituted a Sub Group (Lighthouses & Lightships) of the Working Group on Shipping and IWT under the chairmanship of the Director General of Lighthouses & Lightships for reviewing the performance of the 10<sup>th</sup> Five Year Plan and formulation of proposal for the 11<sup>th</sup> Five Year Plan 2007-12.
- 1.2 The Composition of the Committee is as below:
- |        |   |                 |
|--------|---|-----------------|
| (i)    | Director General of Lighthouses & Lightships                            | Chairman        |
| (ii)   | Rep. of INSA  | Member          |
| (iii)  | Rep. of DG Shipping   | Member          |
| (iv)   | Rep. of IWAI  | Member          |
| (v)    | Representative of Kandla Port Trust                                     | Member          |
| (vi)   | Chief Hydrographer to the Govt. of India or his Rep.                    | Member          |
| (vii)  | Director (Mech.), Dept. of Shipping                                     | Member          |
| (viii) | Dy. Advisor, (Transport), Planning Commission                           | Member          |
| (ix)   | Dy. Secretary (MM), Dept. of Shipping                                   | Member          |
| (x)    | Director (Electronics), Directorate General of Lighthouses & Lightships | Member/Convener |

- 1.3 Terms of the reference of the Committee is -  
“To formulate development programme during the 11<sup>th</sup> Five Year Plan for lighthouses & lightships
- 1.4 The Committee held two meetings on 21<sup>st</sup> July, 2006 and 21<sup>st</sup> August, 2006 to finalise the proposal.
- 1.5 The recommendations of the Sub Group are placed as report of the Sub Group.

**DIRECTORATE GENERAL OF LIGHTHOUSES and LIGHTSHIPS**  
**FORMULATION OF 11<sup>TH</sup> FIVE-YEAR PLAN PROPOSALS (2007-2012)**

**DIRECTORATE OF LIGHTHOUSES and LIGHTSHIPS**  
**ELEVENTH FIVE YEAR PLAN PROPOSALS (2007-2012)**

**1. Introduction:**

- 1.1 For centuries shipping has been a major means of transport to support world commerce. There has always been a need for ships to navigate accurately, safely and expeditiously and to assist in this, many authorities world over have provided Aids to Navigation in and around their coastal waters. The Directorate of Lighthouses and Lightships is one such national agency, which in accordance with the proviso made in Lighthouse Act, 1927, caters to the need of Aids to Marine Navigation in and around the coastal waters of India stretching over 7500 km.
- 1.2 The term “Lighthouse” represents all Aids to Marine Navigation including Light Vessels, Sound Signals, Buoys, Beacons or any mark, Sign or apparatus, Radio aids like Radar Transponder Beacon (Racon), Differential Global Positioning System (DGPS), Loran ‘C’, Vessel Traffic Service (VTS), Shore Based Automatic Identification System (AIS) etc. used for the guidance and safe passage of ship. There are two categories of Aids to Marine Navigation namely “General” and “Local” as defined in the Lighthouse Act, 1927. The ‘General’ Lighthouses are those, which the Central Government may by notification in the Official Gazette, declare to be General Lighthouse and it generally caters to the needs of navigation outside ports limit. The superintendence and management of “General” Aids to Navigation is vested in the Directorate General of Lighthouses and Lightships. “Local” lighthouses are those, which are established at the entrance of Ports/Harbours by local

authorities like State Govt/Port Trusts to enable smooth passage to the vessels entering/leaving ports. The management of Local Lighthouses is the responsibility of the State Maritime Board, Port Trusts, etc.

## **2. Organizational Structure:**

- 2.1 The Directorate is headed by the Director General for the purpose of administration and management of Lighthouses. Four Deputy Director Generals and ten Directors in the Engineering discipline of Civil, Electronics and Mechanical assist him. The coast line is divided into 7 lighthouse districts with headquarters at Jamnagar, Mumbai, Cochin, Chennai, Vishakhapatnam, Kolkata and Port Blair. Each district is headed by a Director (Regional), who has under him officers belonging to various engineering disciplines.

## **3. Central Advisory Committee for Lighthouses (CACL)**

- 3.1 A statutory body of Advisory Nature has been provided under the Lighthouse Act called the Central Advisory Committee for Lighthouses (CACL). Representatives of Shipping, Sailing Vessels Association, Chambers of Commerce, etc are nominated to this committee. It has 19 members with Secretary, Ministry of Shipping as its ex-officio Chairman and the Director General of Lighthouses and Lightships as its member secretary. The committee advises the Government on matters relating to the establishment, maintenance, removal and various activities pertaining to lighthouses and meets at least once in a year. The Committee is constituted after every two years.

## **4. International Best Practices:**

The technology adopted by the Directorate in the field of aids to navigation is at par with the international standards. In this endeavour, the Directorate continuously interacts with the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA). IALA, having its headquarters at Paris (France), is a non-governmental organization bringing together the services of organizations responsible for provision and maintenance Aids to Marine navigation and allied activities, at sea and on inland waterways. The mission of IALA is to foster the safe, economic and efficient movement of vessels, through improvement and harmonization of aids to navigation world-wide and other appropriate means, for benefit of the maritime community and the protection of environment.

The IALA promotes co-operation and assistance between various member countries by collection and dissemination of information so as to take up development of multipurpose navigational systems for enhancing maritime safety. The Association coordinates the IALA's work with a long and growing list of other international bodies like – International Maritime Organization (IMO), Permanent International Association of Navigational Congresses (PIANC), International Hydrographic Organization (IHO), International Maritime Pilots' Association (IMPA), International Association of Ports and Harbours (IAPH), International Harbour Master's Association (IHMA), International Telecommunication Union (ITU), International Electro-Technical Commission (IEC), Committee International Radio-Maritime (CIRM) etc. IALA is developing an effective compatibility with IMO so that the recommendations and guidelines of IALA become mandatory on the part of national authorities responsible for management of Aids to Marine Navigation.

## **5. Internal Resources:**

- 5.1 The Directorate functions as a self-financing organization. Its income is being derived from light dues levied on ships entering and leaving Indian ports.
- 5.2 The light dues are levied on the basis of Net Registered Tonnage (NRT) of the vessels. Presently the Directorate is charging light dues on foreign going vessels only at the rate of Rs.8.00 per tonne.
- 5.3 After meeting the revenue expenditure of the Directorate out of the total receipts, the balance is transferred to General Reserve Fund. An amount of Rs 508.00 crore is available in the General Reserve Fund as on 31.3.2006. Capital Expenditure on the plan schemes of the Directorate is met out of its own resources to the extent the amount is available in the GRF and the uncovered balance is met out of general revenues of the Govt. as a loan to be repaid subsequently.
- 5.4 The total internal resources from Light dues are expected to be of the order of Rs. 500 crore during the Eleventh Plan Period @ Rs.100 crore per year. The Directorate is able to meet its expenditure (both revenue and capital) from its own resources.
- 5.5 Plan-wise revenue earned by the Directorate since the 5<sup>th</sup> Five Year Plan is as under:

<b>Plan Period</b>	<b>Revenue (Rs. In crore)</b>
Fifth Plan	14.95
Sixth Plan	35.00
Seventh Plan	92.02
Eighth Plan	266.00
Ninth Plan	419.77
Tenth Plan	506.39 (anticipated)

## **6. Aids to Marine Navigation:**

- 6.1 The Directorate of Lighthouses and Lightships is at present maintaining a number of Aids to Marine Navigation, details of which are as given below:
- i) Lighthouses : 169 Nos.
  - ii) Lightships : 01 Nos.
  - iii) Differential Global Positioning System : 22 Nos.
  - iv) Racons : 48 Nos.
  - v) Deep Sea Lighted Buoys : 22 Nos.
- 6.2 With the advent of electronic aids to navigation, the lighthouse technology too has evolved. The Second World War era saw the advent of Radar, Loran and Decca. The sixties were dedicated to birth of satellite navigation, which finally matured with the launching of global positioning system (GPS). The block-1 satellites of GPS were launched in early eighties and the full constellation of 24 satellites came into existence in early nineties. The differential global positioning system (DGPS), enhancing the accuracy of GPS, was inducted in the lighthouse service. The Radar technology further matured and deployment of Radar Transponders from early seventies became the requirement for enhancing the safety of the navigation. The DGLL too adopted this technology in the form of Racon. Even the concept used in Racon has changed from slow sweep to frequency agility necessitating the Directorate to go for such system from 1995 onwards. Vessel Traffic Services and

Automatic Identification System are the other variants of the electronic navigation which the Directorate is adopting. Also in the field of visual aids, the availability of higher efficacy and lower wattage illuminant has made the use of solar energy feasible in the lighthouse application and is being practiced by the Directorate.

- 6.3** The approved Tenth Plan Outlay for the Directorate of Lighthouses and Lightships is Rs.185.00 Crore which consists of 12 spill over projects of Rs 103.75 crore (11 projects worth Rs 101.05 crore under the scheme “5051, 03 101 Construction and Development” and 1 project worth Rs 2.70 crore under the scheme of “5051, 03 103 Construction and Development of other Navigational Aids”) and 29 new projects of Rs 81.25 crore (28 projects worth Rs 76.25 crore under the scheme “5051, 03 101 Construction and Development” and 1 project worth Rs 5.00 crore under the scheme of “5051, 03 103 Construction and Development of other Navigational Aids”). The financial outlay and actual/anticipated expenditure since the Fifth Five Year Plan is indicated below:

Plan Period	Outlay	Rs. in crore
		Expenditure
5 <sup>th</sup> plan	13.66	7.38
6 <sup>th</sup> plan	12.00	10.68
7 <sup>th</sup> Plan	33.06	16.20
8 <sup>th</sup> Plan	57.00	25.54
9 <sup>th</sup> Plan	123.00	55.72
10 <sup>th</sup> Plan	185.00	84.21 (anticipated)

- 6.4** Year wise Expenditure during the 10<sup>th</sup> Plan (2002-2007)

Year	Approved Outlay		Rs. in crore
	BE	RE	Expenditure
	2002-03	20.00	16.39
2003-04	24.50	24.50	15.24
2004-05	25.00	17.50	11.25
2005-06	30.50	13.47	10.65
2006-07	32.00	-	32.00 (anticipated)

- 6.5** Year wise revenue expenditure during the 10<sup>th</sup> Plan are as follows:

Year	Budget approval		(Rs in crore)
	BE	RE	Expenditure
	2002-03	80.00	82.00
2003-04	82.00	80.00	77.76
2004-05	80.00	80.00	75.54
2005-06	82.00	91.50	90.86
2006-07	94.00	--	94.00 (anticipated)

- 6.6** The asset value of the Directorate as on 31.3.2006, after depreciation, is approximately Rs 164.00 crore.

**7. Achievements during the Tenth Plan:**

**7.1** The approved Tenth Plan Outlay for the Directorate of Lighthouses and Lightships is Rs.185.00 Crore which consists of 12 spill over projects of Rs 103.75 crore (11 projects worth Rs 101.05 crore under the scheme “5051, 03 101 Construction and Development” and 1 project worth Rs 2.70 crore under the scheme of “5051, 03 103 Construction and Development of other Navigational Aids”) and 29 new projects of Rs 81.25 crore (28 projects worth Rs 76.25 crore under the scheme “5051, 03 101 Construction and Development” and 1 project worth Rs 5.00 crore under the scheme of “5051, 03 103 Construction and Development of other Navigational Aids”). Except for the project of Vessel Traffic Service for the Gulf of Kachchh for which work order could be placed only in March, 2005, the entire spill over projects have been completed. The new projects for the Lighthouses have been delayed due to inordinate delay in environment clearances. The Directorate has received environmental clearances in respect of 02 lighthouses and works at these locations are in progress. Environmental clearance for 2 more projects are likely to be received shortly. For 06 locations, environmental clearances are yet to be received. The progress of work also got affected due to wide scale Tsunami damages along the East Coast and Andaman and Nicobar Islands for which restoration became a priority. This also affected the progress of automation of lighthouses.

## **7.2 Projects completed during the 10<sup>th</sup> Plan:**

### **7.2.1 Spill over projects:**

Replacement of Lighthouse Tender Vessel MV Sagardeep

- (i)
- (ii) Automation of Remote Lighthouses Phase I
- (iii) Establishment of a new Lighthouse at Nizampatnam
- (iv) Establishment of a new Lighthouse at Vodarevu (near Chirala)
- (v) Establishment of shore based Lighthouses at Palk Bay
- (vi) Establishment of Lighted Beacon at Menchal, AandN Islands
- (vii) Improvement of Lighthouses
- (ix) Introduction of Differential Global Positioning System (DGPS) Ph II
- (x) Establishment of a new Lighthouse at Kakinada (Vakalpudi)
- (xi) Establishment of new lighted beacon at Rosen Point
- (xii) Establishment of a new Lighthouse district at Kakinada

### **7.2.2 New Projects:**

- (i) Construction of staff quarters at Jamnagar
- (ii) Establishment of DGPS at Hazira, Pulicat and East Island under phase III
- (iii) Establishment of 18 Racons on lighthouses
- (iv) Marking of Deep Water Channel in Gulf of Khambhat
- (v) Marking of wrecks off Mumbai

### **7.2.3 Restoration after Tsunami**

The December 2004 Tsunami damaged many LH installations on mainland and in Andaman and Nicobar Islands. On mainland six lighthouses and in AandN 15 lighthouses were damaged. The damages to the extent of Rs 11.10 crore have been assessed. Ministry of Shipping Road Transport and Highways accorded approval of Rs 10.50 crore for the restoration works. The operational availability of all but one lighthouse has been assured till now. The light beacon at Katchal West is to be restored for which the work is presently going on. Similarly the restoration work of DGPS Stations at Keating Point and Indira Point is in progress.

#### **7.2.4 Projects likely to be completed:**

- (i) Establishment of a Major Lighthouse with Racon at Coondapur (Karnataka)
- (ii) Replacement of Lighthouse Tender Vessel MV Deep Stambh
- (iii) Establishment of a new LH at Tadri in Karnataka
- (iv) Establishment of a lighted beacon at Aves Island near Mayabandar at AandN Islands

#### **7.3.1.1 Projects spilled over to 11<sup>th</sup> Plan**

- (i) Establishment of Coastal Vessel Traffic Service for the Gulf of Kachchh
- (ii) Establishment of a lighted beacon at Chidiya Tapu at AandN Islands
- (iii) Establishment of a lighted beacon at Sister Island in AandN Islands.
- (iv) Establishment of a lighted beacon at Cape Edinburgh Island at AandN
- (v) Establishment of a lighted beacon at Tries Islet at AandN Islands
- (vi) Establishment of a lighted beacon at North East tip of Minicoy Is.
- (vii) Establishment of a Major Lighthouse near Brahampur at Prayagi (Chilka Lake)
- (viii) Establishment of a Major Lighthouse with Racon at Rava Port (Andhra Pradesh)
- (ix) Establishment of a Major Lighthouse at Iskapalipalem (Andhra Pradesh)
- (x) Establishment of a Major Lighthouse with Racon at Honavar (Karnataka)
- (xi) Establishment of Coastal Vessel Traffic Service in Gulf of Khambhat
- (xii) Remote Control and Automation of Lighthouses of Port Blair Lighthouse District
- (xiii) Remote Control and Automation of Lighthouses of Mumbai Lighthouse District
- (xiv) Replacement of MV Deep Stambh

#### **7.4 Project likely to be sanctioned**

- (i) Establishment of Vessel Traffic Service for the Gulf of Khambhat.

#### **7.5 Schemes executed on agency basis**

During the plan period, the Directorate has carried out following works on agency basis:

- Installation of Port light at Dhamlej Port (Rs.6,68,600)
- Construction of eastern Break Water Light beacon at Veraval (Rs.6,10,000)
- Restoration of solar operated light beacon at Port Sutrapada (Rs.1,61,400)
- Installation of solar power light equipment on G.I. Trestle tower at the entrance of Vanakbara (Rs.3,04,000)
- Installation of solar power light equipment on RCC tower at the entrance of Vanakbara (Rs.3,52,300)
- Improvement of 05 Lighthouses in Panaji (Rs.13,30,000)
- Restoration of light at Veraval break water light beacon (Rs.1,05,600)
- Restoration of light at Mangrol break water light beacon (Rs.1,05,600)

**7.6** The total expenditure during the 10<sup>th</sup> Five Year Plan is anticipated to be Rs. 84.21 crore against the total outlay of Rs.185 crore. The major component of Rs 82 crore has been marked for the scheme of Vessel Traffic Service for the Gulf of Kachchh.

The work order for the scheme could be placed only in March 2005 resulting in major non utilization of 10<sup>th</sup> Plan allocation. The scheme of Remote Control and Automation of Mumbai and Port Blair Lighthouses Districts for which an allocation of Rs 10 crore has been made also got its approval in August 2005. The scheme of Vessel Traffic Service for the Gulf of Khambhat for which an allocation of Rs 30 crore has been made in the plan is yet to be approved.

## **8. New Initiatives**

### **8.1 Improvement of Local Lights**

- 8.1.1 There are about 194 local lights in India being managed by various maritime states. Few of them are under the ambit of minor ports. Most of these lights are neither functional nor a serious attempt is made by the concerned authorities to make it functional. Though notified, they are not up to international expectation. A point to this effect was raised during 3<sup>rd</sup> MSDC meeting held in Vishakhapatnam in 2000. It was then decided that local maritime board would take assistance of DGLL in improving their lights. But there have been hardly any improvement.
- 8.1.2 The functional state of these lights becomes more important when the fishing vessels are dependent on it. As a state apparatus, neither the Ministry nor the DGLL can absolve themselves from the inconspicuous responsibility. Moreover an added emphasis is being made on Coastal Shipping, where a trend analysis shows that coastal traffic would increase from 116 million tonnes in 2002-03 to 220 million tonnes by the end of the 11<sup>th</sup> Plan period (2012).
- 8.1.3 The non functioning of these lights has been further debated at higher level and there has been a unanimous opinion that the DGLL should either takeover or improve these lights in phased manner. In view of the above it is planned to improve these lights either by taking it over (particularly minor ports lights) or with close coordination with the state authority. A token provision of Rs 1 crore is, therefore, proposed in the 11<sup>th</sup> Plan for this purpose.

### **8.2 Beautification of Lighthouses**

- 8.2.1 Lighthouses are show case of the engineering prowess and architecture beauty of the past. Its location too make them attractive for tourists as these are not considered scenic but a unique part of the national heritage, to be treated differently from other assets, as they are a strong symbol of the World maritime heritage and hold great significance to local and national communities.
- 8.2.2 The cultural heritage of lighthouses extends beyond the architectural value of the buildings, to the whole area of maritime traditions and history, including shipping trading patterns, navigational safety and wrecks. This is required to be preserved and evidence documented for the benefit of future generations. Recording present traditions and changes is also important, as they will become part of the cultural heritage for future generations.
- 8.2.3 The study group of parliamentary standing committee on transport and tourism in its 47<sup>th</sup> report recommended to take the step to beautify the lighthouses for attracting tourists. It has therefore been planned to develop few lighthouses as a heritage lighthouses for attracting tourists. A token provision of Rs.1 crore has been made for the project

## **9. Development Programme for the 11<sup>th</sup> Five Year Plan (2007-12)**

The requirement of capital outlay for the various projects planned during the 11<sup>th</sup> Five Year Plan (2007-12) has been assessed as Rs. 340.45 crore. The break-up of the proposed outlays is as under:

## 9.1 **Proposed 11<sup>th</sup> Plan Outlay**

### A **Spill over schemes**

SI No	Name of the Scheme	Plan Outlay
(i)	Establishment of Coastal Vessel Traffic Service in GOK	4000.00
(ii)	Establishment of a lighted beacon at Chidiya Tapu at AandN Islands	20.00
(iii)	Establishment of a lighted beacon at Sister Island in AandN Islands.	20.00
(iv)	Establishment of a lighted beacon at Cape Edinburgh Island at AandN	25.00
(v)	Establishment of a lighted beacon at Tries Islet at AandN Islands	25.00
(vi)	Establishment of a lighted beacon at North East tip of Minicoy Island	30.00
(vii)	Establishment of a Major Lighthouse at Chilka	100.00
(viii)	Establishment of a Major Lighthouse with Racon at Rava Port	110.00
(ix)	Establishment of a Major Lighthouse at Iskapalipalem	65.00
(x)	Establishment of a Major Lighthouse with Racon at Honavar	40.00
(xi)	Establishment of Coastal Vessel Traffic Service in Gulf of Khambhat	6100.00
(xii)	Remote Control and Automation of Lighthouses Port Blair LH Dist.	400.00
(xiii)	Remote Control and Automation of Lighthouses Mumbai LH Dist.	250.00
(xiv)	Replacement of MV Deep Stambh	100.00
	<b>Sub Total (A)</b>	<b>11285.00</b>

All the above mentioned spill-over schemes except that at SI .No (xi) are sanctioned schemes. Proposal for obtaining approval for the scheme at (xi) above is being finalized.

### B **NEW SCHEMES**

SI No	Name of the Scheme	Plan Outlay
<b>(a)</b>	<b>Visual Aids</b>	
(i)	Establishment of a new Lighthouse at Pumpoohar (Tamilnadu coast)	130.00
(ii)	Establishment of a new Lighthouse at Malipatnam (Tamilnadu coast)	120.00
(iii)	Establishment of a new Lighthouse near Markanam (Tamilnadu coast)	130.00
(iv)	Establishment of a new Lighthouse with Racon at Baruva Port (Andhra coast)	150.00
(v)	Establishment of a new Lighthouse at Maipura Point (Orrisa coast)	150.00

(vi)	Establishment of a new Lighthouse at Satpati (Maharashtra coast)	130.00
(vii)	Establishment of a new Lighthouse at Achara Point (Maharashtra coast)	130.00
(viii)	Establishment of a new Lighthouse with Racon at Redi Port (Maharashtra coast)	150.00
(ix)	Establishment of a new Lighthouses in AandN Islands at: aa) Kota-ta Pain in Campbel Bay harbour ab) Hoiniph rock Point in Katchal harbour ac) Somperreo Point in Pillowmillow Island ad) Murray Point in Kondul harbour	120.00
(x)	Miscellaneous works	600.00
(xi)	Improvement of Lighthouses	300.00
(xii)	Marking of a new deep water channel in Gulf of Kachchh	300.00
(xiii)	Procurement of wreck marking buoys	150.00
(xiv)	Establishment of a major LH with Racon at Lushington Shoal	500.00
(xv)	Improvement of local lights	100.00
(xvi)	Beautification of Lighthouses	100.00
(xvii)	Const. of office building complex and staff quarters at Vishakapatnam	200.00
	<b>Sub Total (a)</b>	<b>3460.00</b>
<b>(b)</b>	<b>Radio aids</b>	
(i)	Establishment of National AIS Network	5000.00
(ii)	Procurement of Racon	500.00
(iii)	Automation of Lighthouses: aa) Kochi Lighthouse District - Rs.700 lakh ab) Chennai Lighthouse District - Rs.500 lakh ac) Vishakhapatnam Lighthouse District - Rs.600 lakh ad) Kolkata Lighthouse District - Rs.300 lakh	2100.00
(iv)	Establishment of DGPS station at Rameshwaram LH	200.00
	<b>Sub Total (b)</b>	<b>7800.00</b>
<b>(c)</b>	<b>Development of Information Technology</b>	
(i)	Information Technology	1000.00
	<b>Sub Total (c)</b>	<b>1000.00</b>
<b>(d)</b>	<b>Replacement of Assets</b>	
(i)	Replacement of Assets	500.00
	<b>Sub Total (d)</b>	<b>500.00</b>
<b>(e)</b>	<b>Flotilla</b>	
(i)	Replacement of MV Pradeep	5000.00
(ii)	Acquisition of new Tender Vessel	5000.00
	<b>Sub Total (e)</b>	<b>10000.00</b>
	<b>Total (B) = B (a+b+c+d+e)</b>	<b>22760.00</b>

**Total Outlay proposed–(A)+(B)= Rs 112.85 crore +227.60 crore  
= Rs 340.45 crore**

**9.2 Proposed 11<sup>th</sup> Plan Outlay in nut-shell:**

<b>A</b>	Spillover Schemes of 10 <sup>th</sup> Plan	<b><u>Rs 112.85 crore</u></b>
<b>B</b>	Proposed scheme of 11 <sup>th</sup> Plan	<b><u>Rs 227.60 crore</u></b>
	Grand Total (A+B)	<b><u>Rs 340.45 crore</u></b>

- 9.3 A spreadsheet in respect of spillover schemes indicating the details of sanction, expenditure incurred during 10<sup>th</sup> plan, proposed 11<sup>th</sup> plan allocation and year-wise phasing is placed at **Annexure-I** Similarly for new schemes the proposed outlay and year wise phasing is indicated at **Annexure-II**.

10. **DETAILS OF THE SCHEMES PROPOSED TO BE TAKEN / EXECUTED DURING THE 11<sup>TH</sup> FIVE YEAR PLAN (2007-2012):**

(A) **SPILL OVER SCHEMES**

i) **Establishment of Coastal Vessel Traffic Service in GOK (Rs. 4000 Lakh)**

The project of establishment of Coastal Vessel Traffic Service for the Gulf of Kachchh was approved on 24.1.2002 at an estimated cost of Rs.165 crore for effective management of Vessel Traffic and prevention of environmental pollution. The cost is to be equally shared by DGLL, GMB and KPT. The work has been awarded to M/s TCIL led consortium on 16.3.2005. The scheme is to be completed in 27 months Civil works in progress at nine sites at Balachadi, Sikka, Chudreshwar, Okha, Kandla, Bhadreshwar, Mandvi and Jakhau. Factory Acceptance Test of the core equipment has been completed. An allocation of Rs.4000 lakh is proposed, as DGLL share, for the 11<sup>th</sup> Five Year Plan for the Project. Project will be completed by 2008-09.

(ii) **Establishment of a Lighted Beacon at Chidiya Tapu Island (Port Blair) in AandN Islands (Rs.20 lakh):**

The Directorate has taken up the establishment of lighted beacon at Chidiyatapu (South Andaman) for the safe navigation of the mariners in AandN Islands. The scheme was sanctioned on 10.9.2003 at an estimated cost of Rs. 50 lakh. Rapid Environment Impact Assessment (REIA) is completed Environmental clearance is awaited. An allocation of Rs 20.00 Lakh is proposed for this project. Project is expected to be completed by 2007-08.

(iii) **Establishment of a Lighted Beacon at Sister Island in AandN Islands (Rs. 20 lakh):**

Sister Island is a small isle located between Little Andaman and Rutland Island in Duncan Passage and a light at this location will be of immense help for vessels plying between Hut Bay and Port Blair and also for vessels coming from Chennai. Accordingly, a project at an estimated cost of Rs 20 lakh has been approved on 19.4.2006. Environmental clearance for the project is under process. An allocation of Rs 20 lakh is proposed.

Project is expected to be completed by 2007-08.

(iv) **Establishment of a Lighted Beacon at Cape Edinburgh in AandN Islands (Rs. 25 lakh):**

A lighted beacon at the Southern Point of the Little Nicobar Island at Cape Edinburgh has been approved on 30.1.2006, for safe approach to Campbell Bay during monsoon, at an estimated cost of Rs.50 lakh. Rapid Environment Impact Assessment (REIA) is under progress. Rs 25 lakh is proposed for the 11<sup>th</sup> Plan.

Project is expected to be completed by 2008-09.

(v) **Establishment of a Lighted Beacon at Tries Islet in AandN Islands**  
**(Rs. 25 lakh):**

The project of establishment of a lighted beacon at Tries Islet (Little Nicobar Island) was sanctioned on 31.1.2006 at a cost of Rs.50 lakh. Rapid Environment Impact Assessment (REIA) is under progress. Rs 25 lakh is proposed for the 11<sup>th</sup> Plan.

Project is expected to be completed by 2008-09.

(vi) **Establishment of a Lighted Beacon at north east tip of Minicoy Island**  
**(Rs. 30 lakh):**

The project of Establishment of a Lighted Beacon at north east tip of Minicoy Island, for catering to the need of traffic from northeast approaching Minicoy, was sanctioned on 22.7.2004 at a cost of Rs. 34.63 lakh Land has been acquired. Environment clearance is in progress. An allocation of Rs 30.00 Lakh is proposed for this project during the plan.

Project is expected to be completed by 2008-09.

(vii) **Establishment of a Major Lighthouse at Chilka** (Rs. 100 lakh):

The project was sanctioned on 14.11.2003 at a cost of Rs. 124 lakh. Land acquisition and soil investigation completed. Environmental clearance from the Ministry of Environment and Forest is awaited. Allocation of Rs 100.00 Lakh is proposed for this project during the 11<sup>th</sup> Plan.

Project is expected to be completed by 2008-09.

(viii) **Establishment of a Major Lighthouse with Racon at Rava Port**  
**(Andhra Pradesh): (Rs. 110 lakh)**

The project was sanctioned on 16.6.2005 at a cost of Rs. 140 Lakh. Land has been taken over and Environmental clearance and soil investigation are in progress. An allocation of Rs 110.00 Lakh is proposed for the project.

Project is expected to be completed by 2009-10.

(ix) **Establishment of a Major Lighthouse at Iskapallipalem (Andhra Pradesh)**  
**(Rs. 65 lakh):**

The project for establishment of a major lighthouse on 30m tower at Iskapallipalem was sanctioned on 14.11.2003 at an estimated cost of Rs. 113 lakh

Work for construction of buildings and LH tower has been awarded. An allocation of Rs 65 Lakh for the scheme is proposed during the 11<sup>th</sup> Plan.

Project is expected to be completed by 2008-09.

**(x) Establishment of a Major Lighthouse with Racon at Hanovar (Karnataka) (Rs. 40 lakh):**

The project for establishment of a major Lighthouse at Honavar with Racon to cater to the needs of the mariners approaching/leaving Honavar was sanctioned on 2.7.2004 at an estimated cost of Rs. 108 lakh.

Land has been acquired. Soil investigation and design of foundation completed. An allocation of Rs 40 Lakh for the project is proposed.

Project is expected to be completed by 2007-08.

**(xi) Establishment of Coastal Vessel Traffic Service in Gulf of Khambat (Rs. 6100 lakh)**

An integrated Vessel Traffic Service for the Gulf of Khambat with multi layers sensors has been planned for safe navigation of vessels who are laden with LNG/ Chemical cargo and plying on ever shifting sandbars of Gulf of Khambat. CACL in its 80<sup>th</sup> Meeting held on 10.7.2006 has approved the project.

The project is likely to cost Rs 6100 lakh for which EFC note is under submission. Accordingly, an allocation of Rs 6100 Lakh is proposed for the project.

Project is expected to be completed by 2009-10.

**(xii) Remote Control and Automation of Lighthouses Port Blair LH Distt. (Rs. 400 Lakh)**

Andaman and Nicobar Groups of islands consist of 540 islands spread over 413 NM North-South in Bay of Bengal. The Northern Islands i.e. Andaman Groups are continuous mass where as the Southern Group of Islands i.e. Nicobar Groups are isolated islands. Out of these only 38 are inhabited. In order to provide safe navigation, which is lifeline of the island and also to mark the uninhabited island; the Directorate has established a number of Aids in the AandN Group of islands. Its headquarters is located at Port Blair. Since these islands are remote and access is difficult, as such the reliability and availability of Aids can not be effectively ensured in spite of the best efforts put in by the Directorate engineers and staff. The study group of Parliamentary Standing Committee on Transport and Tourism also expressed their concerns about non-reliability of Aids. In order to ensure reliability of Aids, it is proposed to monitor and control these aids from conveniently located positions termed as Remote Control Stations (RCS). These RCS will be ultimately linked to Master Control Station, proposed to be located at Port Blair for effective control.

The scheme was approved on 16.8.2005 at a cost of Rs. 652 lakh. The proposal has been submitted to the Ministry for award of the work to L1. A provision of Rs.400 Lakh is proposed for the scheme during 11<sup>th</sup> Five Year Plan.

Project is expected to be completed by 2009-10

**(xiii) Remote Control and Automation of Lighthouses Mumbai LH Distt. (Rs. 250 lakh)**

Mumbai Lighthouse district caters to 1600 Kms coastline spread over four states – Gujarat, Maharashtra, Goa and Karnataka. There are 20 Major Lighthouses, 3 Semi attended Lighthouses and 2 unattended Lighthouses in the region. In addition, this district operates 2 DGPS Stations, one Radio Bacon and 4 Racons. In order to ensure round the clock availability of Aids, it is proposed to monitor and control these aids from conveniently located positions. These conveniently located positions are termed as Remote Control Stations (RCS). These RCS will be ultimately linked to Master Control Station, proposed to be located at Mumbai for effective control.

The project was approved on 16.8.2005 at a cost of Rs. 699 lakh. The proposal has been submitted to the Ministry for award of the work to L1. A provision of Rs.250 Lakh is proposed for the scheme during 11<sup>th</sup> Five Year Plan.

Project is expected to be completed by 2008-09.

**(xiv) Replacement of MV Deep Stambh (Rs.100 lakh)**

The project of replacement of departmental launch MV Deep Stambh, for tending the lighthouses located in the Gulf of Kachchh has been approved at an estimated cost Rs 554 lakh on 20.11.2002. The work order has been awarded to the Government of Gujarat undertaking, M/s Alcock Ashdown, Bhavnagar. The vessel is likely to be delivered during the financial year 2006-07 but pending payment may not be cleared. Accordingly an allocation of Rs 100 lakh has been kept for the project during the plan.

Project is expected to be completed by 2007-08.

**B NEW SCHEMES**

The Directorate proposes to continue to excel as National Agency in the field of Marine Aids to Navigation by adhering to the followings:

- (i) Improved accuracy
- (ii) Improved reliability
- (iii) Uniform spread of visual aids
- (iv) Improvement of local lighthouses
- (v) Developing lighthouses with the objective of preservation of heritage lighthouses and making them a potential tourist attraction

The new schemes proposed during the eleventh plan, framed with a view to achieve above objectives, are categorized in three sections - (a) Visual Aids to Navigation (b) Radio Aids to Navigation (c) Development of Information Technology (d) Replacement of assets and (e) Flotilla

**(a) Visual Aids to Navigation:**

In this category, the schemes proposed are as below: -

- (i) Establishment of a new Lighthouse at Pumpoohar (Tamilnadu coast) (Rs.130 lakh)**

Poompuhar (Latitude 11° 07' N: Longitude 79° 51.8' E) is located on the east coast of India under Tamilnadu State. It is more or less centrally located at about 45 Km from either side of existing General Lighthouse. The site gets the historical importance as it was the gateway for famous town of Kaveripatnam (Shilpadigaram fame). Continuing with the Directorate policy of providing seamless coverage of visual aids a light at this location is proposed. The subcommittee of the CACL who examined proposals before 10<sup>th</sup> Plan too proposed for establishing a lighthouse between Karaikal and Porto-Novo during subsequent plans. The establishment of lighthouse at this location will also help in coastal shipping, which will be on an upward swing due to opening of the Sethu Samudram Ship Channel. It will also be of immense help to the local fishermen. The proposed light will be a major lighthouse having an optical range of about 16 NM and will be established over a 30m RCC Tower. The project is likely to commence in the year 2008-09 and will be completed by 2009-10. A provision of Rs 130 lakh is proposed for the project.

**(ii) Establishment of a new Lighthouse at Malipatnam (Tamilnadu coast) (Rs. 120 lakh)**

Mallipatnam, located at Latitude 10° 16.60' N and Longitude 79° 18.70' E is situated in Pattukkottai Taluk, Thanjavur District. It is famous for "Manora" Fort built by Sarfoji Maharaja of Thanjavur. The location, of late, has assumed navigational importance in view of the Sethu Samudram Ship Channel which passes nearby. In addition the location is one of the biggest fishing area in the Palk Strait. If a powerful light is provided at Mallipattinam, seamless visual coverage of Palk Strait will be ensured which will be a boost for trade in the area. In view of this it is proposed to provide a powerful light on a 30 m RCC tower at Mallipatnam. The work on the project is likely to start in the year 2007 and will be completed by 2009-10. A provision of Rs 120 lakh is proposed for the project.

**(iii) Establishment of a new Lighthouse near Markanam (Tamilnadu coast) (Rs.130 lakh)**

Markanam is located at Latitude 12° 11.60' N and Longitude 79° 58.40' E and lies between Pondicherry and Mahabalipuram along Tamilnadu Coast. The coastal distance between Mahabalipuram and Pondicherry is about 50 NM. Therefore certain portion of the sea sector remains dark as far as visual aids to navigation is concerned. The subcommittee of the CACL who examined proposals before 10<sup>th</sup> Plan proposed for establishing a high range lighthouse between Pondicherry and Mahabalipuram during subsequent plans. The establishment of lighthouse at this location will also help in coastal shipping, which will be on an upward swing due to opening of the Sethu Samudram Ship Channel. It will also be of immense help to the local fishermen. The light will have a 16NM range light on 30m RCC tower. The project is likely to commence in the year 2009 and will be completed by 2011-12. A provision of Rs 130 lakh is proposed for the project.

**(iv) Establishment of a new Lighthouse with Racon at Baruva Port (Andhra coast) (Rs.150 lakh )**

Baruva is located at Latitude 18° 52.50'N and Longitude 84°35.50' E. The location falls between Gopalpur (29NM North East) and Kalingapatnam (33NM South West). Baruva Port was established in the year 1895. This was an important location for embarkation of people who used to go to Burma for

their livelihood. Earlier there was a light at this location on a flag staff which was later withdrawn by the local authorities. However the flagstaff remained. With increased trade and thrust on coastal shipping and also with departmental policy of providing seamless visual coverage by establishing a lighthouse at every 30 NM, need of a major lighthouse at this location is felt. The subcommittee of the CACL who examined proposals before 10<sup>th</sup> Plan too proposed for establishing a lighthouse at Baruva Port during subsequent plans. It is proposed to establish a major lighthouse of 16 NM Nautical range on 30m RCC tower with a provision of Racon at this location. The project is likely to commence in the year 2008 and will be completed by 2010 -11. A provision of Rs 150 lakh is proposed for the project.

**(v) Establishment of a new Lighthouse at Maipura Point (Orissa coast) (Rs 150 lakh)**

Maipura Point is situated at Latitude 20°42.5'N and Longitude 87°15'E. It is located at the mouth of Bharahmani River near Dharmpur town. The proposed Lighthouse at Maipura Point will be approximately 60 Nautical Miles from Dariapur Lighthouse and will be around 80 Nautical Miles from False Point Lighthouse. With increased trade and thrust on coastal shipping and also with departmental policy of providing seamless visual coverage by establishing a lighthouse at every 30 NM, need of a major lighthouse at this location is felt. The subcommittee of the CACL who examined proposals before 10<sup>th</sup> Plan too proposed for establishing a lighthouse near Maipura in subsequent plan. It is proposed to establish a major lighthouse, having more than 16 NM range, on 45m RCC tower. It will also be of immense help to the local fishermen. The project is likely to commence in the year 2008 and will be completed by 2010 -11. A provision of Rs 150 lakh is proposed for the project.

**(vi) Establishment of a new Lighthouse at Satpati (Maharashtra coast) (Rs.130 lakh)**

Satpati located at Latitude 19°43.20'N: Longitude 72°42.2E) lies on southern side of the entrance to Dudh River is encumbered with rocks and is very shallow. A local light is established at this location which remains non functional most of the time. Local people, in past, have demanded a major lighthouse at this location for catering to the needs of the fishermen as well as for smaller craft in the area. In addition, it will be a versatile visual aid for the passing vessels. The subgroup deliberated the issue and agreed on the need of a general lighthouse at this location essentially for fishermen and smaller crafts in the area. It is therefore proposed to establish a major lighthouse at this location with a revolving light of 16 NM range on a 30m RCC Tower. The project will commence in the year 2008-09 and will be completed by 2010-11. A provision of Rs 130 lakh is proposed for the project.

**(vii) Establishment of a new Lighthouse at Achara Point (Maharashtra coast) (Rs.130 lakh)**

Achara Point (Lat 16° 12.6'N and Long. 73° 26.5'E is located between Devgad Lighthouse and Vengurla Point Lighthouse. Fishermen whose sole livelihood is fishing dominate the village. The Lighthouse is under the State

Port Department and not functioning. The local public particularly the fishermen have demanded for establishment of a new Lighthouse to mitigate their problems. The Lighthouse will also be helpful in serving small crafts in the area. In addition, it will be a versatile visual aid for the passing vessels. The subgroup deliberated the issue and agreed on the need of a general lighthouse at this location. It is therefore proposed to establish a major lighthouse at this location with revolving optic having 16 NM optical range on a 30m RCC Tower. The project will start in the year 2009 and will be completed by 2011-12. A provision of Rs 130 lakh is proposed for the project.

**(viii) Establishment of a new Lighthouse with Racon at Redi Port (Maharashtra Coast) (Rs. 150 lakh)**

Port Redi, an anchorage port, is located at Lat. 15° 44' N and Long. 73° 41' E. It is about 20NM north of Marmagoa and about 25 NM south of Vengurla Point Lighthouse. It is known for its proximity to Iron Ore Mines. Earlier Iron Ore export was carried out on regular basis from Port Redi. However, due to recession in the world market, port has remained inoperative for quite some time. From 2003 onwards Iron Ore Market has picked up. Major vessels are anchoring at Redi Port for loading and unloading of Iron Ore. By establishing the new lighthouse at Redi Port the problem facing by the fishermen and Port authorities will be solved to the extent possible. It is therefore proposed to establish a new major revolving lighthouse having 16 NM range on 30 m high RCC tower. The project will be taken up in the year 2008 and will be completed by 2010 -11. A provision of Rs 150 lakh is proposed for the project.

**(ix) Establishment of a new Lighthouses in A and N Islands at: (Rs.120 lakh)**

**aa) Kota-ta-Pain** in Campbel Bay Harbour; Latitude 7° 02' N: Longitude 93°56.70' E). During the meeting of the Chief Port Administrator on 07.8.2003, approach of Campbell Bay was discussed and it was decided to provide a lighted beacon at Kota –ta – Pain for safe navigation/ approach to the harbour during low as well as high tides. Accordingly it is proposed to establish a lighted beacon of 10 NM range at Kota- ta- Pain .

**ab) Hoiniph Rock Point** in Katchal harbour (Latitude 7°58.50' N: Longitude 93°25.45' E). During the meeting of the Chief Port Administrator on 07.8.2003 it was decided to establish a lighthouse at Hoin-Poh- Point so that the vessels approaching Katchal could identify the island from a distance. This will also help in sea passage between Nancowry and Katchal and also vessels plying north and south between these two islands. The proposed light will have a 10 NM range.

**ac) Sombrero Point** in Pillowmillow Island (Latitude 7°26.80'N: Longitude 93°41.30' E) . The passage from Nancowry to Pillow Millow is generally followed by passenger ships. The route is covered with navigational inconveniences such as submerged rocks and small islands. The situation becomes further worse during the low visibility conditions when the radar information is unreliable due to clouds and rain. During the meeting of the Chief Port Administrator on 07.8.2003 it was decided to establish a lighthouse at Sombrero Point. The light will have 10 NM range.

**ad) Murray Point** in Kondul Harbour (Latitude 7°14.7' N: Longitude 93° 50.20' E). The passage from Pillo Millow to Kondul from the western side of

Little Nicobar is land is satisfactory. But the passage to Campbell Bay from Kondul through St George channel is covered with shallow patches and rocks. The effect of sea in this area is also strong during monsoon and the ships tend to drift towards the shallow patches. It was therefore decided during the meeting of the Chief Port Administrator on 07.8.2003 to provide a lighted beacon at Murray Point.

Presently the local directorate is seized with the works resulting due to damages due to Tsunami. Therefore all the above four project will be taken up in the year 2009 and will be completed by 2011-12. A provision of Rs 120 lakh is proposed for the project.

**(x) Miscellaneous Works (Rs. 600 lakh)**

The Lighthouses are generally located on the seashores, which are affected by the saline atmosphere. Some stations have to undergo special repairs. Further the pathways and compound wall constructions are carried out at Lighthouses. All these works along with other petty works of capital nature are carried out under "Miscellaneous Works". A provision of Rs.600 Lakh is proposed for the 11<sup>th</sup> Five Year plan. This is a continuing work.

**(xi) Improvement of Lighthouses (Rs.300 lakh)**

The Directorate has been taking up the improvement of Lighthouses by replacement of old equipments and Trestle Tower structures by Masonry/RCC structures in a phased manner. It is proposed to carry out improvement of some trestle tower structures by Masonry/RCC structures for their more prominence and longer life thereby rendering them as better landmarks. It is also proposed to replace the old equipments by latest and most reliable light equipments for increasing their efficiency. The works of this nature are carried out under "Improvement of Lighthouses". An allocation of Rs 300 Lakh for the above works is proposed. This is a continuing work.

**(xii) Marking of a new deep water channel in Gulf of Kachchh (Rs.300 lakh)**

The Gulf of Kachchh (GOK) covers an area of about 7000 square miles. For its topography, it has been found most suitable for harbour activities. It has one major Port of Kandla and a number of minor Ports. Besides this, two giant Refineries have been set up by M/s Reliance Petrochemicals and M/s Essar Oil Ltd. For catering to the hinterland refineries also, no of SPMs are being established in the area. This has resulted in the significant traffic growth in the area. The crudes are transported to these SPMs ( for onward pumping to the refineries) by VLCCs/ULCCs needing a draft of about 12-18m. The Directorate has marked a deep water channel which is utilized by these vessels. As these vessels ply from the gulf, they take a longer route due to location of Lushington Shoal at the mouth of the Gulf of Kachchh. This shoal is being marked by the Directorate by establishment of a lighthouse and a Racon. It is therefore proposed to mark a deep water channel north of the shoal for Gulf bound vessel. This will reduce the distance by about 30 NM.

The project will commence in the year 2009-10 and will be completed by 2011-12. A provision of Rs. 300 lakh is proposed for the project.

**(xiii) Procurement of wreck marking buoys (Rs.150 lakh )**

With the increase in Shipping, the wrecks in approaches and channels have become a common phenomenon. These wrecks if not marked properly, would create difficulty in navigation and might lead to another wreck. The responsibility of marking these wrecks was discussed by the study Group of Parliamentary Standing Committee on Transport and Tourism and it was decided that the Ministry of Shipping would initiate necessary action. Based on the outcome of the meeting held on 15<sup>th</sup> July 2002; where JS (Shipping), Nautical Advisor, Chief Hydrographer and DGLL were present; the Government has decided that on occurrence of any wreck, it would be marked by the DGLL. It has also been decided that DGLL would procure at least 2 wreck marking buoys and supplementary paraphernalia per annum and keep them in readiness for fresh wrecks. In view of the above, a provision of Rs 150 lakh is proposed for the project. It is a continuous work.

**(xiv) Establishment of a major LH with Racon at Lushington Shoal (Rs. 500 lakh)**

Lushington Shoal (Lat. 22° 38' N Long. 68° 47'E) is located at North West of Okha at the mouth of Gulf of Kachchh. The shoal is having shallow patches making navigation difficult. The shoal is not marked and is a great danger to navigation. The shoal is subjected to strong tidal waves and currents. At the time of independence, the hazards of this shoal were so serious that the British Admiralty contemplated declaring the whole area of Gulf of Kachchh and its approaches as a danger to shipping. It was then decided to mark the shoal by constructing either a Lighthouse or mooring a light vessel. Since the technology at that time was in its infancy, the proposal although approved by the Govt., could not be implemented. When VLCCs/ULCCs started plying for catering to Mathura Refinery in late seventies, the Department marked a 70 NM deep-water channel by laying deep-sea lighted buoys down South from Mithapur to Vadinar. VLCCs/ ULCCs are taking this route for all the SPMs and Refineries set up in the Gulf.

If the Lushington Shoal is marked, the VLCCs coming to Gulf of Kachchh can directly take the route from west instead of coming down South and then follow the Deep Water Channel. This would reduce the distance by about 30 Nautical Miles and also save on time and fuel. With the establishment of a light at Lushington Shoal, the Directorate contemplates to mark another Deep Water Channel at 10-20 NM West of Lushington Shoal. This will meet the existing Deep Water Channel North of Gurur Shoal and shall facilitate safe movement of VLCCs.

It is, therefore, proposed to establish a powerful light having 16NM range and will have a Racon. The proposed lighthouse tower would be a 30m RCC tower. The lighting equipment is proposed to be operating on solar energy. The project will start in the year 2008-09 and will be completed by 2011.12. A provision of Rs 500 lakh is proposed for the project.

**(xv) Improvement of local lights (Rs.100 lakh)**

There are about 194 local lights in India which is managed by various maritime states. Most of these lights are non functional. Though notified, they are not up to international expectation. The functional state of these lights becomes more important when the fishing vessels are dependent on it.

Moreover an added emphasis is being made on Coastal Shipping, where a trend analysis shows that coastal traffic would increase from 116 million tonnes in 2002-03 to 220 million tonnes by the end of the 11<sup>th</sup> Plan period (2012).

The non functioning of these lights has been further debated at higher level and there has been an unanimous opinion that the DGLL should either takeover or improve these lights in phased manner. In view of the above it is planned to improve these lights either by taking it over or with close coordination with the state authority. A token provision of Rs 100 lakh is, therefore, proposed in the 11<sup>th</sup> Plan for this purpose. It is a continuous work.

**(xvi) Beautification of Lighthouses (Rs.100 lakh)**

Lighthouses are show case of the engineering prowess and architecture beauty of the past. Its location too make them attractive for tourists as these are not only considered scenic but a unique part of the national heritage, to be treated differently from other assets, as they are a strong symbol of the World Maritime Heritage and hold great significance to local and national communities. The cultural heritage of lighthouses extends beyond the architectural value of the buildings, to the whole area of maritime traditions and history, including shipping trading patterns, navigational safety and wrecks. The study group of parliamentary standing committee on transport and tourism in its 47<sup>th</sup> report recommended taking the step to beautify the lighthouses for attracting tourists. It has therefore been planned to develop few lighthouses as a heritage lighthouses for attracting tourists.

A token provision of Rs.100 lakh has been made for the project. It is a continuous work.

**(xvii) Const. of office building complex and staff quarters at Vishakapatnam (Rs.200 lakh)**

The Directorate is having its own administrative building and staff quarters at regional centres where central pool accommodation are not available except at Vishakhapatnam where the Directorate is presently functioning from the Port premises. The premises provided by the Port is in Dock Labour Board building where regular transportation of coal takes place resulting in working inconvenience to the staff. Further the accommodation provided is not sufficient for day to day working. The staff has to stay in rented accommodation making the living conditions quite prohibitive. It is proposed to construct office building complex and staff quarters at Vishakhapatnam. The work will be started in 2007-08 and will be completed in 2009-10.

A provision of Rs 200 lakh is proposed for the project.

**(b) Radio Aids to Navigation:**

**(i) Establishment of National AIS Network (Rs.5000 lakh )**

The issue of correlating a ship's identity and its position in coastal waters and port approaches has been frustrating shore authorities for some time. It has long been realized that an automatic reporting device fitted to vessels will contribute greatly to the safety of navigation and traffic management by

exchanging information such as identity, position, time, course and speed between ship and shore regularly, automatically and autonomously.

The emergence of new communication techniques offers the ability to combine high positional and timing accuracy available (via GNSS) and the rapidity of reliable data exchange. That is, a system that uses GNSS technology and enhanced autonomous broadcast techniques is now both technologically feasible and economically viable. Coastal ship reporting systems, VTS and ports will benefit from the exchange of real time ship data, as will ship-ship safety and collision avoidance. The Automatic Identification System (AIS) is such a device.

Its versatility has made it as one of the strongest tool of Radio Aids to Navigation and is presently talk of the town in mariners' fraternity. The potentiality is further extended if an integrated network is established which will work as Radio boundary for our coastal waters at a distance of about 25 NM. This trend is presently in all over the world. DGLL too has planned for such National AIS Network. A provision of Rs.5000 lakh has been made for the project. The project is scheduled to commence in the year 2007-08 and completed by 2009-10.

**(ii) Procurement of Racon (Rs.500 lakh)**

Racon, acronym for Radar Transponder Beacon, is a versatile radio aids to navigations and has found wide acceptance amongst mariners as it does not need any additional system on board and is an all weather position finding tool. Racons are being procured and installed in phases to meet the requirements of the mariners. During the 10<sup>th</sup> Plan, 19 Racons have been established at various lighthouses till date. The Directorate has 48 Racons in its inventory. It is proposed to increase the density of Racon during 11<sup>th</sup> Plan to 80. Accordingly a provision of Rs.500 lakh has been made for the project. It is a continuing project as Racons will be procured in phases.

**(iii) Automation of Lighthouses (Rs. 2100 lakh)**

The Directorate has proposed to go for complete automation and remote control of lighthouses for increasing the reliability and availability of Aids to Navigation and thereby improving the efficiency of the lights by centrally monitoring from the control station which would also improve technical skill of the operational staff and mitigate the problems of light keeping staff who are posted at remote and difficult locations. The scheme for 'Automation and Remote Control of Lighthouses' has been completed for Jamnagar Lighthouse District in the 1<sup>st</sup> phase. Work on Automation of Mumbai and Port Blair is in progress. It is planned to automate all the lighthouse during the 11<sup>th</sup> Plan. The project will commence in the year 2008-09 and will be completed by 2011-12.

**aa) Automation of Kochi Lighthouse District (Rs.700 lakh)**

Cochin Lighthouse District is having 10 Lighthouses on the coast of Kerala and 15 Lighthouses in Lakshadweep Island including Minicoy. One more lighthouse at North East tip of Minicoy is under establishment. Its headquarters is located at Kochi. In order to ensure reliability of Aids, it is

proposed to monitor and control these aids from conveniently located positions termed as Remote Control Stations (RCS). These RCS will be ultimately linked to Master Control Station, proposed to be located at Kochi for effective control. A provision of Rs.700 Lakh is proposed for the scheme during 11<sup>th</sup> Five Year Plan.

**ab) Automation of Chennai Lighthouse District (Rs.500 lakh)**

Chennai Lighthouse District is having 22 Lighthouses on the coast of Kerala and Tamilnadu. Another three lighthouses have been planned during the 11<sup>th</sup> Plan. Its headquarters is located at Chennai. In order to ensure reliability of Aids, it is proposed to monitor and control these aids from conveniently located positions termed as Remote Control Stations (RCS). These RCS will be ultimately linked to Master Control Station, proposed to be located at Chennai for effective control. A provision of Rs.500 Lakh is proposed for the scheme during 11<sup>th</sup> Five Year Plan.

**ac) Automation of Kakinada Lighthouse District (Rs.600 lakh)**

Kakinada Lighthouse District is having 14 Lighthouses on the coast of Andhra Pradesh. Two lighthouses at Iskapalipallem and Rava are under establishment. Another three lighthouses have been planned during the 11<sup>th</sup> Plan. Its headquarters is located at Vishakhapatnam. In order to ensure reliability of Aids, it is proposed to monitor and control these aids from conveniently located positions termed as Remote Control Stations (RCS). These RCS will be ultimately linked to Master Control Station, proposed to be located at Vishakhapatnam for effective control. A provision of Rs.600 Lakh is proposed for the scheme during 11<sup>th</sup> Five Year Plan.

**ad) Automation of Kolkata Lighthouse District (Rs.300 lakh)**

Kolkata Lighthouse District is having 7 Lighthouses on the coast of Orissa and West Bengal. One Lighthouse at Chilka is under establishment. Two more lighthouses have been planned for the 11<sup>th</sup> Plan. In order to ensure reliability of Aids, it is proposed to monitor and control these aids from conveniently located positions termed as Remote Control Stations (RCS). These RCS will be ultimately linked to Master Control Station, proposed to be located at Kolkata for effective control. A provision of Rs.300 Lakh is proposed for the scheme during 11<sup>th</sup> Five Year Plan.

**(iv) Establishment of DGPS station at Rameshwaram LH (Rs.200 lakh)**

In order to reduce the steaming distances between the east and west coasts of India and to improve the navigation within the territorial waters of India, a project to cut a ship Channel connecting Gulf of Mannar with the Palk Bay, popularly known as Sethu Samudram Ship Channel, has been approved by the Govt. The dredged depth of Channel will be 12 m and its width will be 300 m for two-way vessel traffic. It is planned to ply the vessels of 10 m draft in the channel which will need careful navigation. Considering this, Tuticorin Port Trust, the nodal agencies for the Project has requested for establishment of a DGPS station at Rameshwaram. The establishment of DGPS at Rameshwaram will not only facilitate better navigation accuracy of the order of 1m but will also be a great help for the dredging operations. Accordingly it is proposed to establish a DGPS station at Rameshwaram. A provision of Rs.200 lakh has been made for the project. The project will commence in the year 2007-08 and will be completed by 2008 -09.

**(c) Development of Information Technology (Rs.1000 lakh)**

The Directorate is having seven Regional Offices spread along the coastline at Jamnagar, Mumbai, Kochi, Chennai, Vishakhapatnam, Kolkata and Port Blair. All these lighthouses regions are planned to be connected to respective lighthouses under the Automation scheme. Thus. All the Regional offices will have updated information on functioning of lighthouses and other aids. It is planned to network all this regional offices to the headquarters at Noida through a Wide Area Network having dedicated hub for ease in flow of information grazing and gathering. In addition, the networking will facilitate flow of administrative and technical information. In other words, it is planned to link all the lighthouse installations, regional offices and headquarters in real time through a Wide Area Network.

The present set up Local Area Networking at headquarters and at regional offices of Jamnagar, Mumbai, Kochi, Chennai, Vishakhapatnam, Kolkata and Port Blair was established when the It was in its infancy not only in the Directorate but also in Government working. With maturing of the concept having wider acceptability, it is planned to link network all the ministerial and technical employees of the Directorate by strengthening the existing Local Area Network. It is a continuous work. A provision of Rs.1000 lakh is proposed.

**(d) Replacement of Assets (Rs.500 lakh)**

Based on the Capital Base of the inventory, the Directorate maintains Depreciation Reserve Fund which is Rs 65.51 crore. The Directorate carries out replacement of old assets out of this fund. A provision of Rs 500 lakh as been made in the 11<sup>th</sup> Plan under replacement of assets for replacing the old assets. It is a continuous work.

**(e) Flotilla**

**(i) Replacement of MV Pradeep (Rs. 5000 lakh)**

The Directorate maintains two large ocean going vessels for maintenance of islands lighthouses and deep water channels buoys. Out of this , one vessel, MV Pradeep, is totally dedicated for the works of Andaman and Nicobar Group off Lighthouses. This vessel was built in the early eighties by Rajabagan Docks, Kolkata. Apparently the vessel has aged and needs replacement. Moreover, with the changed environmental and topographical conditions in Andamans, tending lighthouses with slow speed vessels has become difficult. As a result, the other ocean going vessel, MV Sagardeep, has been deputed to carry out the reconstruction and restoration works. This has affected the works at other areas. It is therefore proposed to replace this old and ageing vessel with new maneuverable - agile vessel having at least 15 knots speed and equipped with latest logistics. A provision of Rs 5000 lakh for the work is proposed. The work will be taken up in the year 2008-09 and completed in 2011-12.

**(ii) Acquisition of new Tender Vessel (Rs. 5000 lakh)**

The Directorate maintains two large ocean going vessels MV Sagardeep and MV Pradeep. MV Pradeep is exclusively dedicated to Andaman and Nicobar Group of Lighthouses where as MV Sagardeep caters to need of buoy maintenance and other island lighthouses in Lakshadweep. In addition, its

assistance is taken for the major works in Andaman and Nicobar Islands. The induction of MV Sagardeep was planned in 1965 when there was not much work on maintenance of buoys. Directorate now maintains two deep water channels in Gulf of Kachchh and Gulf of Khambat. The onus of marking wrecks have also been placed with the DGLL. Apart from this, the number of aids to navigation have increased manifold. Its continuous monitoring for its notified range and availability is the other important factor which is not being carried out religiously due to occupation of the vessels in project assignments. In other words, all the assignment of the Directorate is not being smoothly carried out with two vessels. The subgroup while deliberating the issue opined that the Directorate could have another vessel for tending to the additional requirement. Not only this, it would be a national infrastructure which could be very useful at the time of exigencies. Accordingly, it is proposed to procure a third ocean going vessel for the Directorate. A provision of Rs 5000 lakh has been made during the plan. The work will be taken up in the year 2008-09 and completed in 2011-12.

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### **Abbreviations used**

1.	Racon	Radar Transponder Beacon
2.	DGPS	Differential Global Positioning System
3.	LORAN	Long Range Navigation
4.	VTS	Vessel Traffic Service
5.	AIS	Automatic Identification System
6.	CACL	Central Advisory Committee for Lighthouses
7.	NRT	Net Registered Tonnage
8.	DGLL	Directorate General of Lighthouses and Lightships
9.	GMB	Gujarat Maritime Board
10.	KPT	Kandla Port Trust
11.	TCIL	Telecommunications Consultants India Limited
12.	REIA	Rapid Environment Impact Assessment
13.	LH	Lighthouse
14.	EFC	Expenditure Finance Committee
15.	RCS	Remote Control Stations
16.	RCC	Reinforced Concrete Cement
17.	NM	Nautical Mile
18.	KM	Kilometer
19.	m	meter
20.	SPM	Single Point Mooring
21.	VLCC	Very Large Crude Career
22.	ULCC	Ultra Large Crude Career
23.	LAN	Local Area Network
24.	WAN	Wide Area Network

**SPILL OVER PROJECTS**

**Annexure -I**

**Project wise Breakup for 11<sup>th</sup> Plan Outlay (2007-2012)**

(Rs. in Lakhs)

S. No	Name of Schemes/Projects	10 <sup>th</sup> Plan outlay (Rs.in lakh)	Date of approval	Original cost	Expd. During 10 <sup>th</sup> Plan (upto 31.3.06)	Anticipate d expd. during 2006-07	Total Expd. During 10 <sup>th</sup> Plan	Proposed 11 <sup>th</sup> Plan outlay	2007-08
<b>(A)</b>	<b>Scheme 5051-Capital Outlay on Ports &amp; Lighthouses 03-Lighthouses &amp; Lightships 03.101- Construction &amp; development of Lighthouses</b>								
<b>A</b>	<b>Spill over projects</b>								
1	Establishment of Coastal Vessel Traffic Service in GOK (DGLL's share)	8200.00	24.1.2002	8250.00	672.00	2090.00	2762.00	4000.00	3000.00
2	Establishment of a lighted beacon at Chidiya Tapu at A&N Islands	35.00	10.9.2003	50.00	2.00	10.00	12.00	20.00	20.00
3	Establishment of a lighted beacon at Sister Island in A&N Islands.	35.00	28.4.2006	20.00	1.00	--	01.00	20.00	20.00
4	Establishment of a lighted beacon at Cape Edinburg Is.at A&N Is.	35.00	30.1.2006	50.00	1.00	2.00	3.00	25.00	10.00
5	Establishment of a lighted beacon at Tries Island at A&N Islands	35.00	31.1.2006	50.00	1.00	2.00	3.00	25.00	10.00
6	Establishment of a lighted beacon at North East tip of Minicoy Island	70.00	22.7.2004	34.63	2.00	3.00	5.00	30.00	25.00
7	Establishment of a Major Lighthouse near Brahampur (Chilka Lake)	160.00	14.11.2003	124.00	4.00	20.00	24.00	100.00	60.00
8	Establishment of a Major Lighthouse with Racon at Rava Port (Andhra Pradesh)	160.00	16.6.2005	140.00	0.00	15.00	15.00	110.00	40.00
9	Establishment of a Major Lighthouse at Iskapalem (Andhra Pradesh)	120.00	14.11.2003	113.00	2.00	35.00	37.00	65.00	55.00
10	Establishment of a Major Lighthouse with Racon at Hanovar (Karnatka)	160.00	2.7.2004	108.00	1.00	30.00	30.00	40.00	40.00

11	Establishment of Coastal Vessel Traffic Service in Gulf of Khambhat	3000.00	-	-	-	-	-	6100.00	1100.00	3
12	Remote Control and Automation of Lighthouses at Port Blair Lighthouse Dist.	500.00	16.8.2005	652.00	0.00	50.00	50.00	400.00	200.00	
13	Remote Control and Automation of Lighthouses at Mumbai Lighthouse District	500.00	16.8.2005	699.00	0.00	115.00	115.00	250.00	200.00	
	<b>Sub Total (A)</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>11185.00</b>	<b>4780.00</b>	<b>4</b>
<b>(B)</b>	<b>Scheme 5051-Capital Outlay on Ports &amp; Lighthouses 03-Lighthouses &amp; Lightships 03.103 – C&amp;D of other Navigational Aids</b>									
	<b>Spill over Projects</b>									
14	Replacement of MV Deep Stambh	500.00	1.10.2002	554.00	25.00	225.00	250.00	100.00	100.00	

	<b>Sub Total (B)</b>	-	-	-	-	-	-	<b>100.00</b>	<b>100.00</b>
	<b>Total</b>	-	-	-	-	-	-	<b>11285.00</b>	<b>4880.00</b>

## Annexure-II

## NEW PROJECTS

Project wise Breakup for 11<sup>th</sup> Plan Outlay (2007-2012)

(Rs. in Lakhs)

Sl. No	Name of Schemes/Projects	Proposed 11 <sup>th</sup> Plan outlay	Phasing of Expd. 11 <sup>th</sup> Plan (2007-12)			
			2007-08	2008-09	2009-10	2010-
<b>(A)</b>	<b>5051-Capital Outlay on Ports &amp; Lighthouses</b>					
	<b>03-Lighthouses &amp; Lightships</b>					
	<b>03.101- Construction &amp; development of Lighthouses</b>					
	<b>New Projects</b>					
<b>(a)</b>	<b>Visual Aids</b>					
1	Establishment of a new Lighthouse at Pumpoohar	130.00	-	30.00	100.00	-
2	Establishment of a new Lighthouse at Malipatnam	120.00	20.00	50.00	50.00	-
3	Establishment of a new Lighthouse at Markanam	130.00	-	-	30.00	50.00
4	Establishment of a new Lighthouse with Racon at Baruva Port	150.00	-	10.00	40.00	100.00
5	Establishment of a new Lighthouse at Maipura Point	150.00	-	30.00	70.00	50.00
6	Establishment of a new Lighthouse at Satpati	130.00	-	10.00	30.00	90.00
7	Establishment of a new Lighthouse at Achara Pt	130.00	-	-	10.00	30.00
8	Establishment of a new Lighthouse at Redi Port	150.00	-	20.00	100.00	30.00
9.	Establishment of new lighthouses in A&N Island					
	(a) Kot-ta-Pain in Campbell Bay Harbour					
	(b) Hoiniph Rock Point in katchal Harbour	120.00	-	-	30.00	60.00
	(c) Somperreo Point Pillo Millo Island					
	(d) Murray Point inf Kondul Harbour					
10	Miscellaneous works	600.00	120.00	120.00	120.00	120.00
11	Improvement of Lighthouses	300.00	60.00	60.00	60.00	60.00
12	Marking of a new deep water channel in Gulf of Kachchh	300.00	-	-	50.00	100.00
13	Procurement of wreck marking buoys	150.00	30.00	30.00	30.00	30.00
14	Establishment of a Major Lighthouse with Racon at Lushington Shoal	500.00	-	50.00	150.00	150.00
15	Local Light	100.00	10.00	20.00	30.00	30.00
16	Beautification of Lighthouses	100.00	05.00	30.00	20.00	20.00
17	Const. of office building complex and staff quarters at Vishaktatanam	200.00	05.00	100.00	95.00	-
	<b>Sub Total (a)</b>	<b>3460.00</b>	<b>250.00</b>	<b>560.00</b>	<b>1015.00</b>	<b>920.00</b>

<b>(b)</b>	<b>Radio Aids</b>					
18	Establishment of National AIS Network	5000.00	500.00	3000.00	1500.00	-
19	Procurement of Racon	500.00	100.00	100.00	100.00	100.00
20	Automation of Lighthouses: a) Kochi Lighthouse District (Rs.700 lakh) b) Chennai Lighthouse District (Rs.500 lakh) c) Kakinada Lighthouse District (Rs.600 lakh) d) Kolkata Lighthouse District (Rs.300 lakh)	2100.00	-	200.00	800.00	700.00
21	Establishment of DGPS at Rameshwaram LH	200.00	50.00	150.00	-	-
	<b>Sub Total (b)</b>	<b>7800.00</b>	<b>650.00</b>	<b>3450.00</b>	<b>2400.00</b>	<b>800.00</b>
<b>(c)</b>	<b>Development of Information Technology</b>	1000.00	100.00	200.00	400.00	200.00
	<b>Sub Total (c)</b>	<b>1000.00</b>	<b>100.00</b>	<b>200.00</b>	<b>400.00</b>	<b>200.00</b>
<b>(d)</b>	<b>Replacement of Assets</b>					
22	Replacement of Assets	500.00	50.00	50.00	50.00	150.00
	<b>Sub Total (d)</b>	<b>500.00</b>	<b>50.00</b>	<b>50.00</b>	<b>50.00</b>	<b>150.00</b>
	<b>Total (A) = Sub Total (a) +(b)+(c)+ (d)</b>	<b>12760.00</b>	<b>1050.00</b>	<b>4260.00</b>	<b>3865.00</b>	<b>2070.00</b>
<b>(B)</b>	<b>Scheme 5051-Capital Outlay on Ports &amp; Lighthouses 03-Lighthouses &amp; Lightships 03.103 – C&amp;D of other Navigational Aids</b>					
23	Replacement of MV Pradeep	5000.00	-	500.00	1000.00	1500.00
24	Acquisition of new LH Tender Vessel	5000.00	-	500.00	1000.00	1500.00
	<b>Total (B)</b>	<b>10000.00</b>		<b>1000.00</b>	<b>2000.00</b>	<b>3000.00</b>
	<b>Grand Total = Total (A) + (B)</b>	<b>22760.00</b>	<b>1050.00</b>	<b>5260.00</b>	<b>5865.00</b>	<b>5070.00</b>

REPORT  
OF SUB GROUPS I & II  
(INLAND WATER TRANSPORT)  
SET UP BY  
THE WORKING GROUP ON SHIPPING  
&  
INLAND WATER TRANSPORT  
FOR  
THE ELEVENTH FIVE YEAR PLAN  
(2007-2012)

Inland Waterways Authority of India  
(Ministry of Shipping, Road Transport & Highways,  
Govt of India)  
A-13, Sector-1, Noida, U.P-201 301

December 2006

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### Abbreviations

ADB - Asian Development Bank

AP	-	Andhra Pradesh
B'Border	-	Bangladesh Border
BE	-	Budget Estimate
BISN	-	British India Steam Navigation
BIWTA	-	Bangladesh Inland Water Transport Authority
BOT	-	Built Operate and Transfer
BRPSE	-	Board of Reconstruction for Public Sector Enterprises
BS	-	Budgetary Support
BSF	-	Border Security Force
BTKM/btkm	-	Billion ton kilometre
CEC	-	Central European Countries
CES	-	Consulting Engineering Services
CII	-	Confederation of Indian Industries
CIWTC	-	Central Inland Water Transport Corporation Ltd
CMA	-	Cement Manufactures Association
CMD	-	Chairman and Managing Director
COS	-	Committee of Secretaries
CPWD	-	Central Public Works Department
Cr or cr	-	crore
CRPF	-	Central Reserve Police Force
CSD	-	Cutter Suction Dredger
CSEZ	-	Cochin Special Economic Zone
CSS	-	Centrally Sponsored Scheme
CWC	-	Central Water Commission
CWPRS	-	Central Water and Power Research Station
DER	-	Debt Equity Ratio
DG	-	Director General
DGLL	-	Director General of Light house and Light ships
DGPS	-	Differential Global Positioning System
DPR	-	Detailed Project Report
d/s	-	down stream
Dte	-	Directorate
DVC	-	Damodar Valley Corporation
DWT	-	Dead Weight Tonnage
EBR	-	Extra Budgetary Resources
EC	-	European Community
ECC	-	East Coast Canal
EIA	-	Environmental Impact Assessment
EMP	-	Environment Management Plan
ESCAP	-	Economic and Social Commission for Asia and Pacific
EU	-	European Union
FBP	-	Farakka Barrage Project
FCI	-	Food Corporation of India Ltd
FICCI	-	Federation of Indian Chamber of Commerce and Industry
GPS	-	Global Positioning System
GRSE	-	Garden Reach Shipbuilders and Engineers
HDC	-	Haldia Dock Complex
HP	-	Horse power
HSD	-	Hydraulic Surface Dredger
HSD	-	High Speed Diesel

IIPM	-	Indian Institute of Port Management
IIT	-	Indian Institute of Technology
IMPV	-	Inland Mechanically Propelled Vessel
IMO	-	International Maritime Organization
I.V.	-	Inland Vessel
IVBSS	-	Inland Vessel Building Subsidy Scheme
IWAI	-	Inland Waterways Authority of India
IWT	-	Inland Water Transport
IWTD	-	Inland Water Transport Directorate
IWTDA	-	Inland Water Transport Directorate Assam
JCI	-	Jute Corporation of India Ltd
JV	-	Joint Venture
KoPT	-	Kolkata Port Trust
LAD	-	Least Available Depth
LBSI	-	Lal Bahadur Shastri Institute
LISS	-	Loan Interest Scheme Subsidy
MD	-	Managing Director
MMD	-	Mercantile Marine Department
M/o	-	Ministry of
MoU/ MOU	-	Memorandum of Understanding
MoWR	-	Ministry of Water Resources
Mt/ MT	-	metric ton
mtpa	-	million tonnes per annum
M.V	-	Marine Vessel
NA	-	Not Available
NCAER	-	National Council for Applied Economic Research
NE	-	North East
NEC	-	North Eastern Council
NER	-	North Eastern Region
NH	-	National Highway
NINI	-	National Inland Navigation Institute
NMA	-	National Maritime Academy
NMDP	-	National Maritime Development Programme
NPC	-	National Productivity Council
NRL	-	Numaligarh Refinery Ltd
NTPC	-	National Thermal Power Corporation Ltd
NW-1	-	National Waterway-1
NW-2	-	National Waterway-2
NW-3	-	National Waterway-3
NW-4	-	National Waterway-4
NW-5	-	National Waterway-5
NW-6	-	National Waterway-6
NWs	-	National Waterways
O-D	-	Origin- Destination
ODC	-	Over dimensional cargo
OM	-	Office Memorandum
O&M	-	Operation and Maintenance
PAC	-	Programme Advisory Committee
PMO	-	Prime Minister's Office
POL	-	Petroleum oil lubricant

POC	-	Port of call
PPP	-	Public Private Participation
PPTA	-	Project Preparing Technical Assistance
PSE	-	Public Sector Enterprise
PSU	-	Public Sector Undertaking
Pvt	-	Private
PWD	-	Public Works Department
RBD	-	Rajabagan Dockyard
RCC	-	Reinforced cement concrete
R&D	-	Research and Development
Ro-Ro	-	Roll on Roll off
Rs	-	Rupees
RT	-	River Training
SAIL	-	Steel Authority of India Ltd
SCTC	-	State Crew Training Centres
SPV	-	Special Purpose Vehicle
SPV	-	Self Propelled Vessel
STCW	-	Standards of Training, Certification and Watch keeping
T or t	-	ton
TEF	-	Techno-economic Feasibility
t-km or Tkm	-	ton kilometre
TT Shed	-	Tea Transit Shed
TEU	-	Twenty equivalent units
UP	-	Uttar Pradesh
u/s	-	upstream
US/ USA	-	United States of America
VRS	-	Voluntary Retirement Scheme
WB	-	West Bengal
WBSTC	-	West Bengal Surface Transport Corporation Ltd
WCC	-	West Coast Canal

## **INTRODUCTION**

In the context of formulation of Eleventh Five Year Plan (2007-2012), the Planning Commission constituted Working Group on Shipping and Inland Water Transport (IWT) vide O.M no. 18/7/2005-Tpt dated 17-4-2006, under the chairmanship of Secretary, Department of Shipping. The terms of reference for this Working Group were also mentioned in the OM. Chairman of the Working Group was also empowered to constitute Sub Groups and co-opt officials or non-officials, if considered necessary.

2. Department of Shipping vide O.M. No SY-11018/3/2006-SC dated 22<sup>nd</sup> June, 2006 constituted two Sub Groups of the Working Group on Shipping and IWT for formulation of 11th Five Year Plan for IWT Sector.

3. Sub Group I (Inland Water Transport) was set up under the chairmanship of Chairman, Inland Waterways Authority of India comprising the following members:-

1. Chairman, Inland Waterways Authority of India - Chairman

2. Joint Secretary/ DG Tourism, Ministry of Tourism	-	Member
3. Director (Transport), Planning Commission	-	Member
4. Director (IWT&SCI), Dept of Shipping	-	Member
5. Chairman and Managing Director, Dredging Corporation of India	-	Member
6. Chairman and Managing Director, CIWTC	-	Member
7. Chief Engineer (Design-NW&S), CWC	-	Member
8. Secretary (Transport) Govt of Goa	-	Member
9. Secretary (Transport) Govt of Kerala	-	Member
10. Secretary (Transport), Govt of Tamil Nadu	-	Member
11. Representative of Naval Architecture, IIT Kharagpur	-	Member
12. Managing Director, West Bengal Surface Transport Corporation, Kolkata	-	Member
13. Representative of CII	-	Member
14. Representative of Goa Barge Owners Association	-	Member
15. Additional Director, CWPRS, Pune	-	Member
16. Vice Chairman, IWAI	-	Member-
Convenor		

3.1 In the OM of Department of Shipping mentioned above, the Chairman of the Sub-Group was also empowered to co-opt officials or non-officials as members for the Sub-Group, if considered necessary. Accordingly, the following members were co-opted:-

- i) Secretary concerned with IWT Affairs, Govt of Andhra Pradesh
- ii) Secretary concerned with IWT Affairs, Govt of Assam
- iii) Secretary concerned with IWT Affairs, Govt of Bihar
- iv) Secretary concerned with IWT Affairs, Govt of Pondicherry
- v) Secretary concerned with IWT Affairs, Govt of Uttar Pradesh
- vi) Secretary concerned with IWT Affairs, Govt of West Bengal
- vii) Additional Chief Secretary, Govt of Assam
- viii) Chairman, Kolkata Port Trust
- ix) Representative of NCAER, New Delhi
- x) Representative of Ministry of Water Resources, Govt of India
- xi) Representative of Cement Manufacturers Association, Noida
- xii) Representative of Indian Coastal Conference, Mumbai
- xiii) Representative of Goa Mineral and Ore Exporters Association, Goa

3.2 The terms of reference for the Sub Group I were:-

- i) To review the physical and financial performance of the Inland Water Transport (IWT) in the Central and State sectors with particular reference to Tenth Five Year Plan targets and draw lessons there from for the Eleventh Plan
- ii) To assess the role of inland water transport in achieving optimal intermodal mix
- iii) To recommend a policy frame work for development of IWT during Eleventh Plan keeping in view the need for relieving pressure on other surface mode of transport. Following aspects may be taken into account (a) economics of the IWT vis-à-vis other modes of transport, (b)

need to promote private sector participation, (c) need to improve the productivity of the sector particularly operation, (d) role of IWT in the North-East and (e) feasibility of inter linking of waterways favorably for uninterrupted IWT.

- iv) To formulate programme for development of IWT sector for the Eleventh Plan keeping in view IWT Vision 2020. Activities for each year of the Eleventh Plan indicating physical and financial outlays and targets to be prepared
- v) To assess the requirement of funds during Eleventh Plan and to identify possible sources of funding
- vi) To identify the constraints in the smooth operation of waterways transport like shallow water, narrow width of channels, siltation etc. and to formulate plans for conservancy works including hydrographic surveys, dredging of waterways and provision of infrastructural facilities like terminals
- vii) To assess the performance of Inland Waterways Authority of India (IWAI) with regard to (a) development, maintenance and management of the national waterways in the country (b) research and development works, technical studies, hydrographic surveys etc and (c) assistance given to States in formulation, implementation of Centrally Sponsored Schemes relating to improvement of waterways in various States.
- viii) To recommend measures for promoting private sector participation in the development of IWT
- ix) To review CSS with particular reference to development of infrastructural facilities for promotion of IWT.

4. Sub Group II (IWT) was headed by Vice Chairman, IWAI and comprised the following members:-

- |       |  |          |     |
|-------|--|----------|-----|
| i)    | Vice-Chairman, Inland Waterways Authority of India                               | Chairman | ii) |
|       | Chairman & Managing Director, Central Inland Water Transport Corporation         | Member   |     |
| iii)  | Adviser, Transport Research, Deptt. of Shipping                                  | Member   |     |
| iv)   | Joint Secretary, Ministry of Petroleum   | Member   |     |
| v)    | Transport Secretary, State Govt. of Bihar  | Member   |     |
| vi)   | Joint Adviser (Petroleum), Planning Commission                                   | Member   |     |
| vii)  | Representative, Department of Coal   | Member   |     |
| viii) | Secretary, North Eastern Council   | Member   |     |
| ix)   | Secretary (Transport), Govt. of Assam  | Member   |     |
| x)    | Representative from Federation of Indian Chambers of Commerce & Industry (FICCI) | Member   |     |
| xi)   | Representative of Food Corporation of India (FCI)                                | Member   |     |
| xii)  | Representative of Goa Barge Owners Association                                   | Member   |     |
| xiii) | Director (IWT), Department of Shipping   | Member   |     |
| xiv)  | Principal, Lal Bahadur Shastri Institute of Maritime Studies, Mumbai             | Member   |     |
| xv)   | Chairman and Managing Director, Dredging Corporation of India                    | Member   |     |
| xvi)  | Hydrographic Chief, IWAI   | Member   |     |
| xvii) | Director (IWT), Govt of Assam  | Member   |     |

xviii) Member (Cargo & Finance) ,IWAI

Member- Convener

4.1 The co-opted members of the Sub-Group II (IWT) were the following:-

- i) Representative of Govt of Orissa
- ii) Representative of Govt of Goa
- iii) Representative of IWT Federation, Kolkata
- iv) Capt. M.M.Saggi, Nautical Advisor to the Govt of India
- v) Director, Indian Institute of Port Management, Kolkata
- vi) Chairman, Kolkata Port Trust

4.2 The terms of reference for the Sub Group II were:

- i) To evaluate the utilization of transit and trade between India and Bangladesh and suggest/recommend the measures for maximum utilization of these routes in particular for increase in traffic in North-East.
- ii) To examine the existing training facilities in Inland Water Transport, efforts made during Tenth Plan and recommend measures for increasing the human resource potential in the field of IWT.

5. The first meeting of both the Sub-Groups was held on 24<sup>th</sup> July, 2006 at 1100 hrs and 1500 hrs respectively at IWAI, H.O, Noida. Minutes of the meeting are enclosed at Annex-I (a) and I (b). Separate draft reports of the two Sub-Groups were prepared and circulated to all the members for discussion and adoption in the second and final meetings held on 17<sup>th</sup> October, 2006 at IWAI, Head Office, Noida. Minutes of the second meeting are enclosed at Annex-II (a) and II (b). The draft report was modified in the light of the suggestions/ views expressed by the Members.

A presentation of the Sub Group's reports was also made before Secretary (Shipping) [the chairman of the Working Group (Shipping & IWT)] on 23<sup>rd</sup> October, 2006. As per the decision taken in that meeting, a Combined Report of both the Sub-Groups I & II on IWT sector is submitted herewith.

Noida,  
Dated: 18<sup>th</sup> December, 2006

**(S.B.MATHUR)**  
Chairman, IWAI

## CHAPTER – 1

### REVIEW OF FINANCIAL AND PHYSICAL PERFORMANCE OF IWT SECTOR DURING 10<sup>TH</sup> FIVE YEAR PLAN

#### **I. Review of Performance of Inland Waterways Authority of India**

##### **1.1 Introduction**

Inland Waterways Authority of India (IWAI) was constituted in October 1986, for the development and regulation of inland waterways for shipping and navigation. The Authority inter-alia undertakes infrastructure development and maintenance works on national waterways. It also carries out techno-economic/ environmental studies on potential waterways, provides subsidy for construction of inland vessels and assists States for development of waterways through Centrally Sponsored Scheme (CSS) for development of Inland Water Transport (IWT).

##### **1.2 National Waterways**

So far, following three waterways have been declared as national waterways:-

###### National Waterway No. 1 (NW-1)

The Ganga-Bhagirathi-Hooghly river system from Allahabad to Haldia (1620 kms) – declared as national waterway in 1986.

###### National waterway No. 2 (NW-2)

The Brahmaputra river from Sadiya to Dhubri (891 kms) – declared as national waterway in 1988.

###### National waterway No. 3 (NW-3)

The West Coast Canal from Kottappuram to Kollam along with Champakara and Udyogmandal canals (205 kms) – declared as national waterway in 1993.

##### **1.3 10<sup>th</sup> Plan Allocation and utilization**

The funds are allocated and released by the Department of Shipping under budget heads: Grant to IWAI, North Eastern Areas, Subsidy, Technical Studies and R&D and Centrally Sponsored Scheme.

Funds for development of NW-1 and NW-3 and some other development schemes e.g. National Inland Navigation Institute, IWT promotion activities, etc. are provided for and released under the budget head 'Grant to IWAI'. Funds for development of NW-2 are provided from the funds for North Eastern Areas. For Subsidy scheme [namely Inland Vessel Building Subsidy Scheme (IVBSS) and Loan Interest Subsidy Scheme (LISS)], and Technical Studies and R&D the funds are

allocated under the respective heads. In respect of Centrally Sponsored Scheme, Department of Shipping releases funds to the respective State Governments against approved projects directly on the basis of technical examination and recommendation of IWAI.

The 10<sup>th</sup> Plan Working Group on IWT had recommended requirement of fund of Rs 5665 Cr for the IWT sector (Rs 4998 for IWAI schemes, Rs 450 crores for CSS and Rs 217 crores for CIWTC schemes), against which plan outlay of Rs 903 crores was approved. The break-up of approved outlay and expenditure up to 31.10.06 are given below:

(Rs in crores)

<b>(A)</b>	<b><u>Budgetary resources</u></b>	<b><u>Approved Outlay</u></b>	<b><u>Exp. upto 31.10.06</u></b>
	(i) Net budgetary support -	391.73	179.22
	(ii) N.E. Areas -	235.00	96.45
	(iii) External Assistance -	10.00	-
<b>(B)</b>	<b><u>Internal and Extra budgetary resources</u></b>		
	(i) External Commercial Borrowings (Bonds by IWAI) -	136.00	-
	(ii) Others (Private investment) -	92.00	-
<b>(C)</b>	<b><u>Budgetary support to CIWTC</u></b> -	<b><u>38.27</u></b>	<b><u>38.27</u></b>
	<b>Total</b> -	<b><u>903.00</u></b>	<b><u>313.94</u></b>

#### 1.4 **Budgetary support and funds for NE Areas**

The details of expenditure incurred by IWAI for the first 4 years of the 10<sup>th</sup> Plan under these heads is given below :-

(Rs in crores)

SI	Schemes/budget head	Approved outlay	Approved yearly BE/RE	Amount spent (2002-03 to 2005-06)
1	Grant to IWAI (NW-1, NW-3 and other projects)	319.73	165.65	125.69
2	North Eastern Areas (NE Pool) (NW-2, Indo-Bangladesh Protocol Route, Barak)	235.00	129.20	96.45
3	Subsidy (IVBSS + LISS)	45.00	48.00	7.95
4	Technical Studies and R&D	7.00	4.00	4.24
5	Centrally Sponsored Scheme	20.00	16.00	41.34
	<b>Total</b>	<b>626.73</b>	<b>362.85</b>	<b>275.67</b>

For 2006-07 approved budget is Rs. 150 cr. It consists of Rs. 59.92 cr. under Grants to IWAI, Rs. 69.08 cr. for NE Areas, Rs. 17.00 cr for CSS (including Rs. 5 cr for NE region), Rs. 3 cr. Under Subsidy (LISS/IVBSS) and Rs. 1.00 cr under Technical Studies and R&D schemes.

In the first four years of 10<sup>th</sup> Plan (2002-03 to 2005-06) expenditure by IWAI is Rs. 275 cr. If this is viewed against the total utilization by IWAI during the 8<sup>th</sup> Plan, which was Rs. 35 cr. and that of 9<sup>th</sup> Plan which was about Rs. 150 cr., the performance of IWAI during the first four years of the 10<sup>th</sup> Plan has shown significant upward trend.

However, in absolute terms, the investment of Rs. 275 cr. for development of IWT sector in 4 years is not a very satisfactory figure. Also, the budget allocated to IWAI at BE level could not be utilized fully. This shows that though the absorption capacity of IWAI has improved in the 10<sup>th</sup> plan, it needs to be substantially enhanced. **Hence, it is necessary that suitable measures are taken for increasing the absorption capacity of IWAI on priority.** In other words, major organizational strengthening of IWAI is required.

#### **1.4.1 Development of National Waterways**

Three basic IWT related infrastructure for development of waterways are:

- (a) Fairway or navigational channel with desired width and depth
- (b) Terminals for berthing of vessels, loading/unloading of cargo and for providing interface with road and rail; and
- (c) Navigational aid for safe navigation.

The fourth component for making IWT system viable is inland vessels for transportation of goods and passengers. It is envisaged that once the fairway, terminals and navigational aids are provided to a satisfactory level, private sector will invest in acquiring and operating inland vessels. To encourage private sector for this there is IVBSS.

National waterways No. 1 and 2 are typical alluvial rivers having characteristics of braiding, meandering having sediment load and high water level fluctuation (both horizontal and vertical) during summer and monsoon months. On these rivers, several shallow areas (shoals) come up during low water season and maintenance of 2 m least available depth (LAD), particularly in upper reaches, becomes a difficult task. These waterways are un-trained and therefore, open river navigation techniques (river conservancy works) namely dredging and bandalling are employed for providing/maintaining targeted depth in the navigation channel. These river conservancy works are to be repeated every year.

NW-3 on the other hand is a tidal canal with predictable and uniform tidal variations. On this waterway, therefore, once the desired depth is provided by capital dredging it can be maintained for a number of years by undertaking nominal maintenance dredging.

Various developmental activities were undertaken on the national waterways, as per details hereunder:-

##### **1.4.1.1 National Waterway No.1**

◆ Fairway Development:- The target was to provide Least Available Depth (LAD) of 2 m between Haldia and Varanasi and 1.5 m between Varanasi and Allahabad for about 330 days in a year. River conservancy works for maintaining navigable depth (bandalling and dredging) were taken up on year to year basis. LAD of 2 m between Haldia and Patna (1020 km) was maintained for most part of the

years during 10<sup>th</sup> Plan between Patna and Varanasi (363 km) LAD of 2.0 m could not be maintained. However, LAD of 1.5 m was maintained in this stretch for most part of the years. In Varanasi-Allahabad (237 km) stretch also, LAD of even 1.5 m could be maintained only for about 4-5 monsoon months in a year. IWAI lacked required number of dredgers for undertaking dredging work in this stretch which has low discharge. Thus it was not possible to maintain 1.5 m LAD in this stretch during non monsoon months.

◆ Navigational Aids: River notices were published fortnightly and pilotage provided to vessels operating on the waterway. Navigational marks for day navigation were provided all round the year. Night navigation aids have also been provided between Tribeni and Farakka (364 km) during the 10<sup>th</sup> Plan and these were maintained. Project was also prepared for extension of night navigational facilities from Farakka to Patna (460 km). In Sept- Oct 06, the technical and operational parameters of this system were got reviewed through a committee under the Chairmanship of Director General Light houses and Lightships (DGLL) and action initiated accordingly.

◆ Terminals: Fixed concrete terminals exist at Kolkata, Pakur and Farakka. The terminals at Kolkata (T.T. Sheds) belong to Central Inland Water Transport Corporation Ltd (CIWTC) while terminals at Pakur and Farakka belong to Farakka Barrage Project authorities. These terminals were utilized for cargo transportation. Besides, an important project for construction of permanent terminal (capable of handling containers) at Patna was also sanctioned and progressed. Its low level jetty was completed in the year 2006 and a container crane was also procured. Project for construction of high level jetty for this terminal was also sanctioned and work was entrusted to CPWD on deposit basis. Also, steps were initiated for construction of permanent terminals at Haldia, BSN Kolkata and Varanasi.

Floating terminals exist at Haldia, Bhagalpur, Patna, Varanasi and Allahabad. These terminals were maintained and used for transportation of cargo. To facilitate mechanized cargo handling on floating terminals, 4 pontoon mounted cranes and 2 shore cranes were procured. These can be shifted to any location as per requirement.

◆ Vessels: For undertaking dredging on the shoals, talweg and detail surveys, inspection and monitoring of field works and demonstrative operation of cargo vessels, different types of vessels are required. These vessels are one of the important hardware to obtain the desired output. Since these vessels are not available on hire, it is necessary for IWAI to have a fleet of required vessels. In the 10<sup>th</sup> Plan period therefore, different types of vessels were acquired by IWAI for operation on NW-1. Further, a number of projects were prepared/being prepared or tendering was in progress in respect of many more vessels. A list of various types of vessels available on 31.3.2002 (i.e. end of 9<sup>th</sup> plan), vessels added in 10<sup>th</sup> plan, vessels under construction and in pipeline for acquisition, as in November 2006 is given below:

S.N.	Vessel	Available on 31.3.02	Added in 10 <sup>th</sup> Plan	Under construction	In Pipe Line	Remarks	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1.	Cutter Suction Dredger	2	2	-	2	EFC approval	10

					+ 4	awaited Action Plan approved	
2.	Hydraulic Surface Dredger	1	-	-	-	-	1
3	Work Boat	1	-	2	2 + 4	EFC approval awaited Action Plan approved	9
4	Tug	1	2	-	1	Action Plan approved	1
5	Accommodation Boat	1	5	-	2 + 4	EFC approval awaited Action Plan approved	12
6	Survey vessel	6	-	4	3	Action Plan approved	13
7	Patrol Boat	2	2	-	-	-	4
8	Crane Pontoon	-	4	-	-	-	4
9	Shore Crane	-	2	-	-	-	2
10	Container Crane	-	1	-	-	-	1
11	Terminal Pontoon	7	1	-	9	Action Plan approved	17
12	Floating Dry Dock	-	-	-	1	-do-	1
13	Cargo Vessel						
	SPV(600T)	1	-	-	1	Action Plan approved	2
	SPV(300T)	-	1	2	-	-	3
	Tug + 2 barges (750 T)	-	-	-	1	-	1
	Tug + 2 barges (300 T)	-	-	-	2	Action Plan approved	2
						Project approved	

#### 1.4.1.2 National Waterway No. 2

◆ Fairway Development

The target was to provide LAD of 2 m between Dhubri and Dibrugarh (768 km) and 1.5 m between Dibrugarh and Sadiya (123 km) by the end of 10<sup>th</sup> plan. River conservancy works for maintaining navigable depth (bandalling and dredging) were taken up on year to year basis. LAD of 2 m between Dhubri and Dibrugarh was maintained for most parts of the years during the 10<sup>th</sup> Plan period. However, between Dibrugarh and Sadiya, LAD of 1.5 m could be maintained only during monsoon months because of low discharge in this upper reach of the waterway and also because of inadequate numbers of dredgers available with IWAI.

◆ Navigational aids:

The target was to provide day navigation aids in the entire waterway and night navigation aids in Dhubri-Guwahati sector by the end of 10<sup>th</sup> Plan. Navigational marks for day navigation were provided in the entire waterway all round the year. Night navigation aids have also been provided during the 10<sup>th</sup> Plan between Bangladesh border and Pandu with the help of manned country boats and maintained. River notices were published fortnightly and pilotage provided to vessels operating on the waterway. Project was also prepared for extension of night navigation aids from Pandu to Dibrugarh (513 km). In Sept- Oct, 06 technical and operational parameters of this system were got reviewed through a committee constituted under the chairmanship of DGLL.

◆ Terminals:

On this waterway no fixed terminal exists. However, a project for construction of fixed RCC terminal at Pandu (Guwahati), capable of handling containers was sanctioned during the 10<sup>th</sup> Plan and its low level jetty is under construction through CPWD, which is likely to be completed by March 07. A project for construction of a high level jetty at this site was also sanctioned and work was entrusted to CPWD on deposit basis. A container handling crane was also procured and deployed at this terminal. Actions were also taken to construct a coal terminal at Jogighopa. Floating terminals available at Dhubri, Jogighopa and Pandu were used extensively. A new floating terminal at Silghat was constructed jointly with Numaligarh Refinery Ltd (NRL). and it was regularly used by a private operator for transportation of POL of NRL. There are seven pontoons on NW-2 which can be used as floating jetties at any location as per requirement. During the 10<sup>th</sup> Plan period five pontoons mounted cranes and two shore cranes were also procured for NW-2. These can be shifted to any location on the waterway.

◆ Vessels:

For undertaking dredging on the shoals, talweg and detail surveys, inspection and monitoring of field works and demonstrative operation of cargo vessels, different types of vessels are required. These vessels are one of the important hardwares to obtain desired output. Since these vessels are not available on hire it is necessary for IWAI to have a fleet of required vessels. During the 10<sup>th</sup> Plan therefore, different types of vessels were acquired by IWAI for operation on NW-2. This was one of the important achievements of IWAI on NW-2 in the 10<sup>th</sup> Plan under which a number of vessels were acquired and projects were prepared/being prepared or tendering was in progress in respect of many more vessels. A list of various types of vessels available on 31.3.2002 (i.e. end of 9<sup>th</sup> plan), vessels added in 10<sup>th</sup> plan, vessels under construction and in pipeline for acquisition, as in November 2006 is given below:

S.N.	Vessel	Available on 31.3.02	Added in 10 <sup>th</sup> Plan	Under construction	In Pipe Line	Remarks	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1.	Cutter Suction Dredger CSD	-	1	-	4	EFC approval awaited	5
2.	Hydraulic Surface Dredger	1	-	1		-	2
3	Work Boat	-	-	1	4	EFC approval awaited	5
4	Tug	-	1	-	-	-	1
5	Accommodation Boat	-	1	-	4	EFC approval awaited	5
6	Survey vessel	4	-	2	-	-	6
7	Patrol Boat	-	2	-	-	-	2
8	Crane Pontoon	-	5	-	-	-	5
9	Shore Crane	-	2	-	-	-	2
10	Container Crane	-	1	-	-	-	1
11	Terminal Pontoon	2	5	-	1	Action Plan approved	8
12	Floating Dry Dock	-	-	1	-	-	1
13	Cargo Vessel (a) SPV(300 T)	-	3	-	-	-	3
	(b) Tug + 2 barges (750 T)	-	-	-	4	Action Plan approved	4

#### **1.4.1.3 National Waterway No.3**

##### ◆ Fairway Development:

The target was to complete capital dredging and thereby provide LAD of 2 m in the entire waterway by the end of 10<sup>th</sup> plan. For providing 2 m LAD in the entire waterway the requirement was to complete capital dredging which was started in 1998-99. However, due to various problems including disposal of dredged material, which at places was objected to by local residents, the presence of fishing nets in the waterway, land acquisition for widening of canals and court cases in respect of land acquisition, contractual litigations in respect of the capital dredging could not be completed in the entire waterway, except between Kochi and Thakazhi jetty and most of the portion between Kochi and Kottapuram. However, in some portions of Kochi-Kottapuram and many places between Thakazhi jetty and Kollam, capital dredging could not be completed despite concerted efforts by IWAI by engaging the State Govt. up to the highest level. Efforts are however on to complete the capital dredging.

Annual maintenance schemes including maintenance dredging, bank protection etc. were executed on an year to year basis

◆ Navigational Aids

The target was to provide night navigation aids in the entire waterway by the end of 10<sup>th</sup> Plan. However since capital dredging could not be completed in the entire waterway, provision of night navigation aid was also confined to the dredged stretch only. Day channel marks using coconut/concrete pillars as well as night navigational aids with buoys and lights between Kochi and Allapuzha were completed during the 10<sup>th</sup> Plan. A project for providing night navigation facilities in the remaining portion of the waterway was also sanctioned and actions were in hand to implement it.

◆ Terminals:

Fixed terminals at seven locations namely Kottapuram, Alluva, Kayamkulam, Viakom, Tannermukham, Trikkunnappuzha and Maradu were completed during the 10<sup>th</sup> Plan. Initially it was also planned to provide terminals at CSEZ (Ernakulam), Allapuzha, Kollam and Chavra. However, construction of terminals at CSEZ and Chavra was dropped since the cargo was not available immediately, and terminal at Allapuzha could not be taken up since the State Government was unwilling to hand over the land. Actions were in hand to get the terminal at Kollam constructed through CPWD.

◆ Vessels:

For undertaking dredging on the shoals, talweg and detailed surveys, inspection and monitoring of field works and demonstrative operation of cargo vessels, different types of vessels are required. These vessels are one of the important hardware required to obtain the desired output. Since these vessels are not available on hire it is necessary for IWAI to have a fleet of required vessels. In the 10<sup>th</sup> Plan therefore actions were taken to procure different types of vessels for which a number of projects were prepared/being prepared/tendering was in progress. A list of vessels available on 31.3.2002 (i.e. end of 9th plan), vessels added in 10th plan, vessels under construction and in pipeline for acquisition, as in November 2006 is given below:

S.N.	Vessel	Available on 31.3.02	Added in 10 <sup>th</sup> Plan	Under construction	In Pipe Line	Remarks	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1.	Cutter Suction Dredger	-	1	-	2	Project approved	3
2	Work Boat	-	-	-	2	-do-	2
3	Tug	-	-	-	1	Action Plan approved	1
4	Survey vessel	1	-	-	1	-do-	2
5	Patrol Boat	-	1	-	-	-	1
6	Mobile Crane	-	-	-	3	-do-	3
7	Fork Lift	-	-	-	3	-do-	3
8	Platform Trucks	-	-	-	3	-do-	3
9	Water Hysinth Harvester	-	-	-	1	-do-	1

10	Hopper Barge	-	-	-	1	-do-	1
11	Cargo Vessel SPV(300 T)	-	-	-	1	-do-	1

#### **1.4.2 Action Plan for making existing National Waterways fully functional**

An Action Plan has been prepared for making the three national waterways fully functional by March 2008. Under this Action Plan, specific projects have been identified for development of fairway, navigational aids, terminals, procurement of vessels for development and maintenance of fairway (namely dredgers, survey launches etc.) and also some vessels for operating demonstrative cargo services on the three national waterways. Time lines for preparation of the projects, their approval by the competent authority, award of work and completion of work have also been included in the Action Plan. The Action Plan envisages a judicious mix of fixed and floating terminals with mechanized handling facilities and access and egress by road/rail, facilities for day and night navigation and professional out-sourcing to implement the projects. The Action Plan envisages fund requirement of Rs. 630 cr for making the three national waterways fully functional by March 2008. It is anticipated that even after making the waterways fully functional, it will take some more time for the private sector to become encouraged enough to invest in acquiring and operating vessels for transportation of cargo and therefore, the Action Plan includes demonstration voyages/fixed schedule sailings for about 3 to 4 years with viability gap funding. It is for this purpose that acquisition of cargo vessels has been given priority under the Action Plan.

Under the Action Plan, following infrastructure is proposed to be provided:-

##### National Waterway No. 1

Fairway LAD of 3m in Haldia – Farakka, 2 m in Farakka-Varanasi and 1.5m in Varanasi – Allahabad.

Navigational aids 24 hrs. navigational facilities.

Terminals Fixed terminals at Haldia, BSN (Kolkata), Pakur, Farakka and Patna. Floating terminals at Haldia, Kolkata, Diamond Harbour, Katwa, Tribeni, Behrampur, Jangipur, Bhagalpur, Semaria, Doriganj, Ballia, Ghazipur, Varanasi, Chunar, and Allahabad.

##### National Waterway No. 2

Fairway LAD of 2 m from Dhubri to Dibrugarh and 1.5 m from Dibrugarh to Sadiya.

Navigational aids 24 hrs. navigation aids from Dhubri to Dibrugarh.

Terminals Fixed terminal at Pandu. Floating terminals at Dhubri, Jogighopa, Tejpur, Silghat, Dibrugarh, Jamgurhi, Bogibil, Saikhowa Sadiya.

and

##### National Waterway No.3

Fairway LAD of 2 m

Navigational aids 24 hrs. navigational aids.

Terminals Fixed terminals at Aluva, Viacom, Kayamkulam, Kottapuram, Maradu, Chertala, Trikkunnappuzha, Kollam and Alappuzha

With this level of infrastructure, following cargo transportation (in billion tonne km) on three national waterways is projected upto 2024-2025:-

	<u>NW-1</u>	<u>NW-2</u>	<u>NW-3</u>	<u>Total</u>
2008-09	0.571	0.110	0.243	0.924
2011-12	1.457	1.230	0.396	3.083
2016-17	3.403	2.373	0.437	6.213
2021-22	6.774	4.730	0.506	12.010
2024-25	8.688	4.871	0.558	14.117

For attaining the level of above mentioned cargo transportation on the three national waterways, it is also proposed under the Action Plan to take effective steps to attract multi-modal operators to IWT, and engage shippers to become operators of IWT mode by providing incentive of say 20 paise per tonne km and request the Govt. to reserve certain cargos (particularly owned/controlled by PSUs) for IWT along the corridors where viable waterways exist.

#### **1.4.3 Cargo transportation on National Waterways**

Despite inherent strengths of IWT mode, cargo transportation by this mode has not increased significantly though it has shown generally increasing trend in last 3-4 years as given below:-

	<b>(Cargo moved in btkm)</b>		
	<u>NW-1</u>	<u>NW-2</u>	<u>NW-3</u>
2002-03	0.128	0.004	0.019
2003-04	0.160	0.029	0.022
2004-05	0.312	0.252	0.015
2005-06	0.412	0.322	0.017

Major commodities moved on these waterways are as give below:-

NW-1 Cement, Stone chips, Iron dust, Flyash, Edible oil etc.  
NW-2 Cement, Jute, Tea, Forest products, POL, Fertilizers, Coal etc.  
NW-3 Sulphur, Rock phosphate, Liquified Ammonia Gas, Petroleum products etc.

Besides, during the 10<sup>th</sup> Plan there had been significant increase in cargo transportation on the waterways of Goa and Mumbai and for the first time, the total transportation of IWT cargo in the organized sector crossed the 2 billion tonne km mark in a year. In 2005-06 the cargo transported in the organized sector on NWs, Goa and Mumbai was of the order of 2.823 billion tonne km as against 1.0 billion

tonne km in 2001-02 (end of 9<sup>th</sup> Plan), or an increase of 282 % in 4 years of 10<sup>th</sup> Plan. In terms of tonnes also this figures has increased from 19.76 million tonnes (2001-02) to 50.41 million tonnes (2005-06) ie an increase in 255%. A year wise statement of cargo transportation on NWS, Goa and Mumbai waterways from 2001-02 to 2005-06 is enclosed in Annexure- III.

#### **1.4.3.1 New Developments:**

- ◆ Demonstrative voyages/Fixed Schedule Sailings are being carried out on National Waterway No. 1 between Haldia and Patna since January, 2004 using vessels of CIWTC. Under this initiative, several types of cargo were transported e.g. stone chips from Pakur to Patna and Pakur to Kolkata, edible oil from Haldia to Patna, iron, Silica sand from Patna to Kolkata etc.
  
- ◆ 13 vessels of CIWTC have been leased out to the private sector and these are being used for cargo transportation.
  
- ◆ There has been regular transportation of POL products of Numaligarh Refinery by private sector.
  
- ◆ Private operators also transported bitumen from Haldia to Pandu, coal from Jogighopa to Kolkata, jute from Dhubri to Kolkata, paraffin wax from Pandu to Kolkata etc.
  
- ◆ Passenger vessel of a private company is successfully running tourist service in NW-2 for last two years between various points in the Dhubri - Dibrugarh stretch. Due to this success this company has constructed one more tourist vessel for plying in NW-2. Another company has built one more tourist vessel for operation in NW-1 and Sunderbans.
  
- ◆ An Inland Vessel Building Subsidy Scheme providing 30% subsidy for acquisition of inland vessel by entrepreneurs for operation on three national waterways and Indo- Bangladesh Protocol route has been started operation w.e.f 1<sup>st</sup> April, 2002.

Efforts are being made to encourage private sector to invest in IWT mode for ownership and operation of IWT vessels. Under this initiative, formation of one joint venture for construction and operation of fly ash jetties at Bandel, Kolaghat and Budge-Budge on NW-1 in West Bengal has reached to the stage of signing of MoU between IWAI and the promoter. In addition, bids have been received for formation of joint ventures for ownership, operation and management of barges for transportation of cargo between Dhubri –Kolkata, Pandu-Kolkata, Dibrugarh – Kolkata and Kolkata – Mongla and these were being examined by IWAI.

Efforts are also being made to develop a composite project for transportation of 3-4 million tonne coal of NTPC annually by IWT mode from Haldia to Farakka on PPP basis.

#### **1.4.4 New National Waterways under consideration**

Declaration of 3 more waterways as national waterways is under active consideration. These are: Canal system from Kakinada to Pondicherry integrated

with Godavari and Krishna rivers (1095 km), East Coast Canal integrated with Brahmani river and delta of Mahanadi river (623 km) and Barak river in Assam (152 km). Salient features of these waterways and their status (as in Sept.,06) is given below in brief:-

#### **1.4.1 National Waterway – 4**

Kakinada – Pondicherry canals along with rivers Godavari & Krishna – 1095 km

Cost of the project	-	Rs. 542 cr
Period of development	-	5 years from declaration

The Union Cabinet has accorded “in-principle” approval for the declaration proposal in its meeting held on 24<sup>th</sup> August, 2006 and for introducing the Bill before both Houses of the Parliament. The Bill is expected to be placed in Parliament during the winter session of 2006.

#### **1.4.4.2 National Waterway – 5**

East Coast Canal along with rivers Brahmani & Mahanadi delta – 623 kms

Cost of the project	-	Rs. 1526 cr
Period of development	-	9 years from declaration

The Union Cabinet has accorded “in-principle” approval for the declaration proposal in its meeting held on 24<sup>th</sup> August, 2006 and for introducing the Bill before both Houses of the Parliament. The Bill is expected to be placed in the Parliament during the winter session of 2006.

#### **1.4.4.3 National Waterway - 6**

Barak river (Lakhipur-Karimganj Lafasill stretch)- 152 km

Cost of the project	-	Rs. 46 cr
Period of development	-	4 years from the date of declaration

IWAI has proposed to consider a truncated portion of Barak river between Bhanga and Lakhipur (121 km) for declaration since 31 km portion of the river between Karimganj (Lafasill BSF Camp) and Bhanga forms the international boundary between India and Bangladesh, which requires inter-ministerial consultations by Dept of Shipping.

#### **1.4.5 National Inland Navigation Institute**

*The National Inland Navigation Institute (NINI) has been constructed by IWAI at Patna through CPWD. The institute started functioning from Feb. 2004. Under a MOU with IWAI, Indian Institute of Port Management (IIPM) conducts trainings courses in this institute. Since Feb. 2004 the courses are being run continuously and up to June 2006, 462 candidates were trained in it.*

### **1.5 Technical Studies**

Several studies have been taken up during 10<sup>th</sup> Plan. Some of these have been completed while some are in progress at various stages. The studies which have been completed are; (a) Extension of Kakinada - Mercaunam canals upto Pondicherry, (b) hydrographic survey in Tizu river in Nagaland, (c) hydrographic survey in rivers Gomti and Haora in Tripura,(d) bathymetric and land survey at 15 sites on NW-1 and 11 sites on NW-2 on request of ADB, (e) collection of data on cargo movement in the organized and unorganized sector in national waterways,(f) CSEZ terminal at Kakkanad in NW-3, (g) EIA/EMP study for extension of NW-3,(h) TEF study of Kovalam-Kolachal stretch of West Coast Canal,(i) hydrographic survey in Subansiri river,(j) hydrographic survey in Sunderbans and (k) economic benefit due to IWT movement by fixed schedule service in NW-1. Besides, new studies for (a) development of Narmada, (b) DPR for Kakinada-Pondicherry waterway and its (c) EIA/EMP study and (d) DPR for East Coast Canal and its (e) EIA/EMP study are in progress.

### **1.6 Inland Vessel Building Subsidy Scheme**

The Govt. has approved an Inland Vessel Building Subsidy Scheme under which 30% subsidy is payable to the entrepreneurs for construction of inland vessels built in India for operation in national waterways, Sunderbans and Indo-Bangladesh Protocol routes. This scheme is valid upto March, 2007. This is an important development in the field of IWT and it is expected that the ownership and operation of inland vessels by the private sector will increase, which is a critical requirement for development of this sector. Response to this scheme has been good and in-principle approval for construction of 32 vessels and one dredger had initially been accorded so far. However, only five vessels are reportedly under construction. It is expected after 3 national waterways getting fully functional by March, 2008 only the private sector will come up in a big way to acquire more vessels. At that stage the importance of this scheme will actually fructify in physical terms. Considering this IWAI has proposed to the Dept of Shipping for extension of validity of this scheme upto March, 2025.

### **1.7 External Assistance - Project Preparing Technical Assistance (PPTA) by ADB**

IWAI had prepared proposals of development of 9 waterways and forwarded these to World Bank and Asian Development Bank (ADB) with a view to obtain External Assistance for IWT development in India.

Both World Bank and ADB responded positively to these proposals. ADB also agreed for a Project Preparing Technical Assistance (PPTA) for updating the studies of these waterways made by IWAI and to prepare specific projects for ADB assistance.

A PPTA of US \$ 1.125 million was sanctioned by the ADB in February, 2002. Under this, desk studies were made by a Consultant appointed by the ADB for updating various feasibility reports and other material available in respect of the three National Waterways, Sunderbans waterway, Brahmani- Mahanadi- ECC system, Kakinada- Mercaunam canal and rivers Godavari and Krishna system, river Barak, DVC Canal and NW-3 extension. After the first phase of this study, the ADB's consultant had identified three stretches of waterways to be studied in detail under the second phase. These are: (i) Haldia- Patna stretch of NW-1, (ii) Bangladesh Border- Dibrugarh stretch of NW-2 and (iii) River Brahmani.

Phase-II of the study for identification of specific projects was also completed in 2006 and draft report of phase II was submitted by the consultant in Aug/September 2006. IWAI and ADB had given detail comments on this draft report. Final report of phase II was not received in IWAI till mid-November, 2006.

In the phase II draft report, the consultant has not made any study of Brahmani-Mahanadi – ECC system stating that due to some technical reason this waterway was not viable as of now but can be studied at later stage. Thus, in phase II report they studied Haldia-Patna stretch of NW-1 and Dhubri-Dibrugarh stretch of NW-2 only.

To facilitate this study by the consultant of ADB, IWAI had provided counterpart funding by way of facilities to the consultant such as office space in IWAI Head Office, vehicles for their conveyance in Noida/Delhi as well as during their field visits, computer facilities etc as requested by ADB. In addition, to facilitate detailed study by the consultant for suggesting river training works on NW-1 and 2 detail bank to bank flood season survey of 15 locations on NW-1 and 11 locations on NW-2 was carried out by IWAI.

During the informal discussion IWAI had with ADB officials during September 2006, it was understood that ADB was willing to provide loan on 'normal interest rates' while Govt. of India may consider taking such loan only on 'preferential interest rates'. Due to this, though initially ADB had tentatively made plans to provide loan up to US \$ 300 million (in two phases of US \$ 150 million each), no further progress on actual funding by ADB could be made so far.

#### **1.8 Raising of Bonds by IWAI**

An amount of Rs 136 crores was envisaged by way of raising money from market by IWAI through bonds. However, no efforts to raise money from the market were made by IWAI during the 10<sup>th</sup> Plan since IWT sector has not developed to an extent that return on investment may be possible for servicing of the bonds, and secondly, IWAI could not even utilize the budgetary grants it got from the Govt. on year to year basis during 10<sup>th</sup> Plan. Hence need for raising money from the market was not felt and neither was it a feasible proposition.

#### **1.9 Private Sector Participation**

An investment of Rs 92 crores was envisaged under Private Sector Participation.

With a view to promoting inland water transport mode, Government of India had approved in 2001, an Inland Water Transport Policy which includes fiscal concessions, and policy guidelines for development of this mode and to encourage private sector participation in development of infrastructure and ownership and operation of inland vessels.

In order to explore the possibility of joint ventures and BOT projects in IWT sector, interaction was held with many interested firms. Thereafter, through a consultancy firm priority projects were identified, and bids were invited for 11 Joint Venture projects – 5 projects for construction and management of IWT jetties on NW-1 and 6 projects for acquisition and operation of barges on identified origin-destination pairs in NW-1, NW-2 and NW-3.

For projects of construction of jetties, response was received for three projects for jetties for fly ash handling at Bandel, Budge-Budge and Kolaghat in West Bengal. These projects have been processed and thereafter approved by IWAI Board. Equity sought from IWAI for these three projects is about Rs. 7.50 lakh only. After obtaining clarification from the Dept of Shipping about competency of IWAI for formation of JV

company, IWAI issued sanction letters to the successful bidder (promoter) and has signed the MoU thereto.

For projects for acquisition, operation and management of barges, response was received for four projects. Out of these, single bid received for one project was rejected on technical grounds while bids for remaining three projects are under process. Equity sought from IWAI for these three projects is of the order of Rs 10.94 cr.

## **1.10 Thrust Area Identified by the PMO**

### **1.10.1 Thrust Area**

Under one of the Thrust Areas identified by the Hon'ble Prime Minister, it is envisaged to encourage a gradual shift of domestic cargo from rail and road modes to Inland Water Transport, for increasing its share from the present level of less than 1% to at least 2% .

### **1.10.2. Action Plan/points for achieving targeted modal shift**

The present level of cargo transportation by IWT mode is about 2.82 btkm. Therefore, a modal shift to achieve 20 btkm would mean a growth of about 8 times. Considering that IWT sector in the country remained dormant for a long time, such a modal shift would interalia require; well planned policy measures, modal shift incentives, strengthening of technical manpower in IWAI to increase its capability to implement projects effectively in a time bound manner, and above all, adequate funds. Keeping these aspects in view, it is envisaged that the modal share of 2% in favour of IWT can be achieved in about 20 years time i.e. by the year 2024-25.

#### **Accordingly priorities of IWAI are as follows:-**

- (i) Making the existing three national waterways “fully functional” in about two years time.
- (ii) Promoting cargo transportation by IWT mode – Modal shift from road / rail as well as attract new cargo to IWT.
- (iii) Enabling development of IWT fleet under private ownership.
- (iv) Involving private sector in development, operation and management of IWT infrastructure.
- (v) Sanction of a comprehensive package for IWT sector with focus on adequate funds, taxation, incentives, and special package for IWT sector for making it competitive w.r.t. rail and road.
- (vi) Declaration and development of three new waterways.
- (vii) Encourage States to develop their potential waterways through Centrally Sponsored Scheme.

### **1.11 Some important developments**

While Govt. is committed to public investment in IWT infrastructure, PPP possibilities are being explored in respect of the following projects:

- Construction of state of art terminals at Jogighopa and Haldia along with operation of cargo vessels for coal transportation between Jogighopa and Haldia as a Composite Project (5 lakhs tonnes/year possible)
- Construction of state of art terminal at BISN/GR jetty, Kolkata along with operation of cargo vessels between Kolkata and Pandu as a Composite Project.
- Construction of on shore dry dock and/or floating dry dock at Pandu.
- Development of Goa waterways.
- Movement of NTPC coal (1.2 mtpa) from Haldia to Farakka which can go upto 3-4 mtpa.
- Integration of coastal shipping and IWT- movement of coal from Paradip to Farakka (2-3 mtpa).
- Movement of fly ash from Farakka to Pandu and Clinker/ Limestone/ Cement from Pandu to downstream destinations (0.7- 3.0 mtpa)

### **1.12 Review of Centrally Sponsored Scheme**

For overall development of IWT sector in the country it is necessary that national waterways as well as other waterways are developed side by side. While the development and regulation of national waterways is the responsibility of Central Govt./IWAI, the respective State Governments should develop other waterways, many of which are also feeder routes to the national waterways.. However, due to fund constraints with the States, it has not been possible for the States to provide funds for IWT development. Keeping this in view, a Centrally Sponsored Scheme (CSS) for IWT sector has been in existence. Under this scheme, financial assistance by way of interest bearing loan on re-imburement basis up to 50% cost of the project sanctioned by the Central Govt, was being made available to the states for development of IWT infrastructure. However, since this assistance was not in the form of grant and since the State Govt. were supposed to first get the expenditure made and then request for its reimbursement and that too as an interest bearing loan, the scheme was not at all attractive to the State Govts and therefore it practically played no role in development of IWT sector by the States.

In the 10<sup>th</sup> Plan, this scheme was revised very significantly. The revised pattern of assistance/funding under CSS for development of IWT was promulgated in Nov. 02. Under the revised CSS, 100% grant is now provided for the projects of North Eastern States including Sikkim and 90% grant for the other States for developing IWT sector. This scheme received excellent response from various States and IWAI received more than 90 projects from 18 States costing Rs.525 cr. Of course, since IWT culture does not exist in many States, many of these proposals were not well conceptualized. IWAI nevertheless guided and assisted the States in formulating better proposals as a result of which during 2003-04, 2004-05, 2005-06 and 2006-07, 32 projects of 13 States (Andhra Pradesh, Assam, Bihar, Goa, Himachal Pradesh, Karnataka, Kerala, Maharashtra, Madhya Pradesh, Orissa, Tripura, Uttar Pradesh and West Bengal) at a total cost of Rs. 98.67 cr have been sanctioned and fund of Rs. 41.77 cr has also been released to these States upto October 2006. Out of these, 9 projects of 7 States (Andhra Pradesh, Goa, Maharashtra, Madhya Pradesh, Tripura, Uttar Pradesh and West Bengal) at a cost of Rs. 21.75 cr were sanctioned and fund of Rs. 15.00 cr released to various States by Department of Shipping during 2005-06.

## **1.13 Review of Performance of CIWTC**

1.13.1 A revival package for CIWTC was approved by the Government on 26.06.2001. The revival package envisaged assistance to the tune of Rs. 139.55 crore (Rs. 72.07 crore under plan and Rs. 67.48 crore under non-plan).

In the year 2004 and 2005, a detailed review of the progress made in respect of the revival package was undertaken by the Ministry. This exercise revealed that even after infusing funds amounting to Rs. 144.43 crores (Rs. 77.17 crores under Plan and Rs. 67.26 crores under Non Plan). CIWTC did not turn around as envisaged, while Govt. sanctioned the revival package. Ultimately in March 2005, CIWTC was referred to a newly constituted Board for Reconstruction for Public Sector Enterprises (BRPSE), proposing 100% disinvestment of CIWTC. The BRPSE made recommendations vide its O.M. No. BRPSE/2(XV)/2005 dt. 4.7.2005 and O.M. No. as under:-

- (i) CIWTC should take immediate action for handing over the Rajabagan Dockyard along with the workers and without the liabilities to the Public Sector Enterprises in the Shipping Industry like Goa Shipyard, Garden Reach Builders & Engineers, etc. on long-term lease/management contract etc. within a period of 2-3 months. In case this exercise fails, Department of Shipping should explore the feasibility of handing over the Rajabagan Dockyard along with the workers and without the liabilities of other PSEs on long term lease/management contract, etc. in a transparent manner.
- (ii) CIWTC should take immediate action for disposal of the surplus assets and realize Rs. 35 crores as stated by MD, CIWTC.
- (iii) In order to rationalize the surplus manpower, VRS should be introduced immediately so as to bring the number of employees to about 200 from the existing level of 1080, retaining as many employees as possible in Rajabagan Dockyard.
- (iv) The VRS should be partly funded by the sale of surplus assets amounting to Rs. 35 crores as indicated by MD, CIWTC; Government may fund the balance amount by way of Grant.
- (v) Government may convert the loan of Rs. 120 crores outstanding as on 31.3.2005 in to equity and thereafter reduce the same against the accumulated losses.
- (vi) Government may waive the outstanding interest as on 31.3.2005 amounting to Rs. 160 crores.
- (vii) Immediately after the implementation of the above package, which will improve the financial figures of the company the River Service Division of the company may be considered for disinvestment in favor of private parties; and
- (viii) Government may provide necessary funds to CIWTC by way of Grant to meet the short fall in the funds for making payment of salaries and wages to employees till the unit is disinvested.

1.13.2 Based on the recommendations of the BRPSE, the Govt. approved the following proposals in November 2005:

- (i) Handing over Rajabagan Dockyard (RBD) along with its existing manpower (371 employees), assets and liabilities to Garden Reach Shipbuilders & Engineers (GRSE) or to any other PSE on outright purchase /long term lease/ management contract basis in a transparent manner to be overseen by a Group of Secretaries.

- (ii) Write-off of interest ( as on the date of actual write-off) and conversion of outstanding principal amount as on 31.3.2005 into equity and, thereafter, reducing the same against the accumulated losses.
- (iii) Introduction of VRS to bring down the manpower level (of CIWTC minus RBD) to 43 from the existing level of 1080.
- (iv) Disinvestment of CIWTC minus RBD in favor of private parties after implementation of above proposals vide (i), (ii) and (iii) above.
- (v) Grant-in-aid ( Non –Plan) to CIWTC for pursuing VRS and for making payment of salary/wages until CIWTC minus RBD is disinvested.
- (vi) The Chief Executive, CIWTC to be responsible for implementing the proposal within the time frame envisaged. The Department of Shipping shall fix milestones in this regard.

It was also decided by the Cabinet that Committee of Secretaries (COS) will oversee implementation of the above decisions.

The action on the above lines is under progress.

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Chapter-2  
**REVIEW OF IWT POLICY 2001**

2.1 IWT Policy-2001

With a view to giving an impetus to Inland Water Transport (IWT) development and to encourage private sector involvement in development of infrastructure and also IWT vessel ownership and operation, the Government had approved an “Inland Water Transport Policy” in January, 2001. As per Policy, the Govt is to act as provider, facilitator and regulator and at the same time offer concessions to the private sector for investment in creation of infrastructure and fleet operations. Guidelines for private sector participation were also given in details in the IWT Policy. In addition to ongoing efforts, further policy support in the following areas has been identified:-

2.1.1 IWAI to raise bonds

Inland Waterways Authority of India (IWAI) was authorized to raise bonds to enable IWAI to borrow from the market and mobilize funds.

For this, IWAI Act was amended in September, 2001 and Section 18A was added thereto.

2.1.2 Joint Venture by IWAI

Role of IWAI was enlarged to enable it to enter into commercial/ joint ventures to encourage investment in this sector, subject to financial exposure of the Government being limited to equity participation. Additional concessions in the form of grants, subsidies and other expenditure for development of infrastructure will not be within the scope of the joint venture projects.

For this also IWAI Act has been amended in September, 2001 and Section 14(1) (k) has been added thereto.

2.1.3 Equity participation by IWAI in BOT Projects

In-principle approval was given to the policy guidelines for private sector participation subject to the equity participation of Government/ IWAI limited to a ceiling of 40% for BOT project being worked out on case-to-case basis, subject to details of plan scheme for the purpose to be finalized in consultation with Planning Commission. Such participation will be for areas like fairway development and maintenance, construction and operation of terminals, provision and operation of mechanized cargo handling systems, storage facilities, provision of navigational aids, Pilotage services and setting up and running of IWT training institutions.

2.1.4 Tax exemption similar to National Highways

Grant of 100% tax exemption to investors in this sector for five years and further 30% tax exemption permissible under the Income Tax Act to be availed of in the next five years within a period of 20 years as in the case of National Highways so as to enable this sector to develop.

2.1.5 Enhancement in depreciation rate for inland vessels

The rate of depreciation for all vessels ordinarily operating on inland waterways brought at par with rate of depreciation applicable to ocean going vessel, from time to time. Presently this rate is 25%.

### 2.1.6 Vessel Building Subsidy of 30%

With a view to encourage IWT fleet expansion, a new scheme in place of earlier Loan Interest Subsidy Scheme was introduced for vessel building subsidy of 30% to private fleet operators for construction of inland vessels built in Indian shipyards. For the purpose of vessel building subsidy scheme, "inland vessel" means a vessel registered under Inland Vessels Act, 1917. The scheme has been operational since 1<sup>st</sup> April, 2002, valid upto 31<sup>st</sup> March, 2007.

### 2.1.7 Custom Duty Concessions

In-principle approval was given for levying minimum customs duty on imported equipments and machinery for the development of inland waterways to be identified by IWAI. The list of such equipments were notified in April, 2002.

## 2.2 Progress achieved during 10<sup>th</sup> Plan

Progress achieved for the above mentioned items are given below:-

2.2.1 Raising of Bonds:- Since IWT sector has not developed to the extent that it gives adequate returns which would be necessary to service the funds raised from the market and since the expenditure towards development of infrastructure is being made through the grants from the Govt. of India, the requirement has not been felt so far .

2.2.2 Joint Venture:- In order to explore the possibility of joint ventures in IWT sector, interaction was held with many interested firms, Thereafter, through a consultancy firm, priority projects were identified and bids were invited for 11 JV projects- 5 projects for construction and management of IWT jetties on NW-1 and 6 projects for acquisition and operation of barges on identified origin-destination pairs on NW-1, NW-2 and NW-3. For projects of construction of jetties, response was received for three projects for jetties for fly ash handling at Bandel, Budge-Budge and Kolaghat in West Bengal. These projects have been processed and thereafter approved by IWAI Board. For projects for acquisition, operation and management of barges, response was received for four projects. Out of these, single bid received for one project has been rejected on technical grounds while bids for remaining three projects are under process.

2.2.3 Private sector participation through BOT:- Since the IWT sector has not been developed to an extent that the private sector is convinced of getting adequate returns, no BOT project has so far could be prepared.

2.2.4 Tax exemptions:- Necessary notification has been made under the Income Tax Act.

2.2.5 Depreciation rate for IWT vessels:- Necessary enactment in the Income Tax Act has been made.

2.2.6 Vessel Building Subsidy:- A new Inland Vessel Building Subsidy Scheme (IVBSS) has been operational with effect from 1<sup>st</sup> April, 2002. At present the IVBSS is applicable to the following types of vessels:-

- (i) Vessels carrying cargo including self propelled vessels as well as tug barge combination
- (ii) Passenger vessels other than specialized high speed vessel such as Catamaran, Hovercrafts, Hydrofoils etc
- (iii) Dredgers, Survey vessels, tugs etc for development of NWs
- (iv) Specialized high-speed passenger vessels such as Catamarans, Hovercrafts, hydrofoils etc

Initially the response from the private sector was encouraging and applications for construction of 35 vessels were received and in-principle approval accorded. However, as reported only five vessels are under construction under this scheme by the respective entrepreneurs. The scheme is in force upto 31-3-2007. It is expected that once the IWT mode is developed to a more acceptable level, this scheme will be utilized more and more by the private sector for increasing the IWT fleet. Therefore, IWAI has requested Dept of Shipping for extending the validity of the Scheme upto March, 2025.

2.2.7 Levying minimum customs duty for imported equipments:- Vide notification dated 3-4-2002 following equipments related to inland waterways development have been included in List 19-A of the notification of Ministry of Finance, Department of Revenue no 21/2002-custom dated 1-3-2002 providing for less custom duty

- a) Marine gear box
- b) Electronic hydraulic steering gear
- c) Communication system- VHF-RT
- d) Navigational aids- GPS, Gyro, Radar and navigational lights
- e) Echo-sounder
- f) Oily water separator
- g) Steerable Rudder/ propeller.

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**ROLE OF IWT IN ACHIEVING OPTIMAL INTER-MODAL MIX INTERNATIONAL AND INDIAN EXPERIENCE**

**International Experience**

**3.1 IWT in Continental Europe**

Inland water transport is perceived to be an environment friendly, low cost and safe means of transport compared with land based alternatives, particularly the congested road transport. In north-western Europe, for shipments traveling over 150 kilometres or more, in many cases inland waterway transport is both the cheapest and the most environment friendly way of transport.

Transport by barge is being used extensively on the Rhine, the Schelde, the Meuse, the Main, the Danube and many smaller waterways. Inland waterway transport plays a keyrole in the imports and exports passing through northwestern Europe and constitutes a major part of the hinterland connection for the EU's largest seaports. Inland waterways carried 121 billion tonne-kilometres of goods in 1998 (source: Eurostat "Transport in figures"). This figure represents a modal share of 7%. This needs to be looked at with regard to the fact that only six countries of the EC have river systems, which are interconnected (Austria, Belgium, France, Germany, Luxembourg and the Netherlands). About 1,000,000 containers transited via the Rhine in 1999. Inland waterways account for more than one third of intra-Community transport operations, i.e. commercial traffic between the Member States.

**3.1.1 The Inland waterways network in Europe**

From the point of view of Trans-European networks, four transport corridors making use of inland waterway transport can be identified. These corridors are:-

- (1) The Rhine corridor;
- (2) The North-South corridor, comprising rivers and canals in the Netherlands, Belgium and France
- (3) The East corridor covering the inland waterway transport from Germany to Poland and the Czech republic
- (4) The South-East corridor including the Danube, Main and the canals Main-Danube Canal and Danube-Black Sea Canal.

**3.1.2 The Rhine area**

Of all European countries, the Netherlands have the most dense inland waterwaynetwork. The large rivers Rhine, Meuse and Schelde all have their estuary in the Netherlands. Total length of the Dutch waterways amounts to 5,200 km. The river Waal between the Rhine near Nijmegen and the port of Rotterdam– is the most important waterway.

Since many years, the use of this inland waterway network is significant. Of all Dutch border-crossing goods, over 60 percent is transported by barges. In 1999, over 234 million tonne was transported by barges, of which 42 percent concerned domestic transport, 49 percent concerned international traffic and 9 percent was transit. Within the Netherlands, many intermodal terminals have been constructed, in order to look

after transport to the final destination. Dutch public investment in inland waterways for the period up to 2004 amounts to almost 270 million Euro.

From the biggest Dutch seaports, Rotterdam, Amsterdam and Flushing, several liner services depart to inland terminals in the Netherlands, Germany, Belgium, France, Switzerland and Austria. Especially the transport relations with Belgian and German inland ports are intense. The river Rhine accounts for about 67 percent of all Dutch international inland waterway transport.

The German waterway system consists of approximately 7,700 km of waterways, which connects the seaports with the hinterland and the major industrial centres of the country. In fact 56 out of 74 German metropolitan regions are directly connected to the waterway system. The German federal transport plan envisages investments in the waterway system up to the year 2012 of approximately 15 billion Euro.

In Germany the share of inland navigation with regard to the entire goods transport is 20 percent, which is comparable to the haulage of the German railway. 229 million tonnes of goods have been transported on the inland waterway system in the year 1999. 30 percent are intra-German transport volumes, 10 percent is transit traffic and 60 percent relates to international traffic. The main waterway is the river Rhine, which holds about two thirds of the inland navigation transport volumes. Bulk goods amount to 88 percent of the transported goods and are still the dominant good type but containerized goods are gaining more importance. In 1999 approximately 750,000 containers were shipped on German inland waterways.

### 3.1.3 North-South corridor

The river Scheldt is used intensely for north-south transport between the Netherlands and Belgium, especially between the big seaports of Rotterdam and Antwerp. The river Meuse, which has both an east-west as well as north-south position in the Netherlands, Belgium and France, connects Dutch industrial areas with industry areas and cities in the east of Belgium and the north of France. North-south inland waterway transport accounts for some 32 percent of all barge transport in the Netherlands.

The Belgian waterway system consists of approximately 1,513 km of waterways. Almost every major industrial area in Belgium is connected to the inland waterway system e.g. Brussels, Antwerp, Ghent, Liège, Charleroi. Several waterways that cross Belgium form part of Trans-European Networks, notably the Albert Canal, the Canal Ghent-Terneuzen, the Scheldt-Rhine connection, the Lys and the Canal Brussels to the Scheldt.

Since 1980, the total amount of tonnes transported via the inland waterway system in Belgium is stable around 100 million tonne. In 1999 and 2000 a strong expansion could be detected, with a growth to approximately 120 million tonne in 2000. Some 12 percent of this are intra-Belgian transport volumes, another 12 percent is transit traffic, some 32 percent is traffic with a Belgian origin, but with a foreign destination (export) and 44 percent concerns traffic with a Belgian destination, but with a foreign origin (import). Although transport of bulk goods still accounts for the largest share in transport volumes, the share of containerised goods is growing quickly and currently represents about 15 percent of all the transport volume on the Belgian inland waterways. Inland navigation has a modal share of about 20 percent, based on tonnes transported. The maintenance and upgrading of the waterways in Belgium is the responsibility of the Walloon, the Brussels and Flemish authorities,

respectively. Together these administrations foresee to spend some 3 billion Euro in investments until the year 2010.

The French network of waterways is very extensive, with a dense network of navigable canals and rivers in the parts of the country situated East of the Marseille-Le Havre line. West of this line, there are few navigable canals and rivers. Nonetheless, the overall French navigable network lags behind those of neighbouring countries in Benelux and Germany. The majority of the waterways of the French system are only suited for vessels of the "Freycinet", the width of the locks being sufficient for the passage of small boats, 38.5 m long and 5.05 m wide (carrying from 250 to 350 tonnes depending on the depth of the waterway. The obsolescence of this network is due to the limited total amount of cargo loads, and, more generally, to lack of possibilities to obtain transport efficiencies or low productivity due to the large number of locks, necessary to cope with the considerable "fall" which characterizes most French waterways.

Modern waterways in France, able to handle vessels of 3,000 tonnes and pushed convoys of two Europa II barges, are few and are not linked. These modern waterways are:

- the Rhone and the Saône from Fos sur Mer to Chalon sur Saône (a prolongation is under way extending to Pagny, river port close to a large logistical zone);
- the Seine from Le Havre to Paris (beyond that, the Seine is navigable, but only for smaller boats);
- the Lille-Dunkerque-Valenciennes link; the Moselle from Nancy to the German border.

A few waterways are of intermediate dimensions, between the Freycinet network and the large-scale network. For example, the Rhone-Sète canal has dimensions adequate for vessels of 900 tonnes. The isolation of the different waterways constitutes a major handicap for the development of river transport activity. Inland waterway traffic on French waterways amounted to 56.57 million tonnes in 1999, an increase of 8 percent compared to 1998.

#### 3.1.4 Eastern corridor

Since the early 1990s, trade and transport between Poland and Western Europe has increased sharply. Most of its growth has been accommodated by road and rail freight transport. Although the share of waterway transport is rather low, the Polish barge fleet is relatively large, about one third of the Dutch fleet in number of barges. Polish barges though have a three times smaller size than Western European barges.

Through the Mittelland Canal and the Elbe, together with several connecting canals in the East of Germany, Poland is connected with western European countries. The river Oder, acting as the border between Poland and Germany, functions as a north-south axis in the area. The river Warta has the function of an east-west axis and connects Berlin

with the Polish industrial centra of Poznan and Warsaw. Through Polish waterways, Western Europe is also connected with the Dnjepr area in the former Russian states. The river Weichsel is the biggest inland waterway of Poland, running from south to

north and connecting several large industrial areas with each other. Although major industrial and population centres are connected by inland waterways, river depth still lays a restraint on the draught of inland vessels that can be used.

In the Czech Republic, some 300 km of waterways are operational for transport of goods. These are the regulated river Labe and canals of the Labe and the Vltava. Average depth of these rivers is 1.8 up to 2.0 m. There are plans to make the river Morava navigable and connect it to the river Danube after the year of 2010. Most of the foreign water transport in the Czech Republic has been realised to and from Western Europe. The share of this East-West transport is 93 percent of the Czech export and 86 percent of the Czech import. The modal share of inland water transport amounts to 8.5 percent.

### **3.1.5 South-East corridor**

Water transport is an important mode of transport system in Central and Eastern Europe. The Danube in Austria has a length of 322 km, it constitutes the Austrian – German border for 21 km and the Austrian - Slovak border alongside 7km. The major Danube ports in Austria are Linz, Enns, Krems and Vienna. The total transport volumes in 1998 rose to 10.2 million tons. Of this, 81 percent concerns international transport, 29 percent is transit traffic and 9 percent concerns intra-Austrian transport.

The Danube river, a part of the Trans-European waterway Rhine-Main-Donau is the predominantly used navigation route in Central Europe. The Slovak reach of the Danube is 172 km long. International water transport on the Slovak part of Danube is served by harbours at Bratislava and Komarno and partially by a factory harbour at Sturovo. At present, the Komarno-to-Sered (66 km) navigation route on the lower Vah river is also in operation.

In the eighties more than 5 million tonnes annually were transported by inland waterways in Slovakia. More than 6 million tonnes were handled in inland ports. After 1990 there was a big decrease in water transport. In 1999, only 1.4 million tonne was transported.

The Danube in Hungary runs for a length of 324 km. The major Danube public ports in Hungary are Győr-Gönyű Budapest-Csepel, Nagytetyén, Dunaujváros, Baja. The total transport volumes at the end of nineties rose to 2.5 million tons export/import and 3.0 million tons intra- Hungarian transport.

The Danube, runs for a length of 589 km, on former Yugoslavian territory. The minimum navigable depth on this section is 2.5 m. Navigation is possible continuously, day and night both upstream and downstream. Push convoys as well as barges are equipped with all necessary equipment, in concordance with the Danube norms, similar to those of Rhine.

Romania is the main Danube country, with a length of 1075 km on its soil. On the Romanian sector, the Danube is divided into two big sections:

- (i) River Danube, from Bazias (at km 1075) to the upstream Braila (at km 171);
- (ii) Maritime Danube, from Braila (at km 171), to Sulina (at km 0).

The minimum navigable depths on these sectors are 2.5 m on the upper river sector, and 7.5 m on the maritime sector.

### **3.1.6 Summary Position of IWT in EU**

### 3.1.6.1 **Level of Transport**

Between 1970 and 1998 the level of transport (measured in ton-kilometres) was 103 and 121 billion. With this inland waterways have had a better performance than railways. The railways have seen a decline in transport in the same period. The major development in freight transport though, was the sharp rise in road transport, the level in 1998 is three times the level in 1970. In this period road has increased its share from 48% (1970) to 74 % (1998) for the European Union (EU)-15, whilst other modes have all seen a decline. Inland waterways; 12 % (1970) to 7% (1998), railways; 33% (1970) to 14% (1998), and pipelines; 8% (1970) to 5% (1998). The level of inland waterway transport in Central European Countries (CEC) is around 10% of that in the EU-15; 10 billion ton-kilometres. The share of inland waterways in the total transport has remained the same during the period 1997-1998; around 2.5-1.8%. In the CEC there has also been a sharp decline of the share of rail transport (77% in 1970 to 42% in 1998), together with a sharp increase of the share of road transport (15% in 1970 to 47% in 1998).

### 3.1.6.2 **Modal split per country (1998)**

On an average, inland waterways had a modal split of 7% in 1998 in the EU-15. Actually, only four countries have a modal split higher than 7%. In the Netherlands inland waterways have a modal split of 42%, Germany 14%, Belgium 13%, and Luxembourg 10%. In the CEC, there are also a few countries with relatively high shares. They are: Romania (40% of CEC inland waterways), Hungary (15%), Slovak Republic (15%), Czech Republic (10%) and Poland (10%).

### 3.1.6.3 **Infrastructure**

The length in use (navigable canals, rivers and lakes regularly used for transport) of Inland waterways in the EU 15 is around 30,000 kilometres. The length of the inland waterway system in CEC is 9,000 kilometres.

### 3.1.6.4 **Number of enterprises**

The total number of enterprises in the EU-15 is around 10,000. Of these two-third are Dutch or Belgium, countries where shipper-owners play an important role in inland shipping.

### 3.1.6.5 **Turnover**

Inland shipping has a turnover of around 4,200 million Euros. This is far less than road (131,000), but the turnover per person employed is higher (114,000 Euro for inland waterways compared to 77,000 Euro for road transport).

Source: European Conference of Ministers of Transport- Document titled "Inland

waterways in Europe" by Mr.Martin Kraan (January, 2002)

## 3.2 **Marco Polo Programme**

The European Commission (EC) has launched a modal shift programme named "Marco Polo" on 22<sup>nd</sup> July, 2003. The Marco Polo programme is the successor to the "Pilot Actions for Combined Transport" (PACT) initiative. Its objective is to reduce road congestion and to improve the environmental performance of the freight transport system within the Community and to enhance intermodality, thereby contributing to an efficient and sustainable transport system. The programme runs

from 2003 to 2006 with a budget of € 100 million. The Marco Polo I programme was opened till 11<sup>th</sup> October, 2006.

The European Commission estimates that freight on Europe's roads will increase by around 60 billion tonne-km each year until 2010. Today, 1 in 9 freight deliveries arrive late due to road congestion. The Marco Polo initiative was devised as a way of combating congestion through providing risk funding for commercial projects which seek to take freight off the roads and onto other transport modes. All types of transport are included and solutions may be multimodal or uni-modal. The Commission understands that road is often a vital element to the supply chain and fully expects a short road element to feature in most applications. Marco Polo aims to shift 12 billion tonne-km off European roads each year until 2010. It is meant primarily for the companies from the 25 EU member States.

The following three types of projects are eligible for funding under this programme:-

### **3.2.1 Modal Shift**

These could be innovative projects which shift freight from road to other modes. The Commission subsidizes these projects at €1 for every 500 tonne-km moved and up to a maximum of 30% for a three year period after which the project must be financially viable. It must be demonstrated that at least 250 million tonne-km would be shifted off the roads during the course of the project.

To ensure that Europe as a whole gets value for money, the Commission does not fund small projects which only benefit a small geographical area. Therefore a minimum subsidy threshold of €500,000 has been put and upto 30% is available for a period of 36 months.

### **3.2.2 Catalyst Action**

These could be innovative initiatives which are geared towards overcoming structural market barriers to effect real changes in the existing transport system. A minimum subsidy threshold of €1.5 million is prescribed and up to 35% funding for 48 months is available.

### **3.2.3 Common Learning**

These initiatives should be aimed at fostering cooperation between Member States and Industries where cultural, language or other barriers have, in the past, hindered transport projects. Seminars, training courses and the sharing of best practice are all included. The maximum subsidy available is 50% of the total expenditure for a period of 24 months.

### **3.2.4 Marco Polo II**

By the end of this year (December, 2006), Marco Polo II programme (2007-2013) is likely to be launched. Marco Polo II would include new actions such as Motorways of the Sea and Traffic Avoidance measures. The estimated cost of this programme is € 400 million and it will be extended to countries bordering the EU.

Source: Website EU- Marco Polo, 2006

### 3.3

### IWT in China

China, with an inland waterway system comprising more than 5,600 navigable rivers and a total navigable length of 119,000 km, has the most developed IWT sector in the region. The majority of the country's total length of navigable waterways is located within the courses of the Yangtze, Pearl, Huaihe, and Helongjiang rivers. The Yangtze (with its tributaries) alone has a navigable length of 58,000 km, of which 3,000 km is suitable for navigation by vessels of 1,000 dwt or more. In addition to the major rivers, there is the ancient Beijing-Hangzhou Grand Canal, with a navigable length currently standing at 1,747 km, but which is expanding annually as a result of channel regulation works.

Within the waterway network, there are about 2,000 inland ports, including 85 leading ports which provide 52 berths capable of accommodating vessels of up to 10,000 deadweight tonnage. Seven of these ports each have an annual cargo throughput of at least 10 million tons. The network has some 900 navigational structures such as ship-locks and ship-lifts. Among these is the largest five-step ship-lock located at Three Gorges Dam on the Yangtze River.

China is concentrating its IWT development thrust on 5 specific areas, namely, Yangtze River, Pearl River, Beijing-Hangzhou Grand Canal, Yangtze River Delta and the Pearl River Delta.

On the Yangtze (which moves 80 per cent of the country's IWT traffic), huge commercial and infrastructure growth taking place around Shanghai – and the vast Three Gorges project (essentially to improve electric power) completely changed the scale of permissible vessel movement – above and below the dam – and opportunities for the movement of freight and people. The project includes the construction of the world's largest ship lock. The shiplock has two lines and five steps each line. The chamber dimensions of each step are 280 m long, 34 m wide and 5 m deep for passage of pushing convoy with carrying capacity of 10,000 tons. Total length of the lock is 1,607 m. Overall differences of upper and lower water levels is 113 m with the highest upper water level of 175 m. Total investment of the shiplock is US\$ 747 million. After years of construction, the shiplock was opened for navigation on 16 June 2003.

With completion of this project, all the rapids and shoals over a distance of 430 km of waterway have submerged to provide better conditions for navigation. Average water depth has reached 70 m, and 514 satellite positioned aids to navigation have been installed in the upper river section.

The project made decrease in transport cost by river barge by 37 per cent. Annual passage capacity of this river section increased to 50 million tons. Container handling at an upper major port has been increased to 100,000 TEU.

In 2000, China also decided to upgrade the 243 km long Hang-Yong Canal, located in the southern part of China. Involving a total investment of around US\$ 300 million, the project includes construction of shiplocks, expansion of the channel, and reconstruction of bridges. The canal will connect six rivers in the Zhejiang Province. It will also connect this inland waterway network with the country's largest river, the Yangtze, through the Beijing- Hangzhou Grand Canal, which extends from Beijing to Hangzhou, the capital city of the Zhejiang Province. The project will allow 500-ton barges to sail between Hangzhou and the deep-water seaport, Ningbo, and will be used as an inland transport corridor linking the port with the largest inland waterway network in China.

The fleet of vessels plying the inland waterways now numbers 231,000, with a total deadweight tonnage of 20.67 million and a passenger seating capacity of 780,000. The average vessel size is growing; it increased by 36 per cent between 1995 and 1999. In 2000, the cargo volume carried on the inland waterways of China reached 690 million tons and the total cargo task, measured in ton-km, reached 155 billion (giving an average trip distance of 212 km). While the cargo volume and task has been increasing, the passenger volume and task, standing at 130 million passengers and 6.35 billion passenger-km

Since 1990, the growth of container traffic has dominated overall traffic growth on the inland waterway system. The volume of containers carried to or from Major River ports grew by 38.6 per cent per annum, from 100,000 TEU in 1990 to 1.88 million TEU in 1999. In 1999 alone, this volume increased by 84.1 per cent.

The development strategy includes inland port development, construction of 20 inland river channels totaling 15,000 km in major north-south and east-west corridors and localized networks. Port development will involve the construction or upgrading of a total of 81 key ports and 159 other ports along the Yangtze, Pearl, Heilongjiang, Songhuajiang and Liaohe river systems. Approx. US\$ 2.15 billion was invested in IWT development during 1996-2000.

Source:- ESCAP Document, 2002

### **3.4 IWT in US**

The U.S. inland navigation system - nearly 12,000 miles of commercially navigable inland and coastal waterways - plays a vital role in moving the nation's freight. Over 630 million tons of cargo moves annually on the inland waterway system. Moving the same volume over land would require 6.3 million rail carloads or 25 million additional truckloads passing through countless communities.

Inland navigation operates as a system, much like the highway system. Main stem waterways - the Mississippi, Ohio, Illinois, and Tennessee Rivers and the Gulf Intra-coastal Waterway -- are like interstate highways - the through routes that carry most of the traffic. Smaller tributary waterways act as secondary roads or neighborhood streets, allowing commerce on and off the main routes and providing access to communities not located on the main waterways. These tributary waterways carry less traffic than the main stem waterways, but, like neighborhood streets, they play a vital role in linking communities to the system as a whole. They allow shippers and consumers in communities on tributary waterways to take advantage of the huge economies of scale offered by large barge tows on the main stem, resulting in lower transportation costs throughout their region. They also allow millions of tons of cargo to stay in barges until much closer to a final destination, rather than moving longer distances by highway or rail and adding to congestion.

Because mileage and tonnage data are easily available, it has been a common, but misleading, practice to compare individual inland waterways based on the tons and ton-miles they carry. However, this approach tends to minimize the importance of tributary waterways by not capturing their system-wide impacts. The trip on the tributaries is usually only a small part of a total journey between producer and consumer, like the trip on neighborhood streets is usually a small, but very important,

part of a car journey. Tributary traffic joins the main stem traffic and becomes part of the impressive statistics realized by the "interstates" of the waterways.

For a real world example, follow a barge load of coal (1500 tons) as it is shipped from a mine in the vicinity of London, West Virginia, on the Kanawha River, to a power plant between Alexandria and Shreveport, Louisiana on the Red River Waterway. In terms of how ton-miles are typically measured, that one 1500-ton shipment would be documented as follows:

<b>RIVER</b>	<b>Miles</b>	<b>Tons</b>	<b>Ton-miles</b>	<b>Percent</b>
Kanawha	83	1500	124,500	5.0%
Ohio	715	1500	1,072,500	43.2%
Mississippi	650	1500	975,000	39.3%
Atchafalaya	6	1500	9,000	0.4%
Red	200	1500	300,000	12.1%
<b>TOTAL</b>	<b>1,654</b>	<b>1500</b>	<b>2,481,000</b>	<b>100.0%</b>

Most of the ton-miles generated by that movement are credited to the main stem "high use" Ohio and Mississippi Rivers (83%). Yet the movement would not have occurred in the first place without access to the Kanawha River and demand by a power plant on the Red River.

In published statistics the Red River handled 335.5 million ton-miles in 2005. However, if the total ton-miles between cargo origin and destination are calculated for Red River traffic, that 335.5 million ton-miles translates into 2.4 billion ton-miles throughout the system that depend on terminals on the Red. In other words, terminals on the Red River generate over seven times the ton-miles credited to the Red River in published statistics.

An analysis by the US Corps' Institute for Water Resources indicates that tributary waterways account for only 3 percent of inland waterway system ton-miles. Further analysis of the cargo that makes part of its journey on tributary waterways, however, indicates that tributary waterways contribute 15 percent or more of the ton-miles carried on the total system. Available data suggest that nearly all tributaries more than "pay their way" in terms of national transportation savings. Of 17 tributary waterways analyzed, all but one generated transportation savings that exceeded average operation and maintenance costs for the waterway. Thirteen tributaries show a better than 2 to 1 ratio of transportation savings to O&M cost. These estimates point out that the contribution of tributary waterways to the national economy may be surprisingly robust.

Source: USACE Institute for Water Resources, August 2005.

### 3.5 Indian Experience

Navigable inland waterways in India comprising of river systems, canals, backwaters, creeks and tidal inlets extends to about 14,500 km. Most waterways, however, suffer from navigational inadequacies such as shallow waters, narrow width, siltation and bank erosion. Moreover, vertical and horizontal clearances at overhead structures are not adequate for navigation throughout the year. Consequently, at present about 5200 km of major rivers and 485 km of canals are suitable for mechanized craft operation. Even these navigable waterways lack the needed infrastructure such as fairway, navigational aids, terminals and communication facilities. The mechanized vessel operations are confined to only few locations. Cargo transportation in an organized manner is confined only to Goa, West Bengal, Assam and Kerala.

Inland Waterways Authority of India (IWAI) was constituted in October 1986, for the development and regulation of inland waterways for shipping and navigation. The Authority inter-alia undertakes various infrastructure developments and maintenance works on national waterways. It also carries out techno-economic studies on potential waterways, provides subsidy for construction of inland vessels and assists States for development of waterways through Centrally Sponsored Scheme for IWT development. Few States have setup separate Directorate for IWT viz Assam, West Bengal, Orissa, Goa and Karnataka. Certain States have setup Maritime Board which is looking after the IWT activities in the creeks viz Maharashtra, Gujarat and Tamil Nadu. Still IWT activities in the riverine and coastal States remain undeveloped.

Three more waterways are likely to be declared as National Waterways by the end of 10<sup>th</sup> Plan viz. (i) Kakinada-Pondicherry canal along with rivers Godavari and Krishna (1095 km) (ii) East Coast Canal along with Brahmani and Mahanadi delta rivers (623 km) and (iii) River Barak (152 km). With this the coverage of National Waterway will increase from 2716 km to 4586 km.

India's freight transport system carries approximately 1000 billion ton-kilometers(BTKM); the modal shares being, road 55%, rail 34%, coastal shipping 6.8%, pipeline 4% and IWT 0.28 %. In absolute terms, mode carries 45 million tonnes annually. The Thrust area, however, envisages enhancing the modal share to 2% by 2025.

Some hard facts in the context of underutilization of IWT mode in India vis-à-vis its potential are given below:-

- (i) There is not a single full fledged river port in the country as on date ( Patna terminal is not yet operational)
- (ii) The infrastructure facilities (fairway with assured LAD, terminals, cargo handling equipments, night navigation facility, inter-modal linkages etc) on national waterways are grossly inadequate. As a result, the national waterways are yet to become fully functional and become an alternate and viable mode of transport.
- (iii) The IWT fleet strength is about 400 nos. only, of which more than 50% is obsolete and non-operational
- (iv) Low value, high volume cargo like coal and fly ash, fertilizer, raw materials, building materials, food grains etc are being carried long distances by road and

rail, despite O-D points lying on national waterways, IWT Protocol routes( in case of north-east) and other developed inland waterways.

(v) Although considerable emphasis has been laid on development of rail and road infrastructure in the successive Plans, the IWT sector has been neglected. Consequently, investments in IWT mode has been far below the levels attained in rail and road modes.

(vi) The IWAI established in 1986, is the nodal agency for the development and regulation of IWT infrastructure. The role envisaged for IWAI is to act as a provider, facilitator and regulator of the development of IWT mode. The Authority can levy user charges for the infrastructure created and service provided by it, however, to date IWAI has not levied any such charges or rather, Authority is in no position to demand user charges, given the state of IWT infrastructure in the country and almost negligible share of this mode in cargo market.

In view of the above, a paradigm shift in approach to IWT development during 11<sup>th</sup> Plan is called for.

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## CHAPTER – 4

### UTILIZATION OF IWT MODE FOR NORTH EAST AND TRADE WITH BANGLADESH

#### **4.1. Background**

4.1.1 India's North Eastern region consists of 8 States namely Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura occupying 2,62,179 sq. km with a population of about 3.9 cr (2001 census). One of the key development constraints in the North East has been its geographical isolation and inadequate connectivity with the rest of India. With limited geographic access to market, the region is at a comparative disadvantage in its ability to attract investment. Air connectivity has improved over the years but the fact remains that relatively high demand of bulk good in the region's economy requires further development of rail, road and inland water transport modes.

4.1.2 The North Eastern Region has abundant water resources and several important rivers flow through this region – many of them drain in Brahmaputra or Barak who further drain themselves into the Bay of Bengal through Bangladesh. Therefore, the IWT mode becomes an important mode of transport for linkage of the North East region with rest of India as well as Bangladesh. IWT mode assumes greater significance because, while there is no bilateral agreement between India and Bangladesh for movement of Indian goods through rail or road through Bangladesh, there exists an arrangement between the two countries under which inland vessels of India can pass through Bangladesh waterways giving an operational connectivity between Indian mainland, Indian North Eastern Region and Bangladesh.

4.1.3 The use of inland waterways for transportation of bulk goods in the North Eastern Region has a number of advantages:

- Cargo transportation to the North East through the Sunderbans and Bangladesh via the NW-2 and via the Meghna-Barak waterway system often follows a shorter route than that by the rail or road network.
- During the flood season, other modes of transport are often not in operation, and inland waterways are the only viable option for transportation of goods between the North East and the rest of India. Basic commodities such as food grains need to be transported to the North East during the flood season- inland waterways are highly suited to such bulk transport.
- Bulk commodities and large cargo used for industrial production and large scale construction projects can be transported through inland waterways from Kolkata/ Haldia.
- Passengers and cargo are moved via inland water transport in both the organized and unorganized sectors. This mode of transport is essential to small or remote locations for the transport of agricultural and commercial products to and from regional markets and growth centers, especially during the monsoon and flood season.
- The increase in economic activity as a result of the development of inland water transport would create substantial employment opportunities.
- Passage through Bangladesh provides a strategic link between NE States and other parts of the country through Haldia and Kolkata ports.

- Opening of the Farakka-Dhulian-Rajshahi-Aricha route will further provide direct link to the main land through NW-1

#### **4.2. IWT Transit and Trade Protocol between India and Bangladesh- Salient Features**

4.2.1 An Inland Water Transit and Trade Protocol between India and Bangladesh has been operational since 1980. This is renewable every two years. However this pattern has not been followed since 3<sup>rd</sup> October 2001 and the renewal has been done only in a piece meal manner.

4.2.2 Under this Protocol, India and Bangladesh have agreed to use their inland waterways for passage of goods between two places of one country through the territory of the other, and also for inter-country trade. The Protocol provides for 50:50 sharing on tonnage basis for inter-country and transit cargo by Indian and Bangladesh vessels.

4.2.3 Following transit routes are specified in the Protocol :-

- Kolkata - Haldia - Raimongal - Chalna - Khulna - Mongla - Kaukhali - Barisal - Hizla - Chandpur - Narayanganj - Aricha - Sirajganj - Bahadurabad - Chilmari - Dhubri – Pandu, and vice-versa.**
- Kolkata - Haldia - Raimongal - Mongla - Kaukhali - Barisal - Hizla - Chandpur - Narayanganj - BhairabBazar - Ajmiriganj - Markuli - Sherpur - Fenchuganj - Zakiganj – Karimganj and vice-versa.**
- Rajshahi - Godagari – Dhulian, and vice-versa.**
- Karimganj - Zakiganj - Fenchuganj - Sherpur - Markuli - Ajmiriganj – BhairabBazar - Narayanganj - Chandpur - Aricha - Sirajganj - Bahadurabad - Chilmari - Dhubri – Pandu, and vice-versa.**

4.2.4 Under this Protocol, following four Ports of Call in each country have been nominated for facilitating inter-country trade.

India : **Kolkata, Haldia, Karimganj and Pandu**

Bangladesh : **Narayanganj, Khulna, Mongla and Sirajganj**

4.2.5 200 lakh Bangladeshi Taka are paid by Government of India to Bangladesh annually for maintenance of routes between Sirajganj and Daikhowa and between Sherpur and Zakiganj which are maintained by Bangladesh, primarily for the use of Indian transit traffic.

4.2.6 Under the protocol, Inland Waterways Authority of India (IWAI) and Bangladesh Inland Water Transport Authority (BIWTA) have been nominated as “Competent Authorities” by the respective Governments to deal with the Protocol related issues.

4.2.7 For evaluation/ review of the working of the Protocol, there is a Standing Committee with representatives of both the Governments.

4.2.8 The Protocol enumerates various operational parameters namely conservancy and pilotage, port dues and other charges, handling facilities, supply of bunkers, purchase of essential stores/provisions, repair facilities, assistance to be provided by either country to the vessels of the other in distress, submission of voyage forecast for voyage permission to use waterways, nomination of ports of call on equal basis, recognition of survey certificates and other documents, flying of flags, use of radio telephone, registration and issue of identity cards, sharing of inter country trade and

transit cargo, common freight rates, uniform documentation, custom checks and documentation, freight remittance facilities, appointment of agents, arrangement of settlement clearance and remittance, setting up of Standing Committee etc.

### 4.3 Utilization of Protocol

4.3.1 Due to the constraint in connectivity through rail and road modes, IWT mode becomes very important for connectivity between NE States and Kolkata/Haldia ports as well as for connectivity between Bangladesh and Haldia/Kolkata Ports/NE States of India.

4.3.2 In recent years, many cement plants have come up in Bangladesh which use Fly ash, Gypsum and Slag as raw materials. Due to this development, lot of these raw materials are getting transported from Kolkata/Haldia to Bangladesh through IWT mode. The routes through Bangladesh have greater scope for transit and inter-country trade movement through IWT. Only a tiny fraction of it is being realized. The cargo transported between Haldia/Kolkata and Bangladesh in last 3 years is as given below:

(in tonnes)

Year	Fly ash	Gypsum	Slag	Food	Project	Mn FeOre	Others	Total
2004	136977	19151	0	54704	10575	5375	15343	242125
2005	447113	24687	31231	11475	21437	8250	9629	553823
Up to 8/2006	81317	8539	4018	1000	2945	13091		110910

4.3.3 CIWTC has not been able to transport enough cargo between NW-2 and Kolkata/Haldia in recent years due to its ailing financial health. However, other private operators have done transportation of many bulk cargo in last two- three years. For example: (a) bitumen from Haldia to Pandu, (b) Jute and Paraffin wax from Pandu/Dhubri to Haldia/Kolkata (c) Tea from Pandu to Kolkata, (d) Cement from Kolkata to Pandu (e) Meghalaya coal from Jogighopa to Kolkata and (f) HSD of Numaligarh Refinery from Silghat to Haldia/Kolkata etc. Interest shown by a leading private cement company for setting up of their captive facilities at Pandu which will facilitate transportation of fly ash/gypsum from Farakka/Kolkata to Pandu and clinker/ cement from Pandu to Kolkata in large quantities by IWT mode is another promising development.

4.3.4 Study show that while, cargo movement by Indian vessels has not increased, the cargo moved by the private sector Bangladesh companies in the inter-country trade particularly fly ash, gypsum, slag etc. has increased many fold. Following table illustrates imbalance between Indian and Bangladesh vessels operating for inter country trade in last 3 years.

Year	Inward movement		Outward movement	
	Indian Vessels	B'desh Vessels	Indian vessels	B'desh Vessels
2003 (Sept 03- Dec 03)	1	44	23	70
2004 (Jan 04- Dec 04)	6	457	45	416

2005 (Jan 05- Dec 05)	-	846	37	784
2006 (Jan 06- Aug 06)	-	690	14	663

#### 4.4 **Identified commodities for transportation by IWT mode**

Main bulk commodities which are considered suitable for IWT movement between North-Eastern states – Bangladesh – Kolkata are Coal, Petro chemicals/ POL, Fertilisers, Paraffin Wax, Jute, Iron and Steel, Cement, Containerized cargo, Tea, Limestone, Clinker, Salt, Foodgrains, Fruits, Forest products, Paper, Bitumen, Over dimensional cargo, Project materials, etc

##### 4.4.1 **CES Report**

*M/s Consultancy Engineering Services (CES) in its report of 2003 titled “Perspective Transport Plan for North- East region” have identified current potential traffic for IWT in North- east region (Brahmaputra valley and Barak valley), provided fairway for round the year operation, round the clock navigation, terminals with mechanical handling facility and good connectivity with road and rail are put into place. CES have estimated that about 13.74 lakh tonne of various cargo can be transported by IWT mode in North- East. Extracts from CES report given below.*

##### 4.4.1.1 **Brahmaputra River System**

###### (i) **Fertilisers**

The fertilizer cargo of about 7,500 T/month originating from Namrup factory of Hindustan Fertiliser Corporation can potentially be transported to Haldia/ Kolkata.

###### (ii) **POL products**

There are four refineries located in the North East viz. Digboi Refinery, Numaligarh Refinery, Guwahati Refinery and Bongaigaon Refinery. In case of Digboi Refinery, the production is being mostly consumed within North East Region . As far as Guwahati and Bongaigaon refineries are concerned, the surplus products are being transported either by Pipeline to Eastern/Northern Regions or by rail/ road. In the case of Numaligarh Refinery, however, only a part of the production is being absorbed within the North East Region and major part is moved out of North East Region, mainly by Rail. It is in this context that transportation of surplus products from Numaligarh to Haldia/ Kolkata or Bangladesh through NW-2 by IWT mode assumes great significance. To make this possibility a reality, CIWTC made experimental trial run by deploying their 1500 T oil tanker ‘Naharkatia’. Though this operation took considerable time for its round trip, it nevertheless established technical feasibility of movement of this largest inland POL carrier ever plied in Brahmaputra for such a long distance of over 1700 km between Kolkata and Silghat.

This effort has now resulted into a success story under which IWAI built a special floating POL terminal at Silghat in association with Numaligarh Refinery Ltd (NRL) and a private operator of Kolkata has taken two POL tankers of CIWTC on lease and is already doing transportation of POL on a regular basis since about one year

Taking into consideration of the above development, and based on the indications available, the potential traffic is estimated as 5 lakh tonne per year of NRL and 1 lakh tonne from Bongaigaon Refinery.

###### (iii) **Jute**

Jute Corporation of India Ltd. (JCI) have their regional offices situated at Nagaon, Guwahati and Dhubri. There are 26 Departmental Purchase centres spread over 9 districts in Assam (one in Meghalaya) which directly execute the procurement operation. Almost entire quantity of their total procurement is generally dispatched

out of Assam to the jute mills situated in and around Kolkata. Jute movement from Pandu to Haldia to the tune of 20,000 T/year is estimated in the coming years.

(iv) **Tea**

A number of tea gardens are situated in Assam, which transport their tea loaded in containers to Kolkata. 1.5 lakh tonnes of tea per year is transported from this region. Hindustan Lever Ltd. can transport about 50,000 T per annum through IWT from Dibrugarh/Tejpur/Pandu to Kolkata while other companies can also consider transportation of about 20,000 T per annum provided they are assured of scheduled delivery.

(v) **Cement**

Presently Cement Corporation of India bring about 2.1 lakh ton of cement to Pandu from eastern region of India and distribute to other consumption points at Tezpur, Neamati and Dibrugarh. If reliable IWT services are available, cement can be brought to Pandu and other centres through waterways. Cement Manufacturers Association also has shown interest in IWT movement. Keeping in view location of consumption points which are alongside river there is potential for movement of 1 lakh tones per year of cement by IWT in the coming years.

(vi) **Timber**

A large quantum of timber (about 4 lakh tonnes) moves from NE region. There is potential of timber traffic from Jogighopa to Patna to the tune of 1.44 lakh tonne per year.

(vii) **Iron & Steel**

Assam in particular and whole of North Eastern Region in general, receive substantial quantities of Iron & Steel from steel plants situated outside the region. Main stockyards for iron & steel in Assam are at New Bongaigaon and at Guwahati. There are smaller stockyards at Dibrugarh and Tezpur. 80% of the total quantity moved into Assam is from West Bengal. Steel Authority of India (SAIL) bring about 1.5 lakh T steel from their different steel plants to Pandu and thereafter distribute to other places. Since SAIL have their stockyard at Dhankuni near Kolkata, a part of this traffic can be considered for transportation to Brahmaputra valley through IWT. Considering the unloading points at Pandu, Jogighopa, Neamati and Dibrugarh, the traffic is expected to be of the order of about 75,000 tonnes per annum.

4.4.1.2. **Barak River System:-** IWT has a distinct advantage in this region since the land route linkages with eastern India mainly from Kolkata/Haldia port involve large detour for southern districts of NE Region, of which significant portions are hilly.

Another advantage is that IWT traffic can be both ways since there is potential inward traffic to Cachar valley (upstream) which consists of Fertilisers, Foodgrains Cement and Iron & Steel, as well as outward traffic from Cachar valley to Haldia/Kolkata which may consists of Coal, Forests products and Paper products. The likely share of IWT cargo has been estimated on the basis of nature of commodity, seasonal operation (only five months) management of the services, Government policies and total transport cost.

(i) **Fertiliser**

The demand of fertilizers like DAP and MOP which are not produced in this region is met by bringing from other States of India. At present, fertilizer is moved from Kolkata to Guwahati by rail and road and then distributed to Agartala, Dimapur, Silchar, Itanagar, Imphal by road transport. Silchar primarily serves as a major distribution centre for districts of Mizoram and Dimapur is the distribution center for the districts of Nagaland and Manipur. IWT can be ideal mode for transporting fertilizer from Kolkata to Karimganj for onward dispatch to various consumption points

in Cachar valley and other adjoining states. There is transportation demand of about 20,000 tonnes of fertilizers from Kolkata/Haldia to the region.

(ii) **Foodgrains**

Foodgrains are generally imported from Punjab, Bihar and UP to meet the demand of NE region. From the past survey reports it has been revealed that 20-25% of the total demand of the region will be for Cachar valley. FCI transports large amount of foodgrains to and from various parts of the States by means of road transport. During rainy season when the road/rail transport system gets disrupted in Cachar valley due to flood, IWT is the only means available for transportation of essential commodities like foodgrains. With the help of intermodal network, a substantial part of FCI cargo can be transported by IWT economically. In this context Karimganj terminal will be ideal for feeding states like Mizoram, Tripura and Manipur. It is expected that, considering five months operation during rainy season about 40,000 tonnes of foodgrains can be moved per year.

(iii) **Iron, Steel and Cement**

Brahmaputra Board has planned to construct a multipurpose dam at Tipaimukh on Barak River. The accessibility by road to this area is either via Dimapur in Nagaland (NH-39) or via Silchar in Assam (NH-53). According to the indication from concerned agencies of the States of Assam, Manipur and Mizoram and considering five months operational period, transportation of about 50,000 tonnes of Iron/Steel and Cement could be feasible from Kolkata by IWT per year.

(iv) **Forest Products**

Horticulture/Forest products (bamboo, timber, broom sticks, cane etc.) of Meghalaya Manipur, Mizoram, Tripura to the tune of 50,000 tonnes per year can be economically transported by IWT from Karimganj/ Badarpur to Kolkata/Haldia.

(v) **Paper Products**

The raw materials for the paper mills in NE states come from Kolkata except bamboo and the finished product is transported to places like Kolkata and Bihar by road. The finished papers from Hinustan Paper Corporation could be transported through IWT during five months operational period. The requirement is estimated to the tune of 45,000 tonnes per year.

(vi) **Coal**

Khasi coal from Meghalaya is in great demand in other parts of the country. About one million tones of coal is now transported from Meghalaya coal mines at Cherapunji and Howai. There is demand for transportation of 45,000 tonnes of Khasi coal from Cachar valley to Kolkata which can be considered as possible cargo on Karimganj – Kolkata route.

4.4.2. **Summary of Potential IWT Traffic in NE Region (per year)**

Commodity	Brahmaputra Valley			Barak Valley			Total (Tonnes)
	Qty (Tonnes)	Origin	Destination	Qty. (Tonnes)	Origin	Destination	
Fertiliser	90,000	Pandu	Haldia	20,000	Kolkata/Haldia	Karimganj	1,10,000

Food grains	-	-	-	40000	Kolkata	Karimganj	40,000
Cement	1,00,000	Kolkata	Pandu/ Tezpur/ Neamati/ Dibrugarh	50,000	Kolkata	Karimganj/ Badarpur	2,25,000
Iron & Steel	75,000	Kolkata	Pandu/ Jogighopa /Neamati/ Dibrugarh				
Clinker	25000	Haldia	Pandu	-	-	-	25,000
Coal	-	-	-	45000	Karimganj	Kolkata	45,000
Forest products	1,44,000	Jogighopa	Patna	50,000	Karimganj/ Badarpur	Kolkata/ Haldia	1,94,000
Tea	70,000	Dibrugarh / Tezpur/ Pandu	Kolkata	-	-	-	70,000
Jute	20,000	Pandu	Haldia	-	-	-	20,000
POL	5,00,000	Dhansiri- mukh	Bangladesh	-	-	-	5,00,000
POL	1,00,000	Jogighopa	Haldia/ Kolkata	-	-	-	1,00,000
Paper products	-	-	-	45000	Badarpur	Kolkata	45,000
<b>Grand Total</b>							<b>13,74,000</b>

#### 4.5 Cargo projection vide IWAI's Action Plan

IWAI has made an Action Plan for making three NWs fully functional in about two years timeframe. Department of Shipping is also processing a proposal to declare Barak river from Karimganj to Lakhipur as a new National Waterway (NW-6). Under the Action Plan, IWAI has also assessed likely cargo that can be transported by IWT mode up to 2024-25. Similarly in declaration proposal for Barak also, likely cargo has been estimated. Based on these, the estimated potential cargo on Kolkata-Bangladesh- Kolkata and, Kolkata- Stations on NW-2- Kolkata and Kolkata- Stations on Barak- Kolkata are summarized below:-

Year	Kolkata- Bangladesh- Kolkata routes		
	Lakh Tonnes	Btkm	Cargo

2008-09	5.720	0.3661	Fly ash, Slag, Food grains, Coal, Clinker, Iron ore, gypsum
2011-12	6.350	0.4064	
2016-17	13.099	0.8384	
2021-22	20.960	1.3414	
2024-25	33.535	2.1462	

Year	Kolkata- Stations on NW-2- Kolkata routes		
	Lakh Tonnes	Btkm	Cargo
2008-09	8.512	0.1075	Bitumen, Fly ash, Jute, Cement, Construction materials, POL, Tea, Clincker, Projected cargo Parafin wax, Iron & Steel, Edible oil, Fertilisers, Forest products etc
2011-12	16.37	1.2404	
2016-17	41.32	4.6754	
2021-22	48.33	4.7838	
2024-25	56.48	4.8705	

Year	Kolkata- Stations on Barak- Kolkata routes		
	Lakh Tonnes	Btkm	Cargo
2008-09	12.696	0.6193	Bamboo, Bamboo Products, Cement, Cement concrete products, Coal , Edible oil, Fertilisers, Iron & steel, Paper, Food Grains, Stone boulders / Chips, Tea & Coffee, Wood etc.
2011-12	17.234	0.8328	
2016-17	11.587	0.9958	
2021-22	12.75	1.0954	
2024-25	12.75	1.0954	

### Summary of Potential Cargo movement

Year	Lakh Tonnes	Btkm
2008 – 09	26.928	1.0929
2011 – 12	39.954	2.4796
2016 – 17	66.006	6.5096
2021 – 22	82.040	7.2206

#### **4.6 Constraints in respect of utilization of Protocol Routes**

Main reasons for less utilization of these routes for cargo transportation can be divided into three groups namely:

- (a) Lack of adequate IWT infrastructure i.e.
    - (i) assured fairway with desired depth and width
    - (ii) facilities for night navigation ; and
    - (iii) terminals with mechanical handling facilities;
  - (b) Acute shortage of IWT vessels; and
  - (c) The Protocol itself.
- These aspects are described below in somewhat more details.

##### **4.6.1 Lack of Assured Fairway**

*4.6.1.1 The most critical component for making water transport a cheaper, reliable and effective mode of transport is assured fairway with desired depth and width for round the year operation. With unsafe, uncertain fairway, restrictions on speed and frequent groundings, the fuel cost goes up making transportation difficult, expensive and unreliable.*

**4.6.1.2** Least available depth (LAD) on National Waterways No.2 as well as on protocol routes drops down below 2 m during lean season (which is generally from October/November to March/April) on some locations. Whenever the channel takes turn, sand/ silt is shifted in certain direction. It is not always possible to foresee exact nature of shifting. Very light particles travel some distance along the current and then settle down. In case of coarse silt/ sand, the travel reduces and it tends to get deposited at most on the other bank. The nature of deposition varies with the depth of the river along the other bank. The current velocity which largely depends on bed slope also plays important role in settlement of sediment load. These dynamic actions create shoals at many locations.

**4.6.1.3** There had been instances of grounding/hold ups of vessels in Bangladesh waterways also. As per Protocol, Bangladesh is supposed to provide desired LAD in protocol routes.

*4.6.1.4 Prior to construction of Farakka Barrage, the line of navigation from Patna to Assam was through the Ganga, the Padma and the Jamuna linking the Brahmaputra at Dhubri. This route was also utilized by the vessels plying between Kolkata and Assam. Farakka Barrage was constructed in 1970s to reduce siltation in river Hooghly which was causing great problems in operation of Kolkata port due to reduction of available draft between Haldia and Kolkata. To enable navigation from Farakka to Kolkata, a lock was also constructed at Farakka. With the commissioning of the navigation lock joining the main Ganga and the feeder canal the navigation route linking the Ganga and Bhagirathi was opened in November, 1987. However, the direct link between Farakka and Dhubri (through Padma via Bangladesh) got disrupted. Though it was planned to construct a navigation lock at Jangipur to enable movement of small vessels from Bhagirathi to Padma, this lock has not been completed by FBP authorities even to date and thus, the Padma route is still closed for navigation. The incomplete navigational lock at Jangipur is much smaller when*

compared to the lock chamber at Farakka which is 240 meter in length and 25 meter wide. Furthermore, it is understood that lock gate at Jangipur will be operational during flood season only and for lean season, an approach channel to Padma need to be created joining Jangipur lock with Padma in North, and with Bhagirathi in south. Moreover Dhulian – Rajshahi – Aricha route will have to be dredged to provide 2 m deep and 45 m wide navigation channel.

#### **4.6.2 Lack of round the Clock Navigation Facilities:**

4.6.2.1 Provision of night navigation facility is an essential requirement of reducing turn around time of vessels and thus reducing IWT tariff and making it more competitive. Facilities for 24 hrs. navigation have been provided by IWAI between Dhubri and Pandu and these are being maintained.

4.6.2.2 The waterways within Bangladesh which are used for trade and transit routes are also reportedly having 24 hrs. navigational facilities between Chalna and Padma- Meghna confluence and between Padma-Meghna confluence and Bhairab Bazar covering a distance of 387.5 km. However, stretch where night navigation facility exists do not serve the purpose of reducing voyage time of Indian vessel, since reportedly, Bangladesh pilots do not use these aids and hence practically night navigation is not done by Indian vessels in Bangladesh.

#### **4.6.3 Lack of Terminal and Cargo Handling Facilities:**

4.6.3.1 Terminals or river ports are one of the critical infrastructural requirement for making IWT operation possible. They provide berthing facility to an IWT vessel, interface of IWT mode with rail and road and other facilities such as storage, bunkering, communication and most importantly mechanical cargo handling facility.

4.6.3.2 On NW-2, despite the fact that the waterway is critical for linkage with North Eastern region and that it was declared as National Waterway in 1988, it is surprising that no fixed terminal with proper mechanical handling facilities exist as of now. Though, in the DPR for this waterway several terminals were proposed but only floating terminals at Dhubri, Jogighopa, Pandu and Silghat have been provided and only one fixed terminal is under construction at Pandu.. One of the reasons for lack of proper terminals on NW-2 can be the debate as to whether cargo should come first or the infrastructural facilities should be provided first. Time and again the projects for development of IWT sector had been objected to stating that since enough cargo is not being transported, the capital investment for creation of infrastructural facilities is not justified. This was the typical chicken and egg syndrome. Which has resulted in the total neglect of IWT sector and in the process it is not the sector only which was affected adversely but considering its inherent strengths, namely fuel efficiency, environmental friendliness and cost effectiveness, the national economy as a whole has also lost this opportunity . However, now this debate is over and it is well recognized that if there is potential then the infrastructure has to come first and the cargo (or use of the infrastructure) will follow. In the 10<sup>th</sup> plan therefore, some initiatives were taken for development of terminals on NW-2 as a result of which one fixed terminal capable of handling container is being developed at Pandu and one floating terminal at Silghat was also developed in association with Numaligarh Refinery Ltd. product and it is being also used by a private operator. At Jogighopa also a mechanical loading/unloading facility is being created at a floating terminal.

4.6.3.3 Considering the potential of cargo transportation through IWT mode in the North East and that Brahmaputra can act as a trunk route in a fish bone model (various tributaries join Brahmaputra as its feeder routes from North as well as South) it is necessary that terminals with mechanical handling facilities are developed at Dhubri, Jogighopa, Pandu, Tejpur, Silghat, Dibrugarh, Jamguri, Bogibil, Siakhowa and

Sadiya. Depending upon the demand of cargo, some of these terminals can be initially floating terminals which can be converted to fixed ones when throughput crosses a specified level (say 20,000 per tonne year). Moreover, it is felt that for container movement between Kolkata and NW-2 it is necessary that terminals at Kolkata or Haldia being constructed by IWAI should have container handling facilities.

4.6.3.4 It is also felt that for export cargo to Bangladesh from North-East some more terminals should be declared as Ports of Call.

#### **4.6.4 Shortage of IWT Vessels**

4.6.4.1 West Bengal- Bangladesh- Assam areas have huge geographical spread. In these parts, IWT sector is very important. Therefore, development of IWT sector in these parts of India / Bangladesh must be given high priority during 11<sup>th</sup> five year plan.

4.6.4.2 Despite degeneration of IWT sector all over India, the sector has remained important in these parts as a result of which, there still are some IWT operators in these parts. These operators own a number of inland vessels. These are: Central Inland Water Transport Corporation (CIWTC), West Bengal Surface Transport Corporation (WBSTC), Vivada Inland Waterways, and Eastern Navigation in West Bengal and Inland Water Transport Directorate of Govt of Assam (IWTDA). Besides, there are a few small operators who own one or two vessels. CIWTC is a public sector operator under Department of Shipping, Govt of India, WBSTC is under Govt of West Bengal and IWTDA is under Govt of Assam.

4.6.4.3 *CIWTC was the main operator on this route. It owned 20 tugs, 16 self propelled crafts, 3 oil tankers, 58 dumb barges and 4 deck loaders. However, more than 50% of their vessels are out of order and need major repairs. The organisation has leased out 13 of their vessels on 'as is where is' basis to private operators. CIWTC has been a loss making Corporation since its inception. The Government has recently decided to disinvest it and the process for the same is underway. Thus the biggest IWT operator of this region is going to be absent in the 11<sup>th</sup> Plan and beyond.*

4.6.4.4 *IWT Directorate of Assam possess different types of vessels and pontoons totaling to 227. However, out of these, only 60 vessels are in proper condition and in operation. This fleet of 60 vessels is providing ferry services (74 in number) on the rivers Brahmaputra, Barak and their tributaries. 50 of these services are in Brahmaputra valley and 24 in Barak Valley. The share of IWTDA in transportation of cargo is not significant. Similarly WBSTC also have a big fleet of inland vessels but all of these are passengers vessels.*

4.6.4.5 Vivada Inland Waterways have 9 self propelled cargo vessels, 2 dumb barges, 1 tug, 1 tourism launch for luxury cruise and 1 ro-ro vessel. They have also taken on lease two oil tankers from CIWTC and are running these for transportation of NRL's POL cargo from Silghat to Kolkata. Apart from these, IWAI has acquired one POL and one container vessel for NW-2.

4.6.4.6 *The cargo movement from India to Bangladesh has increased many folds mainly on account of enhanced export of fly ash, slag and gypsum for cement factories in Bangladesh. Most of this cargo is however transported in Bangladesh vessels and despite proviso of 50:50 cargo sharing in the Protocol, share of Indian vessels in IWT inter- country trade is insignificant. All of Bangladeshi*

vessels come from their private sector and role of their public sector operator, BIWTC has practically been 'Nil'.

4.6.4.7 Some of the main reasons for predominance of Bangladesh vessels for movement of cargo in IWT inter- country trade are the following:

- i) Reduction in fleet size of CIWTC vessels due to (a) their non availability on account of breakdown, lack of preventive maintenance etc earlier and now (b) disinvestment of CIWTC: leading to the role of CIWTC being reduced to 'Zero'.
- ii) Indian private operators are not able to compete with Bangladesh private operators since cost of their vessels/ operation is significantly lower on account of following:-
  - a) Lower diesel cost in Bangladesh (about Rs. 23 per liter in Bangladesh and Rs. 34 per liter in India)
  - b) Higher manpower cost in India
  - c) Lower power to load ratio of Bangladeshi vessels
  - d) Lower capital cost of Bangladesh vessel vis-à-vis Indian vessels due to lower construction and safety standards adopted in Bangladesh, etc

4.6.4.8 As mentioned earlier, the IWT movement on Protocol routes is increasing significantly. With the IWAI plan of making three existing National Waterways fully functional in about two years time and some recent developments (such as interest shown by BK group of industries and Farakka NTPC power plant, declaration of Barak river as national waterway etc) the IWT movement between Haldia/ Kolkata and Brahmaputra/ Barak/ Bangladesh as well as intra movement in Brahmaputra and Barak valleys is going to be increased substantially. It is estimated that this movement will reach a level of 2.5 billion tonne km (btkm) by the end of 11<sup>th</sup> plan (2011-12) and further to a level of 8 btkm by 2024-25.

4.6.4.9 This level of IWT movement will need about 250 vessels of 1000 DWT by the end of 11<sup>th</sup> plan and 800 vessels by 2024- 25. This clearly indicates that there is going to be huge shortage of IWT vessels to meet the perceived demand.

#### **4.7 Issues related with Protocol**

4.7.5.1 The IWT Protocol between India and Bangladesh was supposed to be renewed every two years. However, for the last five years, the Protocol was renewed in piece meal manner. It is evident from details of extensions accorded since 3<sup>rd</sup> Oct, 2001.

<b>Extension</b>	<b>Renewed Up to</b>
1 <sup>st</sup> Extension	Up to 3 <sup>rd</sup> Jan 2002
2nd Extension	Up to 3 <sup>rd</sup> May 2002
3rd Extension	Up to 3 <sup>rd</sup> Aug 2002
4th Extension	Up to 3 <sup>rd</sup> Oct. 2002
5th Extension	Up to 4 <sup>th</sup> Nov.2002
6 <sup>th</sup> Extension	Up to 3 <sup>rd</sup> Feb. 2002
7th Extension	Up to 3 <sup>rd</sup> April 2002
8th Extension	Up to 3 <sup>rd</sup> Aug 2002
9th Extension	Up to 3 <sup>rd</sup> Oct. 2002
10th Extension	From 4 <sup>th</sup> Oct. 03 to 3 <sup>rd</sup> Nov.2003
11th Extension	From 4 <sup>th</sup> Nov. 03 to 3 <sup>rd</sup> May2003
12th Extension	From 4 <sup>th</sup> Dec. 03 to 3 <sup>rd</sup> May2004
13th Extension	From 4 <sup>th</sup> May 04 to 3 <sup>rd</sup> June.2004
14th Extension	From 4 <sup>th</sup> June 04 to 3 <sup>rd</sup> Aug 2004

15th Extension	From 4 <sup>th</sup> Aug. 04 to 3 <sup>rd</sup> Oct 2004
16th Extension	From 4 <sup>th</sup> Oct. 04 to 3 <sup>rd</sup> Nov.2004
17th Extension	From 4 <sup>th</sup> Nov. 04 to 3 <sup>rd</sup> Dec.2004
18th Extension	From 4 <sup>th</sup> Dec. 04 to 31st May.2005
19th Extension	From 1 <sup>st</sup> June 05 to 30 <sup>th</sup> Sept.2005
20th Extension	From 1 <sup>st</sup> Oct. 05 to 31st Mar.2006
21 <sup>st</sup> Extension	From 1 <sup>st</sup> April 06 to 30 <sup>th</sup> Sept. 2006

Piecemeal extensions have dampened the enthusiasm of private sector to invest in IWT field where Protocol is a critical aspect.

4.7.5.2 At present there is huge imbalance in respect of vessels of India and Bangladesh being used for inter country trade. Bangladeshi vessels out number Indian vessels totally. This has resulted into lack of enthusiasm by the Indian IWT operators in creating IWT fleet and operating on the protocol routes. The reasons for the same have already been explained for the report elsewhere. It is necessary to address these issues for overall benefit of IWT movement on these protocol routes.

4.7.5.3 The Indian operators had been complaining that while Bangladesh vessels are allowed by India to load/unload cargo at various jetties around the designated Ports-of-Call but Indian vessels are not allowed to touch any other berthing facilities near the designated Ports in Bangladesh. This also has resulted into discontent among Indian operators.

4.7.5.4 The present Indo- Bangladesh protocol on Inland Water Transit and Trade does not provide for any tourism operation involving passenger traffic. There is a lot of potential for tourism in North Eastern region of India and even there has been proposal that foreign tourist visiting North – East would like to sail through Bangladesh to Kolkata using protocol route. At present there is no mechanism through which this can be made possible.

4.7.5.5 The river notices indicating the depth in the protocol route are not being shared at present by both the countries. The same is required for advance planning of voyage and safe movement of IWT vessels. Hence, this item needs to be taken up with Bangladesh authorities.

4.7.5.6 As per Article 17 of the protocol, vessels carrying transit cargo through one country will not be engaged in the inter country trade and will not take or discharge cargo or passengers in the country through which they are passing. This condition restricts economical operation of IWT services due to non-availability of full load of cargo in return trips.

4.7.5.7 There is no container handling terminal in Bangladesh where Indian vessels can load, unload containers. This is creating limitation for the bigger Indian operators to operate on inter country trade through IWT.

## **4.8 Programme of Development for better Utilization of Protocol Route**

### **4.8.1 Provision of infrastructure facilities**

#### **4.8.1.1 Fairway**

- (i) Assured fairway of 2 m depth and 45 m width should be provided by India/Bangladesh on all the protocol routes for at least 330 days operation in a year. In addition, fairway of 45 m width and 2 m depth be provided in NW-2 up to Dibrugarh and that of 1.5 m depth between Dibrugarh and Sadiya. Efforts should also be made to provide fairway

of 3 m depth between Haldia and Farakka. [ Estimated financial implication during 11<sup>th</sup> plan – Rs.50 cr. ]

(ii) Formation of shoals can be prevented only by undertaking large scale river training works which are capital intensive, long term projects involving multiple issues and agencies. However, though desirable, it is difficult to plan and execute large scale river training works with sole aim of navigation. Nevertheless, keeping in view the long term perspective it is necessary that long term plan for training the rivers (Brahmaputra and Barak) is prepared, got approved and initiated in 11<sup>th</sup> Plan. [ Estimated financial implication during 11<sup>th</sup> plan – Rs.20 cr. ]

(iv) The short term and more practical method for maintaining fairway, at least for next decade or so is to undertake open river navigation techniques namely bandalling and dredging. In ports and also in canals, once the dredging is undertaken as capital dredging, the depth so increased can be maintained for a number of years by undertaking nominal maintenance dredging on year to year basis. However, so far as rivers Brahmaputra and Barak are concerned, the concepts of capital and maintenance dredging do not hold good due to morphological features of these rivers with huge movement of sediment load. Due to siltation during the post flood periods, whatever is dredged during the lean season gets totally filled up after the flood and conservancy activities have to start afresh. Practically there is no residual effect of dredging carried out previous year, during the next incoming lean season. Therefore, the entire dredging operation undertaken during each lean season has to be repeated every year for maintaining navigable channel. To provide fairway of 45 meter width and considering 1 meter average depth of cut between Dhubri and Sadiya, about 7.25 lakh cum quantity of dredging is required in NW-2 to be carried out every year. [ Financial implication included in (i) above ]

(iv) For annual dredging of shoals on NW-2, it is therefore necessary that IWAI possess necessary number of dredgers which are kept at desired locations to tackle shoals during the lean season. With this view IWAI has planned to have 5 CSD and 2 HSDs on NW-2. Out of these, 1 CSD and 1 HSD are already available while 1 HSD is under construction and IWAI is in the process of finalizing tenders for 4 more CSDs for NW-2. With these dredgers, coupled with bandalling to be taken up annually, assured fairway of 2 m depth between Dhubri and Dibrugarh and 1.5 m depth between Dibrugarh and Sadiya can be provided by IWAI. [ Estimated financial implication during 11<sup>th</sup> plan – Rs.70 cr. ]

(v) Navigational lock at Jangipur

For operationalising Farakka- Padma route the protocol route 'Rajshahi-Godagari- Dhulian' must be extended upto Aricha. It is also necessary that construction of navigational lock at Jangipur is taken up along with excavation/ desiltation of channel between Jangipur lock and Padma river as well as between Jangipur lock and Bhagirathi river for round the year operation. Dredging should also be done in Dhulian – Rajshahi – Aricha route to provide 2m LAD. [ Estimated financial implication during 11<sup>th</sup> plan – Rs.190 cr.( Lock- Rs100 cr + Dredging- Rs.40 cr + Dredging in Dhulian – Aricha – Rs.50 cr) ]

(vi) Sunderbans Waterways

On the Indian side, the inland waterways of Sunderbans which are used for inter country and transit trade, are yet to be declared as National Waterway. These must be declared as National Waterway without further delay. Till declaration of Sunderbans as National Waterway, IWAI is taking up minimum development in its capacity of 'Competent authority' under the Protocol and the same should continue.

[ Estimated financial implication during 11<sup>th</sup> plan – Rs. 25 cr. ]

4.8.1.2 Navigational Aids:

- (i) Navigational aids for 24 hrs navigation may be provided in entire NW-2 and Sunderbans waterways by the Indian authorities. [ Estimated financial implication during 11<sup>th</sup> plan – Rs.60 cr. ]
- (ii) Night navigation facility must also be provided in Bangladesh portions of all the protocol routes by the authorities of Bangladesh [Estimated financial implication during 11<sup>th</sup> plan – Rs.10 cr. ]
- ( iii ) In addition, effective steps must be taken so that night navigation facility provided in Bangladesh is actually used by the Indian vessels.

4.8.1.3 Terminals:

As explained earlier, terminals with mechanical handling facilities, efficient access and egress through rail/road, storage, bunkering and other allied facilities are critical for development of IWT mode and its utilization for transportation of cargo. Taking into account potential of cargo transportation, strategic/location importance, following terminals are proposed to be developed during the 11<sup>th</sup> Plan for enhanced utilization of IWT mode:

A. On National waterway -2

a) Fixed terminals:

Fixed terminals are proposed at following locations:

- (i) Dhubri: It is a traditional IWT terminal with potential of huge transportation to Bangladesh and Kolkata. Dhubri also has many industries and jute godowns. The local people's representatives have requested for a fixed terminal at this location. [Estimated financial implication during 11<sup>th</sup> plan – Rs.25 cr. ]
- (ii) Jogighopa: Fixed terminal is proposed at this location because of its potential for transportation of huge quantity of Meghalaya coal. [Estimated financial implication during 11<sup>th</sup> plan – Rs.25 cr. ]
- (iii) Pandu (Guwahati): It is by far the most important location of the entire North East. A fixed terminal is already coming up at this location along with container handling facilities and rail connectivity. B.K. group of industries have also shown keen interest to use a part of this terminal for transportation of about 1-2 m.t.p.a of fly ash/clinker/cement. [Estimated financial implication during 11<sup>th</sup> plan – Rs.20 cr. ]

b) Floating terminals:

Floating terminals with limited mechanical handling facilities by way of floating cranes are proposed at following locations:

- (i) Teipur: It is an important location of north Assam. It also was an important traditional terminal of CIWTC. It is proposed to develop a floating terminal at this location which may be up graded to fixed one when cargo through-put crosses about 20,000 tonne per year or so. [Estimated financial implication during 11<sup>th</sup> plan – Rs.3 cr. ]

- (ii) Silghat: This location is a good location for handling cargo of Numaligarh Refinery Ltd (NRL). One floating terminal has already been developed by IWAI at this location along with NRL. It is proposed to upgrade/ develop this terminal and make it a proper POL terminal. [Estimated financial implication during 11<sup>th</sup> plan – Rs.3 cr. ]
- (iii) Jamguri: At this location, Subansiri river meets Brahmaputra from the north side. Considering ongoing construction of a big hydro- power dam on river Subansiri, and distinct possibility of transportation of huge quantity of construction material as well as project material to the dam site by IWT mode, development of an IWT terminal at Jamguri is a necessity. We may however start with a floating terminal and up grade it to a fixed one depending upon the requirement. [Estimated financial implication during 11<sup>th</sup> plan – Rs.3 cr. ]
- (iv) Bogibil: This is another important location on Brahmaputra. Bogibil is very near to Dibrugarh and an important road bridge is under construction at this place. Many tea gardens are near to this place which also was a traditional IWT terminal of CIWTC. Therefore it is felt that an IWT terminal at this location will be important.[Estimated financial implication during 11<sup>th</sup> plan – Rs.3 cr. ]
- (v) Saikhowa: This also was a traditional IWT terminal of CIWTC. In this area roads are not adequately developed and most of the population depends on inland waterways even now. Thus it is necessary to develop a proper floating terminal at this location.[Estimated financial implication during 11<sup>th</sup> plan – Rs.3 cr. ]
- (vi) Sadiya: This also was a traditional IWT terminal of CIWTC. In this area roads are not adequately developed and most of the population depends on inland waterways even now. Moreover, it is one end of National waterway -2. Thus it is necessary to develop a proper floating terminal at this location. [Estimated financial implication during 11<sup>th</sup> plan – Rs. 3 cr. ]

**B. On National waterway -1**

Since connectivity of North- East waterways with Kolkata and Haldia ports is critical for increased utilization of waterways, it is proposed that fixed terminals be developed at following places on NW-1 also :-

- (i) Haldia [ Estimated financial implication during 11<sup>th</sup> plan – Rs.30 cr. ]
- (ii) BISN, Kolkata [ Estimated financial implication during 11<sup>th</sup> plan – Rs.30 cr. ]
- (iii) GR Jetty, Kolkata [ Estimated financial implication during 11<sup>th</sup> plan – Rs.30 cr. ]
- (iv) Farakka [Estimated financial implication during 11<sup>th</sup> plan – Rs.5 cr. ]

**C. On Barak river (proposed NW-6)**

After declaration four terminals are proposed to be constructed in river Barak during 11<sup>th</sup> Plan period.

- (i) Karimganj [Estimated financial implication is Rs 3.2 Cr]
- (ii) Badarpur [Estimated financial implication is Rs 8.1 Cr]
- (iii) Silchar [Estimated financial implication is Rs 4.7 Cr]
- (iv) Lakhipur [Estimated financial implication is Rs 6.3 Cr]

**4.8.2 IWT Vessels**

As mentioned earlier there is gross mis-match of IWT fleet belonging to Indian operators and Bangladeshi operators for transportation of inter country cargo between

Kolkata/Haldia and Bangladesh. Most of the vessels operating on this route are of Bangladesh. The reasons for this mis-match is also brought out earlier. It is proposed that following policy measures/ incentives may be operationalised in order to encourage Indian operators to the Indian operators:-

- (i) Inland Vessel Building Subsidy[ Estimated financial implication during 11<sup>th</sup> plan – Rs.300 cr. ]
- (ii) freight subsidy for transportation of cargo, [ Estimated financial implication during 11<sup>th</sup> plan – Rs.50 cr. ]
- (iii) duty free diesel/ bunkering for Indian vessels[ Estimated financial implication during 11<sup>th</sup> plan – Rs.10 cr. ]
- (iv) joint ventures for ownership and operation of vessels with equity by IWAI[ Estimated financial implication during 11<sup>th</sup> plan – Rs.50 cr. ]
- (v) vessel leasing company for making available inland vessels on lease[ Estimated financial implication during 11<sup>th</sup> plan – Rs.50 cr. ]

#### **4.8.3 Development of Barak River (proposed NW-6)**

A proposal for declaring river Barak from Lakhipur-Karimganj (152 KM) as a National Waterway has been prepared and is under consideration of the Govt. The cost of development for this waterway has been estimated as Rs. 46 Cr. which includes Rs. 23 Cr. for fairway development and setting up of offices and Rs. 23 Cr. for terminals. Barak river which connects Haldia and Kolkata Ports with Cachar valley of Assam, through Kolkata–Karimganj protocol route should be declared as national waterway and developed by Central Govt. through IWAI. [ Estimated financial implication during 11<sup>th</sup> plan – Rs.46 cr. ]

#### **4.8.4 Issues related to Indo-Bangladesh Protocol**

The constraint related to IWT Protocol between India and Bangladesh have been discussed earlier. It is proposed to take following actions to remove these constraints:

- (i) Time frame for IWT protocol needs to be increased for a longer period to generate confidence in entrepreneurs who come forward to invest in IWT sector. Hence, it is recommended that the protocol should not be for a limited period but it should remain valid for an unlimited period till either of the Governments decides otherwise.
- (ii) Issues with regard to imbalance in operation of Indian and Bangladeshi vessel for inter country trade should be studied and appropriate measures adopted for encouraging Indian IWT operators. Some of such measures can be as follows:
  - a) Duty free bunkering to be provided to Indian operators by the Indian Govt.
  - b) Standardisation of design of IWT vessel for operation on inter country trade routes with a view to reduce their capital cost without compromising safety aspects.
  - c) Provision of effective night navigational aids in the Indian as well as Bangladesh portion of protocol routes.
  - d) Providing incentive to Indian operators/ shippers by way of freight subsidy of say 20 per tonne km.
  - e) Kolkata Port Trust must take only nominal charges as port dues, wharfage charges etc, from the Indian vessels operating on inter country trade routes.

- (iii) Some more Ports of Call are required to be declared along the protocol routes to meet out the future cargo demand. The ports of Call required to be added in Bangladesh side are Ashuganj, Noapara, Mukhtarpur, Bosirhat, Titagarh, Godagari, Aricha, Chilmari, Bahadurabad and Porabari. On Indian side it could be Dhulian, Bandel, Katwa, Budge-Budge, Dhubri and Jogighopa.
- (v) The Bangladesh authorities must be impressed upon by the Indian authorities that as Bangladeshi vessel are allowed to load/unload cargo at various locations in and around Kolkata and Haldia as extended ports of call, similarly Indian vessels should also be allowed to operate in the vicinity of Bangladeshi Ports of Call namely Narayanganj, Khulna, Mongla and Sirajganj.
- (vi) Bangladesh authorities must be impressed upon by the Indian authorities to allow passenger transport also under the Indo-Bangladesh protocol.
- (vii) There should be a mechanism of exchange of navigational information by the Competent Authority of one country to the other. Presently, river notices of Bangladesh waterways do not regularly come to the Competent Authority of India. The river notices and river charts are required for advanced planning of voyage and safe movement of IWT vessels. Hence this mechanism should be operationalised as early as possible.
- (viii) Article 17 of the protocol needs to be modified adequately so that the vessels may take or discharge cargo for the inter country trade also while they are passing through the transit route. This will help to make operation of IWT transportation on protocols routes more viable.
- (ix) To facilitate container movement service between Kolkata and Narayanganj by inland waterways, Bangladesh Authorities may be requested to provide infrastructural facilities jetty capable of handling containers as well as crane for handling of containers at Khanpur jetty. [Estimated financial implication during 11<sup>th</sup> plan – Rs.20 cr.]

#### 4.8.5

##### **Other aspects**

- (i) *Port dues and other the charges of Kolkata Port Trust should be reduced for the IWT operators and users.*
- (ii) Project for transportation of coal from Haldia to Farakka should be firmed up quickly [Estimated financial implication during 11<sup>th</sup> plan – Rs.20 cr. ]
- (iii) Interest shown by private sector of industries to develop facilities at Pandu port for their use and utilize inland water transport mode for movement of fly ash from Farakka/ Kolkata to Pandu and Clinker/ Cement from Pandu to Kolkata must be converted into a viable project and implemented as a PPP project. [Estimated financial implication during 11<sup>th</sup> plan – Rs.5 cr. ]

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Chapter - 5  
**TRAINING FACILITIES IN RESPECT OF IWT**

**5.1 Background**

5.1.1 Safety of navigation depends upon the design of vessel as well as the know-how of the crew operating the vessel. Therefore it is imperative to have properly trained manpower not only for ensuring safety of transportation but also for better utilization of the vessel. At present about 450 mechanized barges are under operation in different parts of the country. Besides, a lot of vessels (both mechanized and non-mechanized) are in operation in the unorganized sectors. By the end of 11<sup>th</sup> Plan period it is envisaged that about 2500 cargo vessels will be available for IWT operation in the country. The number will be even more in the integrated scenario of Coastal Shipping and IWT. Hence there is a huge demand for trained manpower for IWT vessel operation as well as other ancillary operations like terminals etc.

5.1.2 One of the major advantages of IWT mode is that it is labour intensive. According to the report of National Council of Applied Economic Research (2006) IWT is the most employment intensive mode of transportation service. The report indicates that one lakh revenue collection (1998-99 prices) in the IWT mode results in 6.5 man years of employment while the railways result in a mere 0.58 man years and other transport modes 0.87 man years.

**5.1.3** Trained personnels in IWT sector are required for (a) development management, regulation and maintenance of infrastructure and (b) operation of inland vessels - from country boats to big cargo vessels. But since the IWT remained neglected in the country for a long time and lost its role in the economy of the country as well as that of the States and since very little investment was made for its development, it obviously resulted in total lack of infrastructural facilities for producing trained personnels in IWT sector as well.

**5.2 Existing IWT training facilities**

As explained above, the IWT training facilities have not been developed in the country except some training facilities to train personnels at basic level (such as Deck Hands/Laskars, Greaser, Drivers, Masters) in three IWT active States namely; Assam, Goa and Orissa where training institutes also exist. Besides, in West Bengal also though there is no training institute but the examinations are conducted by the Mercantile and Marine Department (MMD) of DG (Shipping) on behalf of the State Government of West Bengal. In addition, at Central level, National Inland Navigation Institute (NINI) has been set up by the IWAI at Patna which started functioning from Feb. 2004.

**5.2.1 National Inland Navigation Institute (NINI), Patna:**

Building of this institute was constructed by IWAI in about 4 acres of land at Gaighat, Patna at a cost of Rs. 4.6 cr thorough CPWD. The building has got 4 classrooms, two staff rooms, one Director's office, one Administrator's office in the institution block. It also has hostel facility in the same campus consisting of 32 rooms with twin sharing accommodation for the trainees and one room each for warden and caretaker. It also has library, computer room, auditorium and dinning hall. NINI was planned to provide training in various fields of IWT sector including following:-

- Hydrographic Survey
- River conservancy
- River training works

- Development of navigation channel by construction of spurs/groynes, bandalling, bottom paneling etc.
- Navigational aids
- Construction of jetties/terminals
- Operation of vessels
- Transport Economics
- Repair and maintenance of crafts
- Training to the crews of both deck and engine sides of inland vessels, etc.

It was proposed that this institute will be affiliated to an University and the syllabus will be formulated to facilitate award of Diploma/PG Diploma/Degree Certificate for courses meant for personnels associated with development, regulation and management of IWT sector. It was also proposed that the NINI should have tie up with State Governments so that the IWT crew trained therein are provided with the proper certificate as per I.V. Act. by the concerned State Government. Since IWAI does not have sanctioned staff for running this institute it was proposed that the courses would be initially conducted through the faculty employed on short term contact basis.

Therefore, for imparting training in this institute IWAI has an arrangement with Indian Institute of Port Management, Kolkata (IIPM). Since Feb. 04, following courses for crew have been conducted in the institute through IIPM:

- ◆ Following courses have been run in NINI so far from time to time:-
  - i) Preparatory courses for sarang of Inland vessels
  - ii) Preparatory courses for 2<sup>nd</sup> class Master of Inland vessels
  - iii) Preparatory courses for 1<sup>st</sup> class Master of Inland vessels
  - iv) Preparatory courses for 2<sup>nd</sup> class Drivers of Inland vessels
  - v) Preparatory courses for 1<sup>st</sup> class Drivers of Inland vessels
  - vi) Preparatory courses for licensed Drivers of Inland vessels
  - vii) Induction course of Deck rating
  - viii) Induction training for engine rating
- ◆ Number of trainees trained in these courses are as follows:-

S.No.	PERIOD	BSF/CRPF	CIVILIANS
1.	16.10.03 – 01.12.03	-	20
2	06.02.04 – 07.04.04	14 BSF	
3	15.04.04 – 14.7.04	-	32
4	15.7.04 – 14.10.04	20 CRPF	23
5	15.10.04 – 14.1.05	29 CRPF	16
6	15.1.05 – 14.4.05	20 CRPF	43
7	15.4.05 – 14.6.05	39 CRPF	-
8	15.4.05 – 15.7.05	20 CRPF	-
9	15.6.05 – 15.8.05	32 BSF	-
10	15.7.05 – 15.8.05	12 CRPF	-
11	22.8.05 – 13.10.05	39 BSF	-
12	15.10.05 – 14.12.05	20 CRPF	-
13	24.10.05 – Jan., 06	42 BSF	-
14	17.4.06	20 BSF/21 CRPF	-
<b>TOTAL</b>		<b>147 BSF/181</b>	<b>134 Civilians</b>

It may be seen from the above that the courses so far conducted in NINI are for crew only and no specialized course has so far been conducted. This is mainly because the faculty has not been developed to the extent that specialized training courses could be operated.

### **5.2.2 IWT Training Institute in Assam**

This training institute is run by the IWT Directorate of Assam. The institute is in a double storied floating barge on the river Brahmaputra in Guwahati. The institute is called Crew Training Centre, Guwahati, Assam. It generally conducts following courses:

- a) Qualifying training as Laskar and Greaser – 6 months
- b) Training of crew up to level of Inland Engineer and 1<sup>st</sup> Class Master/Driver.

The institute has capacity to train 30 deck side and 30 engine side crew at a time. The institute is headed by a Training Superintendent under IWT Dte., Govt. of Assam. Certificates are issued by the IWT Dte. as per I.V. Act.

[Source: Letter dated 17.01.05 of Director, IWT, Assam]

### **5.2.3. IWT Training Institute in Goa:**

This training institute is under Capt. of Ports, Govt. of Goa and is called Maritime School, Britona and is located at Bardez, Goa. The institute provides training to the new entrants for both deck and engine sides as well as advanced/refresher courses for Masters and Engine Drivers.

After undergoing training programmes in this institute, trainees are awarded certificates by the Institute, counter signed by Capt. of Ports. Competency examinations are conducted by Dy. Capt. of Ports and certificates are issued by the State Government in accordance with the I.V. Act. Since Goa waterways transport maximum cargo by IWT mode in India and there are more than 250 Inland vessels in active operation, this institute remains very busy and is very important for success of IWT sector in Goa.

[Source: Letter dated 05.11.04 of Capt. of Ports, Goa]

### **5.2.4. IWT Training Institute in Orissa:**

In Orissa there is an IWT training institute at Chandbali. In this institute, 10 months training course for Deck and Engine Hands is provided for which the institute has got the capacity for 60 candidates in every batch. The institute also provides refresher course of 3 months for Deck and Engine Hands.

In 10 months courses, passing out examination and issue of certificate is done by the Principal of the institute which is countersigned by the Joint Director IWT of the State Government. In 3 months refresher course, the candidates are trained in theory and practicals after which they can appear in the examination conducted by the State Government for certificate of competency as Drivers and Masters of inland vessels in accordance with the I.V. Act. The institute has one Principal, two Instructors, one Electrician and one Foreman.

[Source: Letter dated 14.10.03 of Commissioner cum Secretary, Commerce & Transport Dept, Orissa]

### **5.2.5. IWT Training Facilities in West Bengal**

Government of West Bengal has its own undertaking WBSTC Ltd engaged in passenger ferry operation. Tourism Department and West Bengal Tourism Development Corporation also operate their own tourist vessels for promoting tourism; PWD, Government of West Bengal too operate their own vehicular ferry services. Apart from above, there are approximately 6000 semi-mechanized boats (bhut bhuti) operating in different parts of the State and engaged in passenger and cargo operation. There are approximately 600 dumb barges in Kolkata Port area, engaged in cargo operation.

There are over 300 inland vessels engaged in cargo, passenger and port operation in the State. There are several vessel building yards along with vessel repairing facilities. For international maritime there are Kolkata Dock and Haldia Dock, which are catalyst to IWT movement.

There are numerous concrete jetties in the entire Sunderbans region on the waterways. There are over 50 gangway pontoon terminals on NW -1 for passenger and cargo transport. CIWTC Ltd., Government of India undertaking and major IWT operators in India are located in Kolkata. Daily, over 0.2 million passengers avail of the IWT mode between Sagar and Kalyani. Major private IWT operators of east coast are also located in Kolkata. To sum up, IWT sector has remained vibrant in West Bengal and this has resulted in substantial demand and importance of IWT trained manpower in the State.

To impart systematic training for efficient and safe IWT operation, IWT Crew Training Center was established, by the Government of West Bengal in 1950 at Garden Reach Road. Though the Training Center was helping to produce trained personnel for KoPT, CIWTC, GRSE and also to other States near West Bengal, the premises had to be handed over to Indian Navy and the functioning of the training institute was stopped in 1985.

[Source: Letter dated 31.03.05 of Director, IWT, West Bengal]

Therefore, as of now no IWT training facility exists in the State though as explained above there is substantial demand of trained and certified IWT personnel. To meet this demand the system being followed in the state is as given below:

- (a) Interested people get employment as Laskar / Deck hand on any IWT vessel without any formal training or certificate and gain on the job training/experience.
- (b) After getting on the job experience of a specified period the person becomes eligible to appear at the examination of Master III / Driver II and applies to IWT Directorate of West Bengal for the same.
- (c) Mercantile and Marine Dept (MMD), Kolkata conducts examination on behalf of State Govt. and recommends issue of certificate to the candidate who pass the examination.
- (d) Certificate of competency is thereafter issued by the IWT Directorate of Govt. of West Bengal.
- (e) For Master II / I, Driver I or licensed Driver similar system is adopted.

### **5.3 Efforts made during 10<sup>th</sup> Plan period in respect of IWT Training:**

5.3.1 NINI has been set up during the 10<sup>th</sup> Plan as an apex IWT training institute and since 2003-04 it has trained 462 personnels in the field of IWT till May 2006. Most of these trainees were from BSF/CRPF and only 134 civilians were trained. Most of these civilians however, are not reported to have gained jobs.

5.3.2 IWAI also initiated actions for improving the functioning of NINI as well as its networking with State IWT training institutes.

5.3.3 A Programme Advisory Committee (PAC) of NINI has been constituted under Chairmanship of Member (C&F) of IWAI to make effective programmes for training

and management of the Institute to meet its objectives. Other members of this committee are: National Maritime Academy (NMA), Chennai, IIPM Kolkata, CIWTC Kolkata, NIOT Chennai, Barge Owners Association Kolkata, Chief Ship Surveyor, Govt. of West Bengal, Director, IWT Assam, and Capt. of Ports, Goa. So far, two meetings of PAC have also been held in which PAC has suggested several steps for upgrading the status of NINI and inclusion of more job oriented courses.

5.3.4 One more committee has been constituted under the Chairmanship of Nautical Advisor to the Govt of India with other members viz. IWT Directorates of Assam, Bihar, Goa, U.P and West Bengal, Goa Barge Owners Association, IWT Federation, Kolkata, Hydrographic Chief, IWAI, Director IIPM, Kolkata and representative from Chief Hydrographer of Govt. of India. This committee will look into the following aspects of IWT training:

- i) To prepare a road map for standard training system in IWT sector in the country which should harmonise well with STCW 95.
- ii) To suggest measures for standardization of IWT training modules available across various States of the country. To also suggest whether it could be enforced through rules/regulations or whether it would require an amendment in IV Act.
- iii) To suggest standard infrastructure pre-requisites such as simulators, training ships/vessels, other equipments etc. for effective running of Government run IWT training institutes.
- iv) To assess current employment scenario in IWT sector and to assess prospects of employment of IWT personnel in maritime sector.
- v) To assess the requirement of trained personnel in riverine States particularly in West Bengal, Assam, Goa, Kerala, Bihar and Uttar Pradesh.

5.3.5 The IWT institutes in Assam, Orissa and Goa continued to provide IWT training. Also in West Bengal, though no training institute exists, the system of personnels getting IWT experience on Private/Public sector vessels and then getting competency certificate from MMD and State Government continued which also helped in adding trained personnel in IWT sector.

5.3.6 Besides above, no significant efforts were made during the 10<sup>th</sup> Plan in IWT training matters.

#### **5.4 Perceived demand of IWT trained personnel**

5.4.1 As mentioned above, there are 3 National Waterways already existing of which the total length is 2716 km. Besides, two new waterways are on the verge of declaration as National Waterways. Length of these two waterways is 1718 km. Barak river for a length of 152 km is also under active consideration for declaration as National Waterway. Apart from these, if 1430 km Indo-Bangladesh Protocol routes, 50 km of Goa waterways and 40 km of Mumbai waterways are added the total length of active/to be made active waterways works out to 6,106 Km which is a significant length.

5.4.2 Under a thrust area identified by the Prime Minister's office it is envisaged to develop IWT sector so that its share is increased to about 20 b.t.km of cargo. For this, there would be requirement of about 2000 cargo vessels of average 1000 DWT capacity. For two shift operation, about 15 crew will be required in each vessel. Therefore, for 2000 vessels, the total requirement of crew would be around 30,000. Adding 20% for leave vacancy etc. this requirement would become 36000. Besides, there are innumerable country boats for which it is necessary that the people who operate the boats have some basic training with respect to running and maintenance

of engine, safety aspects and navigational aspects. This is very important considering that the economic development of India is looking up, improving the financial capabilities of even the poor people and it is expected that this, coupled with Govt. policies should result into mechanization of most of the country boats plying in the country.

5.4.3 Besides these, there is enthusiastic response from the State Government for development of IWT sector under Centrally Sponsored Scheme and 32 project of 13 States have already been sanctioned and many more proposals are in the pipeline. These projects would also entail addition in IWT fleet.

5.4.4 Considering above it is estimated that there may be requirement of 50,000 crew for IWT vessels apart from the personnels for country boats (which is difficult to be estimated).

5.4.5 For development of IWT sector to the extent mentioned in the foregoing paras where it is estimated that inland waterways to the extent of about 6,100 km can be developed immediately for organized IWT movement in the country, there would be need for trained personnels in various specialized aspects in IWT also, such as hydrographic surveys, cartography, river engineering, port engineering, cargo forecast, environmental studies, planned maintenance, transport economics and several other allied aspects.

5.4.6 It is obvious that the facilities should exist for producing the trained man power for IWT sector both for the personnels engaged in development, maintenance, regulation and management of inland waterways as well as for operation of inland vessels.

5.4.7 In addition to the above, there can also be a scenario where Indian trained IWT personnels are employed in IWT sector of foreign countries as well, as has already happened in maritime sector where Indian Seafarers are recognized all over the world for their expertise and due to this they are being employed in various merchant ships of the world.

## **5.5 Recommended measures for increasing Human Resources potential in IWT Sector**

After considering the important role the IWT sector can play in the national economy in near future and beyond, the resolve of the Govt. to develop this sector in a big way, thrust area of the Prime Minister, the perceived demand of personnels required in IWT sector, and the existing IWT training facilities in the country, following measures are recommended for increasing the human resource potential in the field of IWT:

### **5.5.1 Institutional framework for IWT training:**

- (a) It is recommended that for IWT training there may be a two tier institutional mechanism; NINI at the apex level and State Crew Training Centres (SCTCs) at State level. There should be operational networking of NINI and SCTCs.
- (b) NINI should take responsibility of standardization of course/syllabus, eligibility criteria for entry of trainees for various courses, issuance of certificates etc. and pass on these to SCTCs.
- (c) The Institutional mechanism should also include periodical meetings/review of various activities in NINI and SCTCs. For this there can be a committee consisting of in-charges of NINI and all the SCTCs which can meet once in six months or so.

- (d) NINI is proposed to work under administrative control of IWAI and SCTCs under administrative control of IWT Directorate of respective States.
- (e) SCTCs may be mainly for the training of crew personnel of Inland Mechanically Propelled Vessels (IMPVs). They would primarily conduct training of two types – Induction (pre-service) training and in service training – for all operational staff on board.

#### 5.5.2 **High level education and training at NINI:**

The National Inland Navigation Institute (NINI) at Patna, should be developed as a centre of excellence, preferably, in due course, into a University dealing with all aspects of IWT. The courses should include under graduate and post-graduate levels in Hydrographic Survey, Cartography, River Engineering, Port Engineering, Cargo forecast, Environmental studies, Planned maintenance, etc. to develop personnels engaged in development, management, regulation and maintenance of waterways. Practical navigation experience for students of NINI should also be given on IWT vessels.

#### 5.5.3 **Liaison with other Institutes of repute:**

NINI and SCTCs should establish and maintain liaison with other national institutes of repute such as National Hydrographic Office at Dehradun, National Hydrographic School in Goa, Hooghly River Survey Organisation, Hydraulic Studies Department of the Kolkata Port Trust, Central Water & Power Research Station at Pune, IITs, LBS College of Advanced Maritime Studies and Research, Mumbai, NMA at Chennai, IIPM at Kolkata etc. It should also establish and maintain liaison with international institutes (dealing with IWT issues) such as Delft hydraulics Netherlands, Antwerp Port Training Centre Belgium, St. Petersburg University of Water Communications, Russia etc.

#### 5.5.4 **Funding of NINI**

The NINI, being an institute that sets standards for all aspects concerned with IWT training – national and international, should be funded entirely by the Central Government/IWAI. It is estimated that NINI would require about Rs.3 cr per year for its regular maintenance and running expenditure. [ Estimated financial implication during 11<sup>th</sup> plan – Rs.15 cr. ]

#### 5.5.5 **Funding of SCTSs**

The existing institutes at Assam, Goa and Orissa be upgraded to SCTCs and new SCTCs set up in Kolkata, Kerala, Varanasi/Allahabad, Andhra Pradesh, Tamilnadu, Karnataka, Maharashtra, Gujarat and Madhya Pradesh through either one time grant by Department of Shipping directly or through CSS for IWT development. Periodic grants under subsequent five year plans could be considered on a case to case, merit basis. The operational costs should be borne by the State Governments concerned.[ Financial implication for capital cost @ Rs.5.00 cr per RCTC for 12 SCTCs + running and maintenance for initial 2 yrs @ Rs.1.00 cr per RCTC – Rs.72.00 cr]

#### 5.5.6 **Harmonisation of training:**

It is highly desirable that the training given to personnel of IMPVs at all levels, all over India, should be harmonized. This would provide the mobility of personnel from one State to another. One inland waterway may pass through more than one state. It may also happen that, due to change of trade pattern and other causes, one

State may have surplus of trained personnel while another may be facing shortage. By harmonizing the training and certification pattern, the persons concerned, the states involved and also the country as a whole, would benefit. The only difference would then be, in the case of Serangs and Masters, local knowledge that a person qualified in one state would have to acquire to operate IMPVs within another state. This experience could be obtained by training voyages for a period of 3 to 6 months, depending on complexity of the regional IWT, that could be stipulated in the rules made by each State.

#### 5.5.7 **Model rules:**

In the interest of promoting such harmonization of training and certification of personnel of IMPVs, as stated in the para 5.6, model rules may be made which should include parameters such as; entry age, qualifications, experience, examination and certification system, duration of courses, compulsory attendance, syllabi and other technical details etc. These model rules may be made mandatory for those States in which SCTCs are set up with funds from the Central Government.

#### 5.5.8 **State funded Institutes:**

Individual states may, if so desire set up other IWT training institutes with their own resources. In these cases, the model rules could be considered recommendatory.

#### 5.5.9 **Private IWT Institutes:**

The Central and State Governments should encourage the setting up of IWT training institutes in the private sector but ensure that norms and standards are met. An incentive scheme may be worked out by IWAI to provide a part of capital grant through the Central Government funding for this purpose. [Estimated financial implication during 11<sup>th</sup> plan – Rs.10 cr. ]

#### 5.5.10 **Making basic course mandatory for working as Crew on an inland vessel**

As soon as each IWT training institute is set up, the concerned State should make induction (pre-service) courses compulsory before a person joins an IMPV as a deck or engine rating.

#### 5.5.11 **Safe manning rules:**

State Governments should make 'Safe Manning Rules' for IMPVs taking into consideration the size of vessels, type of vessels including specialized cargo carriers and high speed craft, type of cargo, nature and duration of voyage, etc.

#### 5.5.12 **Special courses:**

For very large vessels, special types of vessels (such as oil/gas/chemical carriers, high speed craft, etc.), vessels fitted with modern, sophisticated equipment, etc., special courses should be developed at NINI in consultation with institutes such as LBS College of Advanced Maritime Studies and Research. The personnel of such vessels, specially the Master and the Engineer, should be adequately trained for that type of vessel.

#### 5.5.13 **Audio visual aids for IWT training**

There are audio visual aids (such as – simulators, video films, computer programmes etc) which are used by various maritime training institutes to train seafarers. It is recommended that these training aids may be procured for NINI and experts may be engaged to produce similar teaching aids for training in IWT field. [Estimated financial implication during 11<sup>th</sup> plan – Rs.8 cr.]

#### 5.5.14 **Increasing employment potential of IWT trained personnels**

Unemployed people are not presently interested in taking training in IWT field because there is no perceived demand in the market for them and therefore it is necessary to find out the employment potential of IWT trained personnel. To start with, it should be made necessary that only those crew would be employed by IWAI on contract/daily wage basis on board IMPVs which have successfully gone through training in NINI or some other IWT training institute.

#### **5.5.15 Assistance to IWT institutes under CSS**

The Govt. of Assam, Orissa and West Bengal have been requesting Central Government funding for up gradation of IWT training facilities. The IWAI examined these proposals and is of the view that setting up/up gradation of training institutes should be made applicable under the CSS for IWT. IWAI has also suggested DoS for inclusion of the same in CSS guidelines. However, the same has not been notified so far due to which these projects could not be recommended by IWAI for sanction under CSS. Hence DoS may issue necessary notification in this regard at an early date.

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**PARADIGM SHIFT IN IWT DEVELOPMENT**

**6.1** To put the IWT development issues in India in perspective and to prescribe a road map thereof, it is imperative that the sector is analyzed in terms of its Industry Structure. Accordingly, an analysis of the IWT industry structure is as follows:

**6.2 Industry Structure.** The IWT industry structure comprises (i) National Waterways/Feeder routes/Other Waterways (ii) IWT Infrastructure/inter-modal linkages, (iii) IWT Fleet/Operations and (iv) Legal framework for IWT operations. All the components ought to be sound and should complement each other.

**Current scenario:** The current scenario with reference to the participating institutions/stakeholders vis-à-vis the market, other modes and other relevant aspects is as under:

**6.2.1 National Waterways (NWs):** Presently there are three NWs totaling to 2716 km of fairway. Declaration of three more Waterways, viz. Kakinada-Pondicherry canal along with rivers Godavari and Krishna (1095 km), East Coast Canal along with Brahmani and Mahanadi delta rivers (623 km) and Barak(152 km) as NWs is under consideration in the Government. With this, the NW coverage will be approx 4586 Kms.

**6.2.2 Feeder Routes/Other Waterways:** Development of these waterways is vested in the States. These are not well developed despite liberal assistance under CSS.

**6.2.3 Infrastructure Provider:** IWAI is the statutory infrastructure provider, facilitator and regulator functioning since 1986. However, IWT infrastructure developed over the years is grossly inadequate. The main reason is – while there has been underinvestment in this sector on the one hand, the capacity of IWAI, the Authority vested with this responsibility, has not grown in proportion to the responsibility. More technical manpower is needed to conceptualize, manage and implement IWT infrastructure projects. Unless this issue is tackled upfront and requisite institutional strengthening takes place, this component will remain weak and IWT infrastructure will not develop at the required pace to support viable IWT operations.

**6.2.4 Infrastructure funding:** It has several models. At one end of the funding spectrum is 100% State funding and at the other end is 100% private funding. For an infant industry like IWT, 100% state funding will be desirable without looking at the commercial returns in the short run; and as the Sector develops it could be opened to Private Sector investment with the State doing the hand holding; and when the sector has really blossomed the State could withdraw completely except as a regulating authority and let enough private players compete with one another in what could then be a perfectly competitive market.

In an attempt to rope in the private sector, a proactive IWT policy was announced in 2001. The policy permits IWAI to enter into Joint Ventures with IWAI's equity contribution capped at 40%. The efforts made by IWAI in this direction are outlined in Chapter 1. Reckoning this facilitative policy framework, in fact, extra budgetary resources (EBR) for IWT during 10<sup>th</sup> Plan was envisaged at the level of Rs. 228 crore; the break up being Rs. 92 crore through private sector participation and Rs136 crore to be raised through bonds. IWAI did pursue this strategy as given in

detail in Chapter 3, however the scenario obtaining towards the end of 10<sup>th</sup> Plan is not encouraging. The fact that not a single JV could be formed so far calls for introspection in terms of policy review. At this stage of IWT development, raising of bonds by IWAI, even though it has been empowered, appears to be an improbable proposition.

**6.2.5 User Charges:** IWAI can levy user charges for the infrastructure created and service provided by it; however, to date, it has not levied any such charges or rather, it(IWAI) is in no position to demand user charges, given the state of IWT infrastructure in the country and almost negligible share of this mode in the freight transport market. Unless commercial IWT operations pick up in the country, cost recovery through levy of user charges appears to be an improbable position. And for commercial operations to pick up, the prerequisite is to have necessary infrastructure and inter-modal linkages on NWs and other navigable inland waterways.

**6.2.6 IWT operations – Users perspective:** IWT operations are essentially services, best left to the market likely to be dominated by private parties. In a well developed and vibrant sector, market forces determine the number of players/operators with PSU operator, if any, checking monopolistic tendencies thereby moderating the prices(i.e. cost of transportation in transport market), which in turn is dependent on the competitive advantage of the sector itself. IWT sector is still in its infancy in terms of business cycle, requisite infrastructure is not yet in place, private operators are limited and CIWTC, the only central PSU operator(which since its inception in 1967 has been a loss making) with about 100 vessels (most of it obsolete ) is on the verge of disinvestment. In this kind of scenario, at the present juncture, IWT operations in India without Govt. support/incentives do not appear to be a financially viable proposition from users' perspective. The sector needs liberal State funding and incentives for development of infrastructure and for making IWT operations viable.

**6.2.7 IWT operations – Nations' perspective:** The energy efficiency of a transport mode could be measured in terms of tonne-km of cargo moved by 1 litre of fuel. This figure for road haulage is 25 tonne-kms, for rail haulage 80 tonne-kms and for waterways 105 tonne-kms. Hence it is undeniable that IWT is energy efficient. Further, it is estimated that per billion ton-km of cargo shifted to IWT mode would result in annual savings of the order of Rs. 100 crore by way of savings in fuel cost alone.

The economic loss due to the congestion and accidents on roads in India is estimated to be Rs. 40,000 core per annum as per Tata Consultancy Services(TCS) study Report(2003) and Rs. 1,50,000 crore per annum as per Prakash Narain Committee Report. With the status quo in modal share continuing, the congestion on road and rail will further increase.

Hence, to the extent modal share of IWT improves preferably by way of modal shifts from congested surface transport modes, Indian economy stands to gain in terms of fuel savings, reduced pollution, reduced economic loss due to congestion and accidents etc.

**6.2.8 Incentives/Subsidy:** As explained above, there is a strong argument in favor of public funding for infrastructure. As far as IWT operations are concerned, it should be best left to the private sector. In long run, private sector would come forward provided requisite infrastructure and inter-modal linkages are put in place by the State.

However, till the time that happens, IWT operations must be catalyzed by liberal Govt support in the form of subsidy, modal shift incentives etc.

**6.2.9 Modal Share:** The current modal share is dismal 0.28%. The 'Thrust Area' envisages gradual enhancement of modal share upto 2% by 2025. Enhancement of modal share is dependent on length of NW fairway, development of feeder routes and other waterways, infrastructure, inter-modal linkages, adequate fleet and modal shift incentives, subsidy etc.

Viability of operations apart, IWT operations are severely constrained by lack of fleet both in terms of quality and quantity. For example, we do not today have more than 50 ( nos) quality IWT vessels for operations on NWs and protocol route. Taking modal share to 2% will necessitate induction of 2500 new vessels in IWT fleet.

**6.2.10 Integration of IWT and Coastal Shipping:** In some stretches, IWT and coastal shipping operations could be integrated to accommodate hinterland, coastal and international traffic. The two waterborne modes, viz. Coastal Shipping and IWT are similar in many ways, in terms of energy efficiency, inter-modalism, infrastructure requirements etc. Both modes are by nature inter-modal. At many places, these two modes provide seamless connectivity to the hinterland, for example, eastern region adjoining Kolkata and Paradip port; Goa region, Cochin Port-West Coast Canal region, proposed NW4 and NW5 linking East Coast Canal and Eluru, Buckingham Canal etc to some minor/major ports on the east coast.

By combining inland terminals with automated Roll on - Roll off (Ro-Ro) system, the cost of transshipment can be minimized to a great extent. Ro-Ro vessels offer an excellent alternative to road haulage on certain corridors/stretchers. Such vessels will be able to reach certain inland locations via inland waterways, This could take some of the traffic load off the road network and bring about a better balance among various modes.

Similarly DVC Canal could provide coal linkage from Raniganj to Durgapur coal mines in West Bengal and Brahmani and East Coast canal could be utilized for the movement of coal from the Talcher mines in Orissa to various destinations.

**6.2.11 Legal Framework:** Inland Vessels Act (a Central Act) provides the legislative framework for IWT operations of mechanized vessels. This Act deals with entire gamut of operational issues such as safety, registration, certification, manning, pollution/environmental/emission norms, etc. However, since administration of the Act vests in the State Governments, the regime varies from State to State. Since navigable inland waterways invariably run through more than one State, it is important to have uniformity in the realm of various operational aspects of IWT throughout the country. Model Inland Vessel Rules prepared by IWAI could provide the answer to this problem.

**6.3.** In view of the foregoing, there is a felt need to take a holistic picture of the sector and aim at its development in an integrated manner touching upon all relevant aspects simultaneously. This would call for **Paradigm shift in approach to development of IWT** during 11<sup>th</sup> Plan, different components of which are detailed below:-

- (i) **Throughput oriented strategy:** At the end of the 9<sup>th</sup> Plan period the IWT share was 1.0 billion ton-km. The present throughput of IWT is 2.8 billion ton-km. An increase of 1.8

billion ton-km has been achieved during the 10<sup>th</sup> Plan period. During 11<sup>th</sup> Plan the targeted throughput envisaged is 5 billion ton-km (ie by 2012)

- (ii) Quantum jump in public funding: There has been under investment in IWT infrastructure vis-à-vis road and rail. While considerable emphasis has been laid on development of rail and road infrastructure in successive five year plans, IWT sector has been neglected. Consequently, public investment in IWT mode has been far below the levels attained in other modes. To illustrate the case in point, while development/maintenance cost of road is about Rs. 5 crore per km; the money spent so far on development of the fairway of 2716 kms of the existing three National Waterways is only about Rs. 400 crore, i.e. Rs 0.15 crore per km only. IWT can not become viable at this rate of investment. Hence there ought to be quantum jump in funding of IWT sector in 11<sup>th</sup> Plan. The Programme/Schemes, fund requirement thereof etc are given in chapter-7. Entire projected outlay should be provided.
- (iii) Institutional Capacity Building of IWAI and State level Institutions : Assuming that entire projected outlay is provided to IWAI, it will be able to absorb the outlay and deliver only if its capacity, mainly in terms of its technical expertise to handle and implement infrastructure projects, is enhanced by deliberate intervention preferably in the current year itself. In this context, National Productivity Council (NPC) study is underway. Its report is likely to be available by November, 06. Thereafter, IWAI will be approaching the Govt for its approval. Similarly the State level organization (IWT Directorates) should also be adequately strengthened.
- (iv) Organic integration of IWT and Coastal Shipping: A single organization in-charge of both IWT and Coastal Shipping will help development of these two modes in an integrated manner. The organization suggested in this context is IWAI. IWAI Act and Inland Vessels Act could be suitably amended and 30% subsidy available under IVBSS should be extended to the vessels capable of doing both Coastal and IWT legs.
- (v) Composite transportation projects to be the mainstay: The IWT development paradigm pursued so far has been development of various components (terminals, fairway, cargo handling equipments, operations) vide separate projects in standalone manner. This approach has not helped development of IWT sector in an integrated manner. After all, the yardstick of performance of IWT sector is the modal share of IWT, which in turn, is dependent on the quality of infrastructure and productivity of IWT vessels. In other words, only an integrated approach will yield desirable results. Integrated approach to IWT development can be ensured only when composite transportation projects (combining both infrastructure and operation components) are encouraged by

supporting such projects with viability gap funding, if required. Each Coastal/ IWT State should be exhorted to take lead for piloting at least one composite project having both infrastructure and operations (vessels) components on identified O-D pairs as in the case of Gujarat Maritime Board's project of Ro-Ro services in Gulf of Khambat/ Kutch.

- (vi) Improving Productivity: The productivity of the Indian IWT vessels is quite low, ie on the average of 5000 ton-km per DWT vis-à-vis 15000 ton-km per DWT in developed countries. Hence there is a need for R&D for designing suitable vessels for pure IWT operation as well as for IWT/ Coastal Shipping combined movements. Besides, attention must be paid to improving qualitative aspects of cargo handling equipments, terminal operation etc.
- (vii) Coverage of National Waterways (NWs): By the end of 11<sup>th</sup> Plan, three new Waterways are likely to be added to the existing 3 NWs, taking the total coverage to 4586 Kms. The focus in 11<sup>th</sup> Plan should therefore be to put requisite infrastructure on the existing NWs and make them fully functional, and get on with development of new NWs on fast track as reflected in the Cabinet Note. Accordingly, it is expected that IWAI's hands will be more than full and it won't be possible to think of any more declaration during 11<sup>th</sup> Plan.
- (viii) Setting up of a Committee to study Integrated Transport Planning: Advantages of Integrated Transport Policy/ Planning has not been studied in Indian context. Hence, it is proposed to set up a High Powered Committee on the lines of National Transport Policy Committee (1980) to study the Integrated Transport Planning affairs.
- (ix) Connecting remote areas by adopting fish bone model & Development of State Waterways: All riverine States to develop feeder routes to National Waterways or major waterways of that State adopting fish bone modal wherever feasible. More outlay under CSS will be required during 11<sup>th</sup> Plan.
- (x) New Scheme for Unorganized Sector: Modernization/ improvement of country boats ( Bhut-Bhutis) in the North East area and other areas of the country should be taken up as a New Scheme. The proposed scheme will improve the productivity of small IWT vessels, offer employment to the people, improve remote area connectivity and most importantly help in poverty alleviation.
- (xi) Reaching threshold level of IWT development by Public investment during 11<sup>th</sup> Plan: Private sector participation (in IWT sector) in a big way will not happen unless IWT development in the country crosses the threshold level, as has been witnessed in other transport modes, particularly road. Once the sector develops and reaches a threshold level, private funding and extra budgetary resources (EBRs) will start flowing automatically. Hence emphasis during 11<sup>th</sup> Plan

should be to make enough public investment in IWT sector to cross the threshold level.

- (xii) Training on STCW 95 pattern & Network of Training Institutes: To meet the trained manpower requirements of the sector, it is necessary that all riverine and coastal States set up state level Crew Training Centres. These Centres, the existing crew training institutes in Assam, Goa and Orissa and NINI at Patna are to be connected through suitable network for better exchange of training ideas. The training of IWT personnel should be on STCW 95 pattern as per the IMO norms. This will ensure the quality of training as well as its standardization.
- (xiii) Fleet Augmentation: Modal Share of 2% by 2025 will require 2500 new vessels. The strategy suggested in this regard is:
  - o Extension of IVBSS upto 2025: IVBSS is currently valid upto March 2007. To build investors faith in IWT sector, the Scheme's validity on long term basis, co-terminus with draft Maritime Policy (Vision 2025) is important. It is proposed to bring cruise vessels/ luxury boats in the ambit of IVBSS.
  - o Formation of Vessel Leasing Company: At the present level of IWT development, private sector is not encouraged to invest in purchasing of new vessels due to these being capital intensive. On the other hand, the private sector is interested to take vessels on lease since it reduces their capital risk. Hence there should be a vessel leasing company which acquires / builds vessels and leases out to private sector. This could be a win-win situation for both the Leasing company and the private sector.
- (xiv) Brining about uniformity in legal regime for IWT operations: The relevant aspects should be discussed in Inter-State Council for building consensus on having uniformity in implementation of I.V. Act across the country as also for creating regime conducive to hassle free inter-state IWT operations. Re-writing of IV Act may also have to be considered. The State Govts have to formulate IV Rules for implementation under IV Act keeping in view the operational requirements of the respective States. The Model IV Rules framed by IWAI could serve as a guideline for the States in this regard.
- (xv) Promoting passenger transport on Rivers: While IWT development paradigm pursued so far has focused on freight transportation, passenger transport sub-sector has remained neglected. During 11<sup>th</sup> Plan, the strategy should be on promoting passenger transport on rivers/ inland waterways by making appropriate policy interventions.
- (xvi) New emphasis on co-operation with Bangladesh: For achieving higher exports and better connectivity to NER, new emphasis on co-operation with Bangladesh is envisaged during 11<sup>th</sup> Plan period. This will be pursued by making efforts

for adding more Protocol routes, more Ports of call and improved cargo handling facilities on Protocol routes.

- (xvii) Encouraging Modal Shift through close ended Incentives: European Union (EU) has launched a modal shift programme titled MARCO POLO, guided mainly by considerations of the need to alleviate congestion of the popular modes, rail and road. This programme essentially has two components – Catalyst Action and Modal Shift Action. There is a need to have such a modal shift programme in Indian context as well to effect targeted modal shift. A package of incentives for IWT operations including a specific incentive scheme of providing @20 paise per ton-km of cargo moved through identified IWT routes would be called for.

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## **PROGRAMME OF DEVELOPMENT AND FUND REQUIREMENT**

In keeping with the road map indicated in the previous chapter, the programme of development and funds requirement thereof are dealt with below, under the following categories:-

- i) On-going Schemes
- ii) New Schemes
- iii) Fund Requirement/ Source of Funding.

### **7.1 Ongoing Schemes**

#### **7.1.1 Grant to IWAI**

The programme of development of existing National Waterways will be a two stage process- making them “fully functional” in the first stage and then upgrading them to the level of “financial viability” in the second stage. Waterway-wise break up of the projects made under four major heads namely Fairway improvement, Navigational Aids, Construction of Terminals and Procurement of Vessels are described as under:-

#### **7.1.1 National Waterway-1**

##### **i) Maintenance of Fairway**

Projects costing Rs 199.68 crores have been identified and are under implementation with a view to provide a navigational channel of 45 m width and 3 m depth in Haldia-Farakka stretch, 45m width and 2 m channel in Farakka- Varanasi and 30 m width and 1.5 m depth channel in Varanasi- Allahabad stretch. This includes annual fairway development measures like bandalling and channel marking, dredging, river training measures, hydrographic surveys, procurement of vessels like dredging units (consisting of dredgers, workboats and accommodation boats), Tug-cum- buoy lying vessel, survey vessels, repair of vessels and construction of regional offices at Haldia, Kolkata and Patna. Of this, an expenditure of Rs 85.33 crores is expected in the year 2006-07 and therefore the balance amount of Rs 114.35 crores will spill over to 11<sup>th</sup> Plan.

In the remaining years of 11<sup>th</sup> Plan, it is proposed to maintain a navigational channel of 45 m bottom width and 3 m depth for Haldia- Patna stretch and 45 m bottom width and 2 m depth for Patna- Allahabad stretch during 11<sup>th</sup> Plan period by undertaking river conservancy works like bandalling, dredging, channel marking etc. Besides, study and provision for semi-permanent river training works is proposed at 37 shoal locations and construction of permanent river training works at 12 locations where study is proposed during 2006-07. It is proposed to set up permanent gauge stations at 20 locations all along the waterway. It is also proposed to set up DGPS stations with HF/ MF link @ one station per 100 km river stretch which would give better accuracy in position fixing for survey and navigation purpose. Second navigational lock is envisaged at Farakka and construction of a new lock at Jangipur for opening the Padma route. It is proposed to procure three tug-cum-buoy laying vessels and provision for maintenance of existing hardware like CSD units, HSD units and Survey launches have also been proposed. Construction of office complexes are

proposed at Kolkata, Bhagalpur, Varanasi and Allahabad during 2008-12. The estimated cost of these works is Rs 488 crores.

Thus the total outlay proposed for the above works is Rs. 603 crores, with following break-up:- (Rs in crores)

<u>Maintenance</u>		
Fairway (20+80)	-	100
Vessels (5.58+30=35.58)	-	36
<u>Procurement</u>		
Vessels (88.77+12=100.77)	-	101
<u>River Training (RT) work</u>		
Study and constn of semi-permanent RT work	-	20
Construction of Permanent RT work	-	100
<u>Others</u>		
Construction of navigation locks	-	200
Setting up of gauge stations	-	4
Setting up of DGPS stations	-	32
Construction of offices	-	<u>10</u>
Total	-	<u>603</u>

#### ii) Navigational Aids

Projects costing Rs 29.77 crores have been identified and are under implementation with a view to provide 24 hrs navigational facilities for the entire waterway upto Allahabad. This also includes provision for maintenance of the existing night navigational facilities in Kolkata- Farakka stretch. Of this an expenditure of Rs 3.45 crores is expected in the year 2006-07 and therefore the balance amount of Rs 26.32 crores will spill over to 11<sup>th</sup> Plan.

For maintenance of navigational aids thereafter (2008-12) an outlay of Rs. 68 crores is proposed (Rs 17 crores/ year).

Thus the total outlay proposed for the above work is Rs 94 crores.

#### iii) Construction of Terminals

Projects costing Rs 94.33 crores have been identified and are under implementation with a view to complete the balance work of Permanent terminal (high level jetty) at Patna, construction of low level jetty at Patna, RCC jetty at Haldia, Kolkata (BISN), permanent terminal at Varanasi, construction of road to the existing Pakur jetty, providing floating pontoon facilities at Rajmahal, Sahibganj, Manihari, Bhagalpur, Semaria, Doriganj, Ballia, Ghazipur, Chunar and Allahabad. Provision for setting up of floating pontoon jetty for manual handling at Haldia, Kolkata (BISN), Diamond Harbour, Katwa, Tribeni, Barhampur and Jangipur is also included. This also includes cost of operation of existing terminals and cost of project preparation for various new terminals. An expenditure of Rs 30.5 crores is expected in the year 2006-07 and therefore the balance amount of Rs 63.83 crores will spill over to 2007-08 and beyond for these projects.

It is also proposed to construct permanent terminals at Diamond Harbour, Farakka, Rajmahal, Sahibganj, Bhagalpur, Semaria, Ballia, Ghazipur and Allahabad. It is also proposed to provide mechanical handling facilities at the floating terminals namely Chunar, Doriganj, Manihari, Katwa, Triveni, Berhampur and Jangipur. Provision for maintenance of permanent terminals and floating terminals are also

proposed. The total estimated cost of these works is Rs 330 crores for the period 2008-12.

Thus the total outlay proposed for the above works is Rs.394 crores, with following break-up:-

		(Rs in crores)
Maintenance of terminals (3.83+46= 49.83)	-	50
Construction of terminals (60+270)	-	330
Provision of mech.handling facilities	-	<u>14</u>
Total	-	394

iv) Procurement of Cargo Vessels

During 10<sup>th</sup> Plan period it was decided to procure more cargo vessels to demonstrate the viability of transportation through IWT mode. Under this, one vessel was already procured and is under operation under fixed schedule sailing in NW-1. Projects costing Rs 35.43 crores have been identified and are under implementation with a view to procure/ acquire two 300 tonnes vessels and one 600 tonne vessel. Projects also envisages acquisition two units of Push tug plus two dumb barge combination of 300 tonnes capacity and one unit of Push tug plus two dumb barge combination of 750 tonnes capacity. An expenditure of Rs 16.53 crores is expected in the year 2006-07 and therefore the balance amount of Rs 18.90 crores (including Rs1.9 crores for maintenance) will spill over to 11<sup>th</sup> Plan .

It is also proposed to procure one 600 tonnes vessel for operation in Haldia – Patna sector and three 300 tonnes vessels for operation in Patna - Allahabad stretch for demonstration purpose. The estimated cost of this procurement is Rs 25 crores during 2008-12. Further, a provision of Rs 8 crores is proposed for maintenance of vessels.

Thus the total outlay proposed for vessel procurement including maintenance of existing vessels is Rs. 52 crores, with following break-up:-

		(Rs in crores)
Maintenance of vessels (1.9+ 8=9.9)	-	10
Procurement of vessels (17+25)	-	<u>42</u>
Total	-	52

### 7.1.2 National Waterway-3

i) Maintenance of Fairway

Projects costing Rs 70.29 crores have been identified and are under implementation with a view to provide a navigational channel of 38/ 32 m width and 2 m depth for the entire stretch of the waterway. This includes annual fairway development measures balance work of capital dredging, maintenance dredging, removal and reconstruction of structures across waterway (foot bridge, power line, water supply line etc) hydrographic surveys, procurement of hardware like dredging units (consisting of dredgers, workboats and accommodation launches), tug-cum-buoy lying vessel, survey vessels, repair of vessels, repair of locks, bank protection and construction of regional offices at Kochi. Of this, an expenditure of Rs 22.16 crores is expected in the year 2006-07 and therefore the balance amount of Rs 48.13 crores will spill over to 11<sup>th</sup> Plan.

It is proposed to maintain a navigational channel of 32/ 38 m bottom width and 2 m depth for the entire waterway during 11<sup>th</sup> Plan period. Provision for maintenance dredging for the entire waterway is provided under this scheme. Provision for maintenance of bank protection works, maintenance of locks structures,

construction of a new navigational lock at Trikkunnapuzha are proposed. It is proposed to set up permanent gauge stations at 10 locations all along the waterway. It is proposed to procure one survey launch and provision for maintenance of existing hardware like CSD units and Survey launch have also been proposed. The estimated cost of these works is Rs 43 crores for the period 2008-12.

Thus the total outlay proposed for the above works is Rs. 91 crores, with following break-up:-

		(Rs in crores)
<u>Maintenance</u>		
Fairway (41.29+8=49.29)	-	49
Bank protection	-	5
Nav.locks	-	3
Vessels (6.84+10=16.84)	-	17
<u>Others</u>		
Construction of nav.locks	-	15
Setting up of gauge stations	-	<u>2</u>
Total	-	<u>91</u>

ii) Navigational Aids

Projects costing Rs 2.2 crores have been identified and are under implementation with a view to provide 24 hrs navigational facilities for the entire waterway. This also includes provision for maintenance of the existing night navigational facilities in Champakkara & Udyogamandal canals and Kochi- Alappuzha stretch of West Coast Canal. Of this an expenditure of Rs 1.85 crores is expected in the year 2006-07 and therefore the balance amount of Rs 0.35crores will spill over to 11<sup>th</sup> Plan.

For maintenance of navigational aids during 11<sup>th</sup> Plan an outlay of Rs. 4 crores is proposed.

Thus the total outlay proposed is Rs 4 crores.

iii) Construction of Terminals

Projects costing Rs 7.7 crores have been identified and are under implementation with a view to complete the balance work of seven IWT terminals at Kottaapuram, Aluva, Maradu, Vaikom, Thanneermukkom, Trikkunnapuzha, Kayamkulam (Ayiramthengu) including mechanical handling facilities and construction of new container terminal at Kollam. This also includes cost of operation and maintenance of existing terminals including construction of compound walls. An expenditure of Rs 5.28 crores is expected in the year 2006-07 and therefore the balance amount of Rs 2.42 crores will spill over to 11<sup>th</sup> Plan.

It is further proposed to construct permanent terminals at Kollam and Allappuzha during 11<sup>th</sup> Plan Period. The total estimated cost of these works is Rs 21 crores (including Rs 14 crores for terminal maintenance) for the period 2008-12.

Thus the total outlay proposed for the above works is Rs. 24 crores, with following break-up: -

		(Rs in crores)
Maintenance of terminals (0.42+14=14.42)	-	15
Construction of terminals (2+7=9)	-	<u>9</u>

iv) Procurement of Cargo Vessels

It is proposed to procure one 300 tonne cargo vessel to demonstrate the viability of transportation through IWT mode in NW-3 like that of NW-1 and NW-2. Projects costing Rs 2.0 crores have been identified and are under implementation. An expenditure of Rs 0.8 crores is expected in the year 2006-07 and therefore the balance amount of Rs 1.2 crores will spill over to 11<sup>th</sup> Plan.

It is also proposed to procure two more 300 tonnes vessels for demonstration purpose. The estimated cost of vessel procurement is Rs. 10 crores during 2008-12. Further a provision of Rs 1.2 crores is proposed for maintenance of vessels.

Thus the total outlay proposed for the above works is Rs 12 crores, with following break-up:-

(Rs in crores)		
Maintenance of vessels	-	1
Procurement of vessels (1.2+10=11.2)	-	<u>11</u>
Total	-	12

**7.1.3 Other Projects**

(a) IT related activities

At the rate of Rs 1 crore per annum, a provision of Rs 5 crores is proposed for up gradation/ procurement of computers and software for head office and field offices of IWAI during 11<sup>th</sup> Plan period

(b) NINI and setting up of State Crew Training Institute

The National Inland Navigation Institute (NINI) has been functioning at Patna for imparting training in the field of IWT. A provision of Rs 23 crores is proposed for its maintenance and procurement of training materials. It is also proposed to set up State Crew Training Centers in the riverine States and its networking with the NINI for which a provision of Rs 82 crores is proposed. Thus the total provision will be Rs 105 crores.

(c) IWT Promotion Activities/ Demonstrative voyages

For organizing seminars, conferences and other promotional measures for the IWT sector including demonstration voyages, a provision of Rs 25 crores is proposed.

**7.1.4 Joint Venture**

6 PPP projects (3 for jetties and 3 for barges) are in process of approval. IWAI equity is estimated to be Rs 11 crores and the same is taken as spill over for 2007-08.

As per IWT Policy IWAI can enter into JV with private parties, State Government, PSU etc. There is good possibilities for forming JVs for construction of terminals, operation of vessels etc for which significant spade work has been made in the 10<sup>th</sup> Plan. A provision of Rs 200 crores is proposed to meet IWAI's contribution in these projects ( @ 3:2 debt equity ratio) The corresponding EBR component shall be Rs 1050 crores.

Thus the total outlay proposed is Rs 211 crores (BS) and Rs 1050 crores under EBR.

### **7.1.5 Technical Studies & R & D**

Various technical studies are in progress related to assessment of techno-economic feasibility of certain waterways ( e.g, Narmada river) , preparation of detailed project report (DPR) and environmental study for the proposed new NW-4 namely Kakinada- Pondicherry canal along with rivers Godavari & Krishna and proposed NW-5 namely East Coast Canal along with rivers Brahmani & Mahanadi delta , hydrographic surveys on certain waterways in the north-east (river Gumti in Tripura), DPR for setting up of terminals (Varanasi and Allahabad), studies related to cargo movement etc are in progress. All the studies are expected to be completed by 2006-07 except for a portion of surveys in the NE rivers and actual clearance from MOEF related to environmental studies (new national waterways) . An expenditure of Rs 1.0 crores is expected for the year 2006-07 and a balance provision of Rs 1 crores will spill over to 2007-08.

It is proposed to take up techno-economic feasibility studies for assessing the viability of certain waterways. This includes Mumbai IWT, Goa waterways, Kosi, Gandak, waterways in the North-Eastern region (Arunachal Pradesh, Mizoram, Meghalaya, Nagaland, Tripura and Assam), feeder routes of existing and new National Waterways, waterways of other States etc. It is also proposed to take up DPR for extension of NW-3 for Kollam-Kovalam- Kolachal stretch in the south and Kottapuram – Kasaragod stretch in the north, DVC Canal, river Narmada, river Ghagra etc. Specific cargo movement studies (O-D pairs), study on economics of IWT operations and study on integration of Coastal Shipping and IWT etc. are also proposed for the existing National Waterways and new National Waterways. It is also proposed to take up R&D on vessel suitable for operation in the integrated scenario of Coastal Shipping- IWT.

Thus the total outlay proposed during 11<sup>th</sup> plan is Rs 50 crores for undertaking technical studies.

### **7.1.6 Inland Vessel Building Subsidy Scheme**

After expiry of Loan Interest Subsidy Scheme (LISS), a new subsidy scheme namely Inland Vessel Building Subsidy Scheme was introduced during 10<sup>th</sup> Plan period. Under this, in-principle approval was accorded to 35 proposals. Of this, the concerned firm has withdrawn 2 proposals and IWAI has withdrawn 28 proposals as the construction did not commence within the stipulated time. The cost of remaining 5 sanctioned and alive projects is Rs 6.9 crores and the subsidy component (30% cost) is Rs 2.1 crores. The entire expenditure of Rs 2.1crores is expected to be spent during 2006-07 and therefore there will not be any spill over to 2007-08.

It is expected that more entrepreneurs/ IWT operators will come up for availing the IVBSS and procure vessels for operation in National Waterways and Indo-Bangladesh Protocol route. During 10<sup>th</sup> Plan period proposal was received for 35 vessels under the IVBSS. It is expected that IWT entrepreneurs will procure about 400 vessels by availing this facility during 11<sup>th</sup> Plan period. At Rs 4 crores per vessel (average cost), the cost of the vessels shall be Rs 1600 crores and 30% subsidy under IVBSS works out to Rs 480 crores. The corresponding EBR component shall be Rs 1120 crores. Hence the same is proposed during 11<sup>th</sup> Plan period. Further, it is proposed to extend the implementation period of the scheme till 2025 with a long term perspective so that IWT activity increases.

### **7.1.7 Centrally Sponsored Scheme**

There are 32 sanctioned ongoing projects of 13 States for a total sanctioned cost of Rs 98.68 crores. An expenditure of Rs 41.34 crores was also made during first 4 years of 10<sup>th</sup> Plan period. An expenditure of Rs 7.34 crores is expected during 2006-07 and therefore the balance amount of Rs 50 crores will spill over to 2007-08.

It is expected that new proposals would be received during 11<sup>th</sup> Plan period for which a provision of Rs 120 crores per annum is proposed. Thus the total provision proposed for CSS during 2008-12 is Rs 600 crores.

Thus the total outlay proposed for CSS is Rs 650 crores (50+600).

### **7.1.8 North Eastern Areas**

#### **7.1.8.1 National Waterway-2**

##### **i) Maintenance of Fairway**

Projects costing Rs 121.7 crores have been identified and are under implementation with a view to provide a navigational channel of 45 m width and 2/ m depth for Bangladesh Border- Dibrugarh and 30 m width and 1.5 m depth for Dibrugarh- Sadiya stretch. This includes annual fairway development measures like bandalling and channel marking, dredging, river training measures, hydrographic surveys, procurement of hardware like dredging units (consisting of dredgers, workboats and accommodation launches), floating dry dock, survey vessels, repair of vessels and construction of regional offices at Guwahati. Of this an expenditure of Rs 40.31 crores is expected in the year 2006-07 and therefore the balance amount of Rs 81.39 crores will spill over to 11<sup>th</sup> Plan.

It is proposed to maintain a navigational channel of 45 m bottom width and 2 m depth for the entire waterway during 11<sup>th</sup> Plan period by undertaking river conservancy works like bandalling, dredging, channel marking etc. Besides study and provision for semi-permanent river training works is proposed at 36 shoal locations and construction of permanent river training works at 6 locations where study is proposed during 2006-07. It is proposed to set up permanent gauge stations at 8 locations all along the waterway. It is also proposed to set up DGPS stations with HF/ MF link @ one station per 100 km river stretch which would give better accuracy in position fixing for survey and navigation purpose. It is proposed to procure two tug-cum-buoy laying vessels and provision for maintenance of existing hardware like CSD units, HSD units and Survey launches have also been proposed. Construction of sub offices complexes are proposed at Dhubri and Dibrugarh during 11<sup>th</sup> Plan period. The estimated cost for the above works is Rs. 143 crores for the period 2008-12.

Thus the total outlay proposed for the above works is Rs 257 crores, with following break-up:-

	(Rs in crores)
<u>Maintenance</u>	
Fairway (14.6+24=38.6)	- 39
Vessels (1+18)	- 19
<u>Procurement</u>	
Vessels (65.79+7=72.79)	- 73
<u>River Training(RT) work</u>	
Study and constn of semi-permanent RT work	- 18

Construction of Permanent RT work	-	50
<u>Others</u>		
Setting up of gauge stations	-	2
Setting up of DGPS stations	-	18
Construction of offices	-	<u>5</u>
Total	-	224

ii) Navigational Aids

Projects costing Rs 16.0 crores have been identified and are under implementation with a view to provide 24 hrs navigational facilities for the entire stretch of the waterway. This also includes provision for maintenance of the existing night navigational facilities in Bangladesh Border - Pandu stretch. Of this an expenditure of Rs 2.4 crores is expected in the year 2006-07 and therefore the balance amount of Rs 13.6 crores will spill over to 11<sup>th</sup> Plan.

For maintenance of navigational aids for the period 2008-12, an outlay of Rs. 38 crores (Rs 9.5 crores/ year) is proposed.

Thus the total outlay proposed for this work is Rs 52 crores (14+38).

iii) Construction of Terminals

Projects costing Rs 43.5 crores have been identified and are under implementation with a view to complete the balance work of Permanent terminal at Pandu namely both high level jetty and low level jetty, terminal facilities for coal handling at Joghghopa. Provision for setting up of floating pontoon jetty for manual handling at Dhubri, Tezpur, Silghat, Dibrugarh, Jamguri, Bogibil, Saikhowa and Sadiya is also included. This also includes cost of operation of existing terminals and cost of project preparation for various new terminals. An expenditure of Rs 18.06 crores is expected in the year 2006-07 and therefore the balance amount of Rs 25.44 crores will spill over to 11<sup>th</sup> Plan for these projects.

It is proposed to construct permanent terminals at Dhubri, Tezpur, Silghat, Dibrugarh, Sadiya and up gradation of terminal at Jogighopa. It is also proposed to provide mechanical handling facilities at the floating terminals namely Jamgura, Bogibil and Saikhowa. Provision for maintenance of permanent terminals and floating terminals are also proposed. The estimated cost of these works is Rs. 221 crores for the period 2008-12.

Thus the total outlay proposed for the above works is Rs 246 crores, with following break-up:-

		(Rs in crores)
Maintenance of terminals (5.44+25=30.44)	-	30
Construction of terminals (20+190)	-	210
Provision of mech.handling facilities	-	<u>6</u>
Total	-	246

iv) Procurement of Cargo Vessels

During 10<sup>th</sup> Plan period it was decided to procure more cargo vessels to demonstrate the viability of transportation through IWT mode. Under this one vessel was already procured and are under operation under fixed schedule sailing in NW-2. Projects costing Rs 41.5 crores have been identified and are under implementation with a view to complete the balance construction of 300 tonnes vessels (one POL and one Container). Project also envisages acquisition four units of Push tug + two dumb barge combination of 750 tonnes capacity. An expenditure of Rs 0.82 crores is

expected in the year 2006-07 and therefore the balance amount of Rs 40.68 crores (including Rs 1 crore for maintenance) will spill over to 11<sup>th</sup> Plan.

It is also proposed to procure two 300 tonnes vessels for demonstration purpose. The total cost of vessel procurement is Rs.10 crores for the period 2008-12. Further, a provision of Rs 7 crores is proposed for maintenance of vessels.

Thus the total outlay proposed for procurement is Rs58 crores, with following break-up:-

		(Rs in crores)	
Maintenance of vessels (1+7)	-	8	
Procurement of vessels (39.68+10=49.68)	-	<u>50</u>	
Total	-	58	

### 7.1.8.2 Development of Indo- Bangladesh Protocol Route

A scheme costing Rs 3.64 crores was sanctioned under the Action Plan with a view to complete the development of Indo-Bangladesh Protocol route through Sunderbans by March, 2008. It is expected that an expenditure of Rs 1.72 crores would be spent during 2006-07 and therefore the balance amount of Rs 2.22 crores will spill over to 11<sup>th</sup> Plan.

A provision of Rs 5 crore is proposed for maintenance of fairway for the period 2008-12. Dredging u/s and d/s of Jangipur lock and in Dhulian- Aricha route are also to be taken up for which a provision of Rs155 crores is proposed. Therefore the total provision proposed for the period 2008-12 is Rs 160 crores.

Thus the total outlay proposed is Rs 162 crores (2+160).

### 7.1.8.3 CSS for development of waterways in North East Area

Fish bone model ought to be adopted for development of 21 tributaries ( 11 north bank and 10 south bank tributaries) of the Brahmaputra for navigation purpose with a view to operate vessels of smaller capacity ranging from 50- 150 tonnes. Besides some other rivers in NER have potential for development. Since IWT development in NER is through NE Pool of funds, as outlay of Rs. 100 crore is proposed for CSS (exclusively for NER).

#### Abstract of Ongoing schemes

		(Rs in crores)	
Sl #	Description of Items	Amount (BS)	Amount (EBR)
1	<b>Grants to IWAI</b>		
i)	National Waterway-1	1143	0
ii)	National Waterway-3	131	0
iii)	Others		
a)	IT related activities	5	0
b)	NINI and setting up of SCTCs	105	0
c)	IWT promotion activities	25	0
iv)	Joint Ventures (PPP projects)	211	1050
2	<b>Technical Studies and R&amp;D</b>	50	0
3	<b>Inland Vessel Building Subsidy Scheme</b>	480	1120
4	<b>Centrally Sponsored Scheme</b>	650	0
5	<b>North East Area</b>		

i)	National Waterway-2	580	0
ii)	Indo-Bangladesh Protocol Routes	162	0
iii)	CSS for development of rivers in NER	100	0
	TOTOAL	3642	2170

**Say Rs 5812 crores**

**Summary of Ongoing Schemes**

(Rs in crores)

Sl#	Scheme/ Project	BS	EBR	Total
1	Grants to IWAI (NW1, 3, other and JV)	1620	1050	2670
2	Technical Studies and R&D	50	-	50
3	IVBSS	480	1120	1600
4	CSS	650	-	650
5	NE Area (NW 2, Protocol, CSS)	842	-	842
	Sub-Total	3642	2170	5812

## 7.2 New Schemes

### 7.2.1 Development of Proposed NW-4 (Kakinada- Pondicherry Canal along with rivers Godavari & Krishna)

Development cost of this waterway is estimated to be Rs. 542 crores and the time frame envisaged is 5 years (ie 11<sup>th</sup> Plan period). In addition, a provision of Rs 33 crores for maintenance is proposed. Thus the total provision is Rs 575 crores.

#### i) Fairway Development

The proposed dimension for Kakinada, Eluru and Commamur canals is a bed width of 14 m and depth of 1.6 m with a side slope of 1:3 and that of rivers Godavari, Krishna and Buckingham canal and Kaluvelly tank is a bed width of 32 m, depth 1.8 m with a side slope of 1:5. The proposed work includes dredging, excavation and widening of Kakinada- Pondicherry canal, modification of locks and bridges, repair of roads, acquisition of land for widening, bank protection works etc. The total cost of work is estimated at Rs 387 crores.

#### ii) Navigational Aids

It is proposed to provide navigational aids for the entire stretch of Godavari and Krishna rivers and at conspicuous locations in the canal portion. The cost of work is estimated at Rs 8 crores.

#### iii) Construction of Terminals

Terminals are proposed at Bhadrachalam, Pochavaram and Rajahmundry in Godavari river, at Wazirabad, Muktiyala and Vijayawada in Krishna river, at Kakinada, Eluru, Tadepalligudem, Kottapatnam, Maipadu, Durgarajapatnam, Chennai (2 nos) and Pondicherry in the canal portion. The total cost of construction is estimated at Rs 143 crores. 100% public funding is proposed in the declaration proposal, however private sector participation to the possible extent would be explored in setting up of terminals.

#### iv) Setting up of Offices

It is proposed to set up offices at Chennai and Vijayawada. Provision of Rs 4 crores is proposed for this purpose.

#### v) Maintenance cost

Annual maintenance cost for fairway and terminals @ Rs 11 crores/ year for 3 years works out to Rs 33 crores.

### 7.2.2 Development of NW-5 (East Coast Canal along with rivers Brahmani & Mahanadi delta)

The total cost of development is estimated at Rs 1526 crores. Of this, Rs 677 crores is proposed during 11<sup>th</sup> Plan period and the balance amount of Rs 849 crores during 12<sup>th</sup> Plan period. In addition, a provision of Rs 78 crores for maintenance is proposed. Thus the total provision is Rs 755 crores.

#### i) Fairway Development

The proposed dimension for East Coast Canal is a bed width of 32 m and depth of 1.5 m with a side slope of 1:2.5 and that of rivers and delta portion is a bed width of 45 m, depth 2 m with a side slope of 1:5. The proposed work includes dredging, excavation and widening of canal, modification of locks and bridges, repair of roads, acquisition of land for widening, bank protection works etc. Construction of barrages is proposed only during 12<sup>th</sup> Plan period. The total cost of work is estimated at Rs 422 crores.

ii) Navigational Aids

It is proposed to provide navigational aids for the entire stretch of Brahmani- Kharsua- Dhamra river portion and at conspicuous locations like structures/ bends etc in the canal and delta portion. The cost of work is estimated at Rs 11 crores.

iii) Construction of Terminals

Terminals are proposed at Talcher in Brahmani river and at Balasore, Rajnagar and Nasirabad in the East Coast Canal portion. The total cost of construction is estimated at Rs 242 crores. 100% public funding is proposed in the declaration proposal, however private sector participation to the possible extent would be explored in setting up of terminals.

iv) Setting up of Offices

It is proposed to set up offices at Dhamra and Charbatia. Provision of Rs 2 crores is proposed for this purpose.

v) Maintenance cost

Annual maintenance cost for fairway and terminals @ Rs 26 crores/ year for 3 years works out to Rs 78 crores. .

### **7.2.3 Development of NW-6 (River Barak-NE Area)**

The draft Cabinet Note for declaring Karimganj- Lakhipur stretch of Kushiya-Barak river (140 km) was circulated during July, 2005. The proposal is likely to be cleared by the Govt. during 10<sup>th</sup> Plan. Accordingly, following provisions ought to be made. In addition, a provision of Rs 12 crores for maintenance is proposed. Thus the total provision is Rs 58 crores.

i) Fairway Development

The proposed dimension development of the Kushiya- Barak river system is with a bed width of 40 m and depth of 1.6 m with a side slope of 1:5. The river is alluvial in nature like Ganga and Brahmaputra and therefore recurring dredging is required for maintenance of a navigational channel. Hence it is proposed to procure 2 CSD units and 1 HSD unit and 2 Survey launches. The total cost of this procurement is estimated at Rs 22 crores.

ii) Navigational Aids

Since both banks of the river are high banks at most of the places there exists a permanent channel and therefore conventional channel marking are proposed under annual maintenance proposal.

iii) Construction of Terminals

Terminals are proposed at Karimganj, Badarpur, Silchar and Lakhipur. The total cost of construction is estimated at Rs 23 crores. 100% public funding is proposed in the declaration proposal; however private sector participation to the possible extent would be explored in setting up of terminals.

iv) Setting up of Offices

It is proposed to set up offices at Karimganj and Silchar. Provision of Rs 1 crore is proposed for this purpose.

v) Maintenance cost

Annual maintenance cost of fairway and terminals @ Rs 4 crores/ year for 3 years works out to be Rs 12 crores. Thus the total cost of work shall be Rs 58 crores.

### **7.2.4 Other New Waterways**

Some new waterways may be considered for declaration as National Waterways during 11<sup>th</sup> Plan period. For Example Goa Waterways, Extension of NW-3 (Kollam to Kovalam in the south and Kottapuram to Kasaragod in the north), Sunderbans, DVC Canal and Narmada. A token provision of Rs 100 crores is proposed for undertaking preliminary works in these waterways after its declaration as National Waterways

## **7.2.5 Modal shift incentives and other new schemes**

### **7.2.5.1 Incentive for IWT Operators**

It is proposed to introduce incentives to the IWT entrepreneurs @ 20 paisa/ tonne-km for movement of cargo through the national waterways, due to non-availability of sufficient infrastructural facilities. Payment of this incentive is proposed till IWAI make the existing national waterways financially viable with provision of mechanical loading/unloading facilities at all the terminals. A provision of Rs 100 crores (@ 20 paise per tone-km for 5 btkm incremental movement) is proposed to meet this requirement.

### **7.2.5.2 New Scheme for Unorganized Sector**

The Inland Vessel Building Subsidy Scheme is not applicable to country crafts (Bhut-Bhutis in North-East). It has been observed that in NER and in other parts of the country a lot of transportation activity (both passengers and cargo) takes place through small country crafts of upto 40-50 ton capacity. Mechanization of these small vessels and fitting appropriate safety devices/ appliances on board will improve the productivity of these vessels, bring down transportation cost, improve overall transportation efficiency and make IWT operations safer. Hence, there is a need to introduce a new scheme for mechanizing the country crafts, fitting safety appliances thereon etc. This will also facilitate poverty alleviation through employment generation and enable remote area connectivity. The funding pattern suggested is 50% by Govt. and 50% by the owner of Bhut-Bhuti. The Govts share will be met fully by the Central Govt. Further details and modalities of implementation of the Scheme will be worked out in consultation with the state Govts and NEC in case of North Eastern Region. Out lay proposed is Rs. 50 crore. Corresponding EBR share will be Rs 50 crores.

### **7.2.5.3 Vessel leasing Special Purpose Vehicle (SPV)**

IWT operators are by and large averse to the financial risk of owning IWT vessels at this stage of development. They would feel comfortable, if vessels are available in the market on lease basis. To facilitate this, a SPV is proposed to be formed with IWAI partnering with reputed financial Institutions. IWAI's contribution may be pegged at Rs. 100 crore equivalent to 40% equity contribution in the JV that would manage vessel leasing operation. Accordingly, an outlay (Budgetary Support) of Rs. 100 crore is proposed on this account. Corresponding Extra Budgetary Resources (EBR) provision shall be Rs 525 crores @ Debt Equity Ratio (DER) of 3:2.

### **7.2.5.4 Dedicated IWT Development Fund (for JV of acquisition of vessels)**

IWAI Act provides for equity contribution for various types of JV projects and the IWT policy stipulates upper limit of 40% on IWAI's participation in such JV's. In order to effect modal shift in favor of IWT it is proposed to promote vessel acquisitions through JV route. Thus, it will be desirable to have a dedicated IWT corpus fund built up through budgetary support and through contribution made by FIs, one of whom could be Fund Manager as well. This corpus could be used for funding JV projects for acquisition of vessels @ 3:2 DER. An outlay of Rs. 500 crore (Budgetary support) is proposed on this account. Corresponding EBR is Rs 2625 crores @ DER of 3:2.

#### **7.2.5.5 Funding for composite Transportation projects**

Ministry of Finance has issued guidelines for viability gap funding for infrastructure development under public- private partnership projects. It is proposed to introduce a new scheme for funding of composite transportation projects in the IWT sector. The funding would be limited to a maximum of 40% of project cost. The composite projects would comprise infrastructure facilities (terminals with mechanical loading/ unloading facilities), vessel acquisition and operation between identified origin and destination pairs. An outlay of Rs 100 crore (Budgetary support) is proposed for meeting the viability gap funding for composite transportation projects. The corresponding EBR component shall be Rs 150 crores.

**Summary of New Schemes**

(Rs in crores)

Sl#	Scheme/ Project	BS	EBR	Total
1	New National Waterways			
(i)	National Waterway-4 (Kakinada-Pondicherry canal along with rivers Godavari & Krishna)	575	0	575
(ii)	National Waterway-5 (East Coast Canal along with rivers Brahmani & Mahanadi delta)	755	0	755
(iii)	National Waterway-6(River Barak -NE Area)	58	0	58
(iv)	Other New Waterways	100	0	100
2	Incentive for IWT Operators	100	-	100
3	Mechanization of country crafts ( Bhut-bhuties)	50	50	100
4	Vessel Leasing Special Purpose Vehicle (SPV)	100	525	625
5	Dedicated IWT Development Fund (JV for vessel acquisition)	500	2625	3125
6	Funding for composite transportation projects	100	150	250
	Total	2338	3350	5688

**Summary of 11<sup>th</sup> Plan proposals**

(Rs in crores)

Details	BS	EBR	Total
Ongoing Schemes	3642	2170	5812
New Schemes	2338	3350	5688
Total	5980	5520	11500

**Rs 11500 crores**

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**MINUTES OF THE MEETING OF SUB GROUP I (INLAND WATER TRANSPORT)  
OF THE WORKING GROUP ON SHIPPING AND IWT FOR FORMULATION OF  
11<sup>TH</sup> FIVE YEAR PLAN (2007-12) HELD ON 24.7.2006**

- 1) The first meeting of the Sub Group was held under the Chairmanship of Chairman, IWAI in the conference room of IWAI, Noida office on 24.7.06 at 1100 hrs. List of participants is at Annexure.
- 2) At the outset, Chairman IWAI welcomed the members and gave a brief account of the current status of IWT sector in the country. IWT being a fuel efficient, environment friendly and cost effective, mode, the Govt. has been trying to develop this mode. However, this mode is yet to find its rightful place and attain visibility in most parts of the country, Chairman observed. With these opening remarks, Chairman requested the Vice-Chairman to initiate discussions.
- 3) Vice-Chairman observed that the time is ripe for taking a qualitatively different approach to formulation of 11<sup>th</sup> Plan; as there is now visible movement on national waterways; large scale IWT movement is in offing; Action plan for making 3 NWs fully operational has been prepared; Ports are getting congested necessitating better hinterland connectivity through IWT etc. Further, IWT has been identified as a Thrust Area by the PMO, whereby efforts ought to be made to enhance the modal share of IWT to atleast 2% from the present level of less than 1%. He exhorted the Members to give their views on each terms of reference in this meeting and thereafter follow it up with inputs/suggestions in writing, so that draft report could be discussed in the next meeting.
- 4) Shri Purandare, Additional Director, CWPRS, Pune, suggested that since Goa waterways contribute maximum in terms of transportation of cargo by IWT mode, the Govt. should give adequate attention for developing waterways in Goa. Shri D'costa, Honorary Secretary, Goa Barge Owners Association (GBOA) informed that the Goa waterways transported about 36 million tonne of cargo, mainly consisting of iron-ore and coal during 2005-06. He also informed that GBOA has recently recommended to the Goa Govt. that the State Govt should take initiative in requesting the Central Govt. for declaration of Goa waterways as national waterways. He also informed that there was earlier a proposal for declaration of Goa waterways as national waterways which was not agreed to by the State Govt. of Goa, mainly due to lack of unanimity on the revenue sharing issues between the Central and the State Govt. in the event of the waterways getting declared as a National Waterway. He further informed that at that time, the State Govt. had constituted a committee to suggest the modalities of revenue sharing. GBOA was also a member of that Committee. However ultimately non consensus emerged. The representative of GBOA added that there are about 250 barges, many of them are over 2000 DWT with 3.2 m loaded draft. Adequate depth is not available all the time in Goa waterways to accommodate these barges, which wait for high tides, losing valuable voyage time in the process. Hence there is a felt need to provide adequate LAD, as also night navigation aids, but the State Govt has done very little about it. He suggested that in case the waterways are declared as National Waterway, the Central Govt. through IWAI will take up fairway maintenance activities which will help the Goa waterways in particular and IWT sector in general. Representative of GBOA also informed that the total length of Goa

waterways is approximately 150 km, out of which operations take place presently on about 100 kms.

In this context, V.C, IWAI suggested GBOA to provide details in respect of Goa waterways as under:

- a) Present length of the navigable waterways in Goa which could be declared as a National Waterway.
  - b) Additional length of waterways which could be added;
  - c) Pre-requisites in terms of developmental works to be taken to make them navigable.
  - d) Constraints/difficulties in terms of up-gradation of infrastructure, modification of bridges, land acquisition etc.
  - e) Minimum vertical and horizontal clearances required.
  - f) Financial implications.
  - g) Additional contribution to IWT that would be made.
  - h) Approximate quantity and frequency of dredging required.
  - i) Whether barge size can be increased without increasing the draft of the waterway.
  - j) Issues relating to dumping of dredged material, fishermen problem etc. likely to be encountered while developing the waterway in Goa.
- 5) Vice-Chairman observed that expenditure on dredging is a public expenditure, which could be minimized if we have appropriate design for large size barges keeping the draft at present LAD level in Goa waterways. Thus there is need for R&D in this area. Support from Govt. would be there for such R&D activity in case Industry comes forward in pursuit of this. Vice-Chairman, IWAI urged GBOA to take it up with Shipyards in Goa Region, in which case Govt./IWAI could consider funding that project.
- 6) Chairman, KoPT informed that design of flat bottom low draft barges of higher capacities may be available with Russia and with some other countries. This could be explored if we have bi-lateral co-operation, with these countries. There is need for bilateral co-operation, Chairman KoPT observed.
- 7) Vice-Chairman, IWAI observed that for IWT to become cost effective, it appears necessary that IWT and coastal shipping are integrated. Keeping this in view, perhaps there is a case for extending Inland Vessel Building Subsidy regime to cargo vessels of more than 2000 DWT, which can ply in both coastal and inland waters. Chairman, KoPT stated that as per the existing guidelines of the Inland Vessel Building Subsidy Scheme, subsidy of 30% is available for the vessels up to 2000 DWT and for vessels more than 2000 DWT no subsidy is available. He suggested that in view of encouraging addition of larger vessels on national waterways, the Sub Group may recommend that the subsidy may be allowed to the inland vessels of size bigger than 2000 DWT under the existing subsidy scheme itself which can be limited to the subsidy allowed for 2000 DWT vessels.
- 8) Representative of GBOA informed that due to addition of many barges in Goa in last 2-3 years, there is spare capacity of barges in Goa and therefore, it is possible that some of the owners of the barges may be interested in

transferring the barges from Goa to National Waterway-1 for operation in these areas. However, such a transfer would roughly cost Rs.25 lakhs per barge which needs to be subsidized in the interest of IWT promotion.

- 9) Representative of NCAER suggested that IWT development is sensitive to cost of capital. He suggested that Govt. could consider providing subsidy to old barges from Goa region shifting to Kolkata region for IWT operation.
- 10) Representative of NCAER also stated that development of IWT has a lot of potential in terms of development of under developed hinterland through which most of the waterways particularly the Ganga and the Brahmaputra pass through. Therefore, development of NW 1 & 2 will benefit development of under developed States such as Bihar, U.P, Jharkhand, West Bengal, Assam etc. He therefore, suggested that importance of IWT in developing the hinterland may be suitably incorporated in the report of the Sub Group. Vice-Chairman, IWAI observed in this context that NCAER/CSO could be involved for undertaking a study covering this aspect.
- 11) Shri Sen of West Bengal Surface Transport Corporation (WBSTC) suggested that construction/procurement of IWT cargo and passenger vessels should also be included in the CSS under which 90% grant is provided by the Central Govt. Chairman, KoPT observed in this context that usually such a support is not considered desirable, as vessels are not treated as an infrastructure. However, in case of IWT (which is under developed unlike Road and Rail), there should be a special dispensation. Vice-Chairman, IWAI observed that there could be two ways of going about it - 90% grant under CSS or 30% vessel subsidy; both may not be possible together.
- 12) On the terms of reference pertaining to private sector participation in IWT sector, Chairman KoPT informed that private sector participation policy was formulated by the KoPT about two years back. Under this policy, several IWT jetties are being developed in Kolkata through private sector participation. Vice-Chairman, IWAI requested Chairman, KoPT to provide copy of this policy to IWAI. While on this point, Member (Cargo), IWAI stated that one of the stumbling blocks in movement of cargo through IWT mode on NW-1 is high wharfage charges being levied by KoPT, which is as high as Rs. 50 per tonne in some cases. Vice-Chairman, IWAI also observed that wharfage charge is too high for iron dust. Chairman, KoPT assured to look into this and do the needful.

Representative of GBOA suggested that virtual jetty, floating crane etc. should also be eligible for subsidy.

- 13) Shri Sujan Singh, Director (Transport), Planning Commission stated that expenditure of IWT sector in the first four years of 10<sup>th</sup> Plan is well below the outlay. Also, not a single viable stretch has been developed so far nor a single private sector project has been awarded. External aid component has also not been utilized. He added that so far IWAI has been concentrating on small projects only and there is time and cost overrun in many cases. He therefore suggested that in the 11<sup>th</sup> Plan, comprehensive projects need to be developed. He also suggested that bankable project should be developed to attract private

sector participation during 11<sup>th</sup> Plan. He added that the approved 10<sup>th</sup> Plan outlay for CSS for IWT was only Rs. 20 cr and the expenditure has already exceeded it. He, therefore, proposed that during 11<sup>th</sup> Plan, adequate provision for CSS should be there. Director (Transport), Planning Commission also observed that any scheme/project having an outlay less than Rs.50 crore ought to be weeded out. Further, he observed that this time there should be adequate outlay for new NWs

- 14) Vice-Chairman, IWAI requested the representatives of the State Govts. to suggest the outlay under CSS to be proposed for the 11<sup>th</sup> Plan. He also informed that IWAI is now contemplating formulation of single comprehensive projects for the proposed new National Waterways, as desired by the Planning Commission. As regards the existing NWs, a detailed action plan has been chalked out for making them fully functional. Accordingly, we will have to move ahead even though there are a number of small projects therein.
- 15) Referring to TOR (iii) wherein there is a mention of “feasibility of interlinking of waterways favorable for uninterrupted IWT”, Vice-Chairman, IWAI sought the views of representative of CWC and requested to provide a self contained write up detailing out what has been done so far, how interlinking will help IWT, whether interlinking will impact existing NWs etc.
- 16) In respect of private sector participation, representative of NCAER stated that they have done a study on economic viability of IWT sector for IWAI whereby it has been concluded that there would be requirement of viability gap funding for IWT operations in initial stages. Member (Cargo) IWAI also stated that viability gap funding for IWT operation needs to be provided during the 11<sup>th</sup> Plan for making IWT operations viable.

Vice-Chairman, IWAI, informed that viability gap funding scheme already exists. However, the pre-requisite is that it has to be a composite project comprising both infrastructure and operation. Vice-Chairman desired that a copy of the guidelines should be passed on to GBOA.

- 17) There was a detailed discussion on the efficiency, safety, fuel consumption aspects of IWT. Chairman, KoPT observed that IWT operations are not cheap primarily on account of low speed, low productivity of IWT vessels. To tide over these bottlenecks, there is a felt need to install tidal gauge stations at appropriate places on the NWs. Further, there is a felt need to take speed enhancing measures so that average speed of IWT vessels increases to at least 11 knots from the current average of just 8 knots. Chairman, KoPT further observed that unlike Merchant Shipping, IWT sector does not seem to be having published charts which would help navigation. Also, VHF sets should be there on board IWT vessels in order to ensure safe navigation. Responding to these suggestions, VC, IWAI observed that the productivity/speed issues will be discussed separately with Naval architects.
- 18) The representative of GBOA proposed that the representatives of Coastal Conference and Goa Mineral and Iron-ore Association should also be co-opted.

- 19) Summing up the discussion, Chairman IWAI requested the participants to submit their inputs/suggestions in writing by 14 Aug. 06, so that draft report of the Working Group is prepared and circulated among the members ahead of the next meeting of the Sub Group around 15 Sept. 06.
- 20) The meeting ended with the vote of thanks to the Chair.

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Annexure

**List of participants who attended the meeting of Sub Group I (Inland Water Transport) of the Working Group on Shipping and IWT, held on 24.7.06 at IWAI Noida office at 1100 hrs.**

**MEMBERS OF THE SUB GROUP**

1. Shri S.B. Mathur, Chairman, IWAI- on the Chair
2. Shri Susheel Kumar, Vice-Chairman - Member convener
3. Shri Madan Prasad, Dy. Director, IWT Transport Department, Bihar, Patna
4. Shri Tapas Sen, Financial Advisor/Chief Accounts Officer, WBSTC Ltd. Kolkata-40
5. Dr. A.K. Chanda, Chairman, Kolkata Port Trust
6. Shri T.P.Singh, Chief Engineer, Central Water Commission
7. Shri Sugan Singh, Director, Planning Commission
8. Shri R. Venkatesan, Sr. Fellow & Head Industry Programme Area, NCAER
9. Shri William D'Costa, Hon, Secretary, Goa Barge Owners Association
10. Shri V.V. Purandare, Additional Director, CWPRS

**ALSO PRESENT**

11. Shri S.C. Srivastava, Member (C&F), IWAI
12. Shri Pradeep Kumar, Secretary, IWAI
13. Shri R.P. Khare, Director (P&C), IWAI
14. Shri Surendra Singh, Asst. Director, IWAI

**RECORD NOTES OF DISCUSSION OF THE MEETING OF SUB GROUP II (INLAND WATER TRANSPORT) OF THE WORKING GROUP ON SHIPPING AND IWT FOR FOMULATION OF 11<sup>TH</sup> FIVE YEAR PLAN (2007-12) [MEETING HELD ON 24.7.06]**

A Working Group of Shipping and IWT for the 11<sup>th</sup> Five Year Plan has been constituted by Planning Commission vide their O.M No.18/7/05-Tpt. Dt. 17.4.06 under the Chairmanship of Secretary, Department of Shipping (DoS) with Members from various other organizations. In turn, DoS vide their O.M No. Sy-11018/3/06-SC dt. 22.6.06 constituted Sub Group - II (Inland Water Transport) of this Working Group under the Chairmanship of Vice-Chairman, IWAI with officers from various Department as Members. The Chairman of the Sub Group having been empowered to co-opt officials or non-officials as Members, co-opted the following:

1. Chairman, Kolkata Port Trust,
2. Secretary (Transport), Govt. of Assam
3. Capt. M.M. Saggi, Nautical Advisor to Govt. of India
4. Representative from Govt. of Orissa
5. Representative from Govt of Goa
6. Director, IIPM, Kolkata
7. Representative from IWT Federation, Kolkata

2) The first meeting of the Sub Group was held under the Chairmanship of Vice- Chairman, IWAI in the conference room of IWAI, Noida office on 24.7.06 at 1500 hrs. List of members who attended this meeting is enclosed as Annexure-

3) At the outset, Vice-Chairman IWAI welcomed the Members of the Sub Group and stated that this Sub Group has three specific terms of reference. One of these is related to transit and trade between India and Bangladesh, second one relates to training facilities in respect of IWT sector and the third is about re-structuring of CIWTC. He suggested that since decision for dis-investment of CIWTC has already been taken by the Govt and is being acted upon, no detailed discussions would be needed by the Sub Group. He however, requested CMD, CIWTC to furnish detailed note on this term of reference by 8.8.06. He requested the other Members to deliberate on the remaining two TORs.

4) While deliberating on the issue of transit and trade protocol between India and Bangladesh, Chairman KoPT suggested the following measures to make the Protocol more effective:

- a) At present the protocol is being extended in a piecemeal manner resulting in a state of un-certainty in the minds of IWT operators. He was of the view that the protocol should be renewed for a longer period.
- b) There are five shallow patches in Bangladesh between Namkhana and Mongla due to which the vessels have to wait for high tide increasing their turn around time. These need to be dredged.

- c) There are some shallow patches on Indian side also, which need to be dredged
  - d) Night navigation facility should be installed in Indian as well as Bangladesh Waterways.
  - e) Ashuganj should be declared as a Port-of-Call under the protocol to facilitate connectivity with many north-east States namely Tripura, Mizoram, Manipur and Nagaland.
- 5) Vice-Chairman, IWAI also requested the representatives of the State Govt to submit detailed note highlighting the present status and the action being taken by the State Govt. for developing the IWT in the respective State.
- 6) Vice-Chairman stated that there is no dearth of cargo for transportation in the eastern India through the protocol routes as well as on various O-D pairs of NW-1 & NW-2. However, there is acute shortage of Indian inland vessels in the Eastern region due to which 90% of cargo of India-Bangladesh protocol routes is carried by Bangladesh vessel. At the same time, there is idle capacity of inland vessels in Assam and Goa. Also vessel of CIWTC are not plying regularly. He therefore suggested that the Sub Group may suggest measures so that the IWT vessels in the country can be optimally utilized as a whole. He wondered whether a vessel leasing company which takes all such idle vessels from various agencies and makes them available on lease to the operators could be considered by the sub group as a solution of this problem. It was decided to consider this in details.
- 7) Representative of GBOA suggested that some of their Members are willing to transport their vessels from Goa to Eastern Coast (Kolkata/Haldia region) provided some financial assistance is provided to them to take care of the cost of such transfer. It was decided that Chairman KoPT and GBOA could suggest a scheme for providing financial assistance for transfer of vessels from West to East Coast. The sub group could then discuss it.
- 8) Shri Siraj Hussain, ED, Food Corporation of India stated that every month about 2.5 lakh tonne of foodgrains is transported from Punjab/Haryana region to West Bengal and similar quantity to North-East region. He stated that if IWT can provide a viable solution, some of this cargo can be shifted to IWT sector. After detailed discussion, it was decided that FCI, CIWTC and Vivada Inland Waterways can work out a long term solution for such modal shift which can be included in the Working Group report. Member (C&F), IWAI will coordinate this exercise.
- 9) Representative of Ministry of Coal stated that as of now rail and road modes are the only modes which are used for transportation of coal. However, for transportation of imported coal to the power plants which are located on one or the other waterways, IWT can be a viable option. Vice-Chairman requested the representative of Ministry of Coal to provide data about possibility of transport of coal by IWT mode. This data may include the figures about domestic as well as imported coal requirement of various thermal power plants situated on the banks of one or the other waterways. It was also requested that the Ministry of Coal may send the data about present and future

requirement of coal for Farakka power plant from Paradip/Dhamra and also the requirement of imported coal from Haldia to Farakka. He was requested to send this data by 8.8.06. The representative of Ministry of Coal was also requested to provide list of mine owners and transporters of coal of Meghalaya.

- 10) On the issue of transport of coal from Paradip/Haldia to Farakka for NTPC plant at Farakka, Vice-Chairman stated that substantial quantity of coal is presently transported from Talcher mines in Orissa to Haldia and Farakka by rail. He also informed that NTPC has shown intention of transporting three to four million tonne of coal from Haldia to Farakka which includes the coal being transported from Orissa as well as imported coal. Therefore, if there is possibility of coastal cum IWT movement of coal barges which can load coal from Paradip/Dhamra and unload at Farakka by doing coastal movement from Paradip to Haldia and inland water movement from Haldia to Farakka without any transshipment, then it can be a good step in the utilization of IWT in the eastern region. Capt. Saggi, Nautical Advisor informed that while in the west coast, fair weather lasts for about eight months and rough weather in remaining four months, in the eastern coast the fair weather is for about only five months. Therefore, the design of vessels which can ply both in coastal as well as inland waters, would be more stringent in case of eastern sector. Similarly, manning norms are also more stringent for eastern sector. Vice-Chairman suggested that there should be a possibility of designing IWT vessel of about 3.0 m loaded draft which can ply from Paradip to Haldia/Narayanganj as well as from Haldia to Farakka.

After detailed discussion, it was decided that a committee will be constituted for recommending various aspects for developing coastal cum IWT vessels for movement from Paradip to Haldia/Narayanganj/Farakka considering all safety and construction issues. This committee will submit its report by 17 Aug. 06. This committee will consist of following officers:

- i) Capt. M.M. Saggi, Nautical Advisor, Govt. of India – as Chairman
  - ii) Mr. P.K. Biswas, Director, IWT, Govt. of West Bengal
  - iii) Mr. P. Tayal, CMD, CIWTC
  - iv) Mr. William D'costa, GBOA
  - v) Mr. S. Rakshit, Vivada Inland Waterways
- 11) CMD, CIWTC stated that for direct movement between North-East and Ganga up stream of Farakka, it is necessary that Jangipur lock is opened and Ganga-Padma route is made operational. After detailed discussion, it was decided that CMD, CIWTC will provide a detailed write up in this respect which will include likely estimate of dredging requirement, capital and maintenance cost, likely benefits to accrue etc. This report will be submitted by CMD, CIWTC by 17 Aug. 06.
- 12) Various issues regarding IWT training were also discussed. Nautical Advisor stated that earlier there were only four Maritime training institutes and they were in the Govt. sector. However, later on, several private training institutes have come up in the country and demand of Indian trained Maritime persons has also gone up substantially. The main reason for this according to him was

strict adherence to the agreed IMO convention STCW 95 which clearly specifies various requirements of a trained maritime personnel. If a person meets such requirements he will be accepted all over the world. He was of the view that a similar approach may have to be adopted for IWT sector also. It was informed that there are IWT training institutes in Assam, Goa, and Orissa as well NINI of IWAI at Patna. Also there was a training institute till 1980 in Kolkata and efforts should be made to integrate all these institutes to provide systematic training in IWT sector.

Director, IIPM said that there is lack of integration amongst the IWT training institutes and one institute does not know what the other institute is doing. He added that the certification also needs to be standardized. Nautical Advisor replied that the Mercantile Marine Departments (MMDs) were earlier issuing certificates to Masters and Drivers of IWT sector, but now there is so much work load with the MMDs that they do not give priority to certification in the IWT sector.

Vice-Chairman suggested that we should have an apex body in the country for training of man-power in IWT sector, which could be either NINI or any other body. Nautical Advisor suggested that this apex body could adopt STCW format. Nautical Advisor also informed that following IMO convention relating to Merchant Navy, India has made model rules for training, similar model rules could be made for training in IWT sector as well. Mr. Biswas stated that in the 9<sup>th</sup> Plan working group report there was a concept of NINI as an apex body and regional crew training centres in different States at regional level providing ultimately an integrated organized training structure in IWT field. He suggested that the group must recommended such system and give its details. Nautical Advisor suggested that in addition to NINI and RCTC, it must be explored whether private maritime institutes can also have some spare capacity which they can utilize for IWT training.

After detailed discussion on various aspects of IWT training, it was decided to constitute a committee to suggest various measures for integrating, upgrading and standardizing IWT training. This committee will consist of following of the officers:

- i) Capt. M.N. Saggi, Nautical Advisor – Chairman
- ii) Transport Commissioner of U.P - Member
- iii) Director, IWT, Govt. of West Bengal - Member
- iv) Secretary (Transport), Govt. of Goa – Member
- v) Director, IWT, Govt. of Assam – Member
- vi) Representative of GBOA – Member
- vii) Representative of IWT Federation (Kolkata) – Member
- viii) Dy. Director, IWT Dte. Govt. of Bihar - Member
- ix) Hydrographic Chief, IWAI, Noida – Member
- x) Director, IIPM, Kolkata – Member Convener

The above committee will study and give its recommendations on various aspects of IWT training which will inter-alia include an over view of the current IWT training infrastructure, existing and future requirement of IWT

personnel, gap to be bridged in this respect, how to standardize training module, how to standardize infrastructure requirements in training institutes, etc.

It was also agreed that if required the committee may appoint a consultant to assist it. Payment for engaging this consultant would be provided by IWAI. However, before finalizing the engagement of consultant, its financial implication would be sent for approval to IWAI. This committee was requested to give its basic inputs by 17 Aug. 06 or so, so that these may be included in the draft report of the Sub Group. The final report of the committee may however be submitted in about three months time i.e. by 31<sup>st</sup> Oct. 06.

- 13) Vice-Chairman, IWAI suggested that small vessels should be designed for operation on small rivers/feeder routes of bigger rivers. After detailed discussion it was decided to constitute a committee consisting of Director, IWT, Govt. of Assam, Director, IWT, Govt. of West Bengal, CMD, CIWTC and Shri K.C. Samira of Ministry of Coal. This committee will study and suggest steps to be taken for arriving at a standard design for smaller vessels for movement of cargo and passengers. The committee will also recommend measures/incentives to be provided by the Govt. for encouraging construction of such vessels by the general public/private entrepreneurs so that a scheme can be formulated for providing financial assistance to people who may be willing to operate mechanized country boats. The committee will submit its report by 17 Aug. 06.
- 14) The meeting ended with a vote of thanks to the Chair.

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**List of participants who attended the meeting of Sub Group II (Inland Water Transport) of the Working Group on Shipping and IWT, held on 24.7.06 at IWAI Noida office at 1500 hrs.**

**MEMBERS OF THE SUB GROUP**

1. Shri Susheel Kumar, Vice-Chairman - On the Chair
2. Shri S.C. Srivastava, Member (C&F) – Member Convener
3. Dr. A.K. Chanda, Chairman, KoPT
4. Shri M.M. Saggi, Nautical Advisor, D.G. (Shipping)
5. Shri Siraj Hussain, ED, Food Corporation of India
6. Shri Raajiv Yaduvanshi, Secretary Transport, Govt. of Goa, IWT
  
7. Shri Vineet Garg, Director (IWT), Department of Shipping
8. Shri K.C. Samria, D.S, Ministry of Coal
9. Shri A.R. Tamhankar, Addl. Director, Petroleum Planning & Analysis Cell,  
Ministry of Petroleum
10. Shri N.C. Das, Director IWT Assam Inland Water
11. Capt. H. Khatri, S.I.C cum Dy. D.G (Transport), D.G. (Shipping)
12. Shri S.N. Chakraborty, Director, IIPM
13. Shri P.K. Biswas, Director, I/C, IWT, West Bengal
14. Capt. (IN) G.S. Inda, Hy. Chief, IWAI
15. Shri Willam D'Costa, Goa Barge Owners Association
16. Shri Praful Tayal, CMD, CIWTC
17. Shri S. Rakshit, Representative of IWT Federation, Kolkata

**ALSO PRESENT**

18. Shri R.P. Khare, Director (P&C), IWAI
19. Shri Surendra Singh, Asst. Director, IWAI

**Annexure II (a)**

**MINUTES OF THE 2<sup>ND</sup> AND FINAL MEETING OF THE SUB GROUP-I (IWT) OF  
THE WORKING GROUP OF 11<sup>TH</sup> FIVE YEAR PLAN HELD AT IWAI, H.O, NOIDA  
AT 1100 HRS ON 17<sup>TH</sup> OCTOBER, 2006**

The 2<sup>nd</sup> and final meeting of the Sub Group I (IWT) was held at IWAI, H.O. Noida on 17<sup>th</sup> Oct.,2006 under the chairmanship of Chairman, IWAI. List of participants is annexed. Draft report of the Sub Group prepared was circulated to all members, prior to the meeting.

2. A brief presentation on the programme and policies proposed in the draft report was made. Simultaneously discussion was held on various aspects of the report and it was decided to finalize the report by incorporating the following suggestions:

i) Quantum jump in funding of IWT Sector:

All members agreed that there is a necessity of quantum jump in providing fund for development and promotion of the IWT Sector during the 11<sup>th</sup> Plan both at the Central and State level. It was also agreed that as in case of other infrastructure sector worldwide, private sector will not be interested in investing in IWT infrastructure since it is not perceived as a remunerative sector at its present level of development. Therefore it was agreed that in 11<sup>th</sup> Plan the basic infrastructure for IWT development is required to be met out of the Plan funds.

ii) Institutional Capacity Building:

It is necessary to ensure capacity building of IWAI as well as the State Govt. commensurate with the funding. This should be mainly in the form of expanding technical manpower and expertise for implementation of infrastructure projects. Govt. of India shall be approached with the report being prepared by National Productivity Council in case of IWAI. All State Govts. where National Waterways are passing or other navigable waterways exist shall also set up separate IWT Directorate with sufficient man power for the development of IWT in the State.

iii) Coverage of National Waterways

The coverage of the National Waterways is to be increased from the existing 2700 km to at least 4500 km. by the end of 11<sup>th</sup> Plan by declaring three more waterways as National Waterways and make them fully functional with all necessary infrastructure facilities. Efforts should also be made to declare more waterways as National Waterways and also that all riverine States to develop waterways as feeder routes to National Waterways or major waterways of that State.

iv) Infrastructure funding:

As the IWT Sector is in the developing stage, private funding is unlikely to happen. Therefore, majority of the funding is to be met out of Plan funds in the form

of Budgetary support (BS). It was realized that private funding (EBR) may come for acquisition and operation of vessels but only after minimum infrastructure of commercially viable operation is put into place.

v) Study on Economics of IWT Operation:

For making a realistic paradigm shift in IWT development, a study is required to be commissioned for working out the economics of IWT operations in the inter modal cargo mix market. As far as possible it should be O-D oriented.

vi) Fleet Augmentation:

The target of modal share of IWT by 2025 is 2% of the inland cargo. For achieving this, more vessels are required to be procured/ made available. Therefore, the existing IVBSS (30% subsidy) shall be extended upto 2025. This facility shall be extended to cruise vessels also, if Ministry of Tourism is not giving such facilities. A Vessel Leasing Company shall also be formed to facilitate import of vessels.

vii) Organic Integration of Coastal Shipping and IWT:

In order to tap the IWT potential, it is necessary to integrate Coastal Shipping with IWT, where ever it is possible. This can be done in the form of making connectivity of National Waterways and that of major or minor ports. Necessity of designing and constructing vessels suitable for plying both in inland waterways and coastal routes is essential to achieve this. Necessary provisions are to be incorporated in the IV Act while making amendments to this effect. 30% subsidy available for procurement of inland vessels shall be extended to the vessels which would be operating in the integrated scenario of Coastal Shipping & IWT.

viii) R&D for designing shallow draft vessels of bigger size:

R&D is required for designing a suitable vessel which can be operated economically and technically in the integrated Coastal Shipping – IWT mode. Assistance of Foreign Experts (like St. Petersburg University, Russia) and indigenous organizations like NSTC (under DRDO) shall to be explored. If vessels suitable for such operations are available in foreign countries, necessary provisions shall be made to import the same for Indian operations. The R&D is also required in the fields of man- power, cargo handling facilities, training of IWT port operations, mechanization of country crafts etc.

ix) CSS for development of Feeder routes/ other waterways:

More funds are to be earmarked for development of feeder routes and other navigable waterways for the State Govt.

x) Modal Shift Incentives :

In order to achieve the modal shift programme in the Indian context, it is necessary to provide an incentive package to the IWT operators, until all the national waterways become fully functional with necessary infrastructure facilities.

xi) Viability Gap Funding for Composite Transportation Projects:

The composite transportation projects in the field of IWT shall also be considered as infrastructural projects under a new viability gap funding scheme in line with that of Ministry of Finance. This will include creation of terminal facilities with mechanical handling arrangements both at origin and destination and the vessels used for transportation of cargo between them.

xii) Scheme for Un-Organized Sector :

Modernization/ improvement of Bhut-Bhutis in the North East area and other areas of the country shall be taken up under a new scheme. It will improve the efficiency of the small vessels and thereby increase employment opportunities and efficiency of IWT sector as a whole.

xiii) Uniformity in IWT Operations Legal regime:

Amendment of IV Act is in the final stages. This will cater to the immediate requirement like extension of validity of certificate for vessels operating in other States for a period of 36 months in place of existing 12 months etc. However, it will not meet all the requirements and therefore action shall be taken to re-write the IV Act. The State Govts has to formulate IV Rules for implementation under IV Act keeping view the operational requirements of the respective States. The Modal IV Rules framed by IWAI was discussed in the Inter State Council for emerging a consensus on its adoption so as to ensure its uniformity in all States.

The meeting ended with a vote of thanks to the Chair.

**LIST OF PARTICIPANTS (2<sup>nd</sup> and Final meeting of Sub Group I)**

1. Prof. S.K. Satsangi, Dean (PGS & R, IIT Kharagpur.
2. Shri. A.K. Das, Chief Engineer, West Bengal Surface Transport Corporation, Kolkata
3. Shri. Kailash Pati, Advisor, Ministry of Tourism, New Delhi.
4. Shri. U.V. Purandare, Additional Director, CWPRS, Pune.
5. Shri. D.C. Parida, Jt. Director, IWT, Orissa.
6. Shri. N.C. Das, Director, IWT, Assam

7. Shri. T.P. Singh, Chief Engineer, Central Water Commission, New Delhi.
8. Shri. C. Targa, Resident Commissioner, Govt. of Pondicherry.
9. Shri. G.Y. Narayana, Joint Secretary, Cement Manufactures Association, Noida.
10. Shri. Praful Tayal, Chairman & Managing Director, CIWTC, Kolkata.
11. Shri. R. Venkatesan, Senior Consultant, NCAER, New Delhi.
12. Shri.S.K. Shahi, Chairman & Managing Director, SKS (Ship) Ltd., Mumbai. Representing Indian Coastal Conference, Mumbai.
13. Shri.V.S. Singh, Deputy Transport Commissioner, Govt. of U.P., Lucknow.
14. Shri. V.K. Singh, RTO, Ghaziabad, Govt. of U.P.

### **IWAI**

1. Shri. S. B. Mathur, Chairman.
2. Shri. Susheel Kumar, Vice Chairman.
3. Shri. Satish.C. Srivastava, Member (Cargo & Finance).
4. Shri Pradeep Kumar, Secretary.
5. Shri. R.P. Khare, Director.
6. Shri. G. Prasanth, JHS.

**MINUTES OF THE SECOND AND FINAL MEETING OF THE SUB GROUP II (IWT)  
OF THE WORKING GROUP ON SHIPPING & IWT FOR 11<sup>TH</sup> FIVE YEAR PLAN  
HELD AT IWAI, NOIDA AT 1500 HRS. ON 17.10.06**

The second and final meeting of the Sub Group II (IWT) was held at IWAI, Noida on 17.10.06 under the Chairmanship of Vice-Chairman, IWAI. List of participants is annexed. Draft report of the Sub Group was prepared and circulated to all the members prior to the meeting on 12.10.06.

2) There are only two terms of reference for the Sub Group which are related to (a) IWT transit and trade protocol between India and Bangladesh for increased IWT movement/ connectivity to the North Eastern region and Bangladesh (b) IWT training aspects. These terms of reference are covered in two separate chapters of the draft report. Detailed discussion was held on various aspects of the draft report on 17.10.06 and it was decided to finalise the report by incorporating following suggestions:-

- i) A sub committee was constituted under the Chairmanship of Nautical Advisor to the Govt. of India for suggesting policy measures for improving IWT training in the country in the 11<sup>th</sup> Plan and beyond. This Sub Committee was to submit its report by 15<sup>th</sup> Aug. 06. However, the report is yet to be prepared and therefore, the Member Convener of the Sub Committee (Director, IIPM Kolkata) who was present in the meeting of the sub group, was requested to give inputs of the Sub Committee by 19.10.06. Based on these policy inputs the chapter pertaining to IWT training would be modified.
- ii) The fund requirement projected in the draft report for various aspects on IWT training was discussed in detail and it was agreed that the requirement projected in the draft report was considered reasonable and the same may be adopted in the final report.
- iii) Representative of Transport Research Wing stated that there is urgent need for scientific data collection related to organized as well as un-organised sectors in IWT field. She therefore suggested that under the IWT training programmes a course on systematic data collection in IWT sector may also be considered. Member (Cargo) IWAI explained that IWAI is requesting NCAER to under take collection of such data in the country and also to suggest formats for collection of such data from various States from time to time in future.
- iv) Representative of IWT federation Kolkata stated that in case of passenger/cruise vessels, safety of the vessel as well as of passengers is of paramount importance. She therefore suggested that IWT training framework being suggested in the report should give due priority to this aspect. After discussion it was decided that in the report it may be included that with respect to safe manning of the IWT vessels, model rules may be prepared by the Central Govt. and circulated to all the State Governments for adoption to the extent possible.
- v) Director IIPM suggested that instead of giving date wise details of the number of personnel trained at NINI, the final report may include the total numbers trained so far. The same was accepted. Director IIPM also suggested some other minor corrections related to formation of sentences. He was requested to

- provide to the Sub Group, the revised parts of related paras by e-mail latest by 19.10.06 for inclusion in the report.
- vi) Representative of Govt. of West Bengal suggested some points related to Indo Bangladesh Protocol such as use of communication system on vessels, operation of vessels on partially smooth waters, night navigation facilities between Kolkata and Tribeni, placement of dredgers between Kolkata and Farakka, enhancement of rate of subsidy under inland vessel building subsidy scheme, payment of vessel building subsidy on progressive basis, terminals at Bansberia, Behrampur and Katwa, inclusion of State Crew Training Centres and vessel repair facility under CSS. It was explained that the points related to IWT protocol between India and Bangladesh would be taken up between the two countries at the appropriate time. With respect to increasing amount of subsidy beyond 30% it was felt that it will not be justified for the Sub Group to recommend such enhancement since subsidy of 30% itself is quite substantial. It was also explained that terminals stated above have already been included in the Sub Group- I report. It was agreed that the remaining points raised by the State Government of West Bengal will be suitably included in the final report.
- vi)a The representative of IWT Federation suggested that for making IWT operation commercially viable, some fiscal incentives are necessary. These include, tonnage tax, freight subsidy, viability gap funding, vessel building subsidy and participation of IWAI in IWT related Joint Ventures. It was explained that some of these incentives are already in place and for some more incentives recommendations are being made in the report of the Sub Group I (IWT). Vice-Chairman, IWAI added that the Sub Group can recommend viability gap funding for Composite Projects. A Composite Project would include facilities of terminals with mechanical handling at both the O-D points, as well as acquisition and operation of IWT vessels.
- vii) Representative of IWT Federation also stated that there are many problems related to customs on both the ends of the IWT protocol routes. Representative of Custom Department however stated that there are no problems from the Department side. He however, added that if there are any working difficulties, these can be discussed with his department at any time and the department will make all efforts to sort these out. It was decided to include in the report that the Custom procedures must be streamlined/simplified to enable smooth IWT movement through Protocol routes.
- viii) It was discussed that the transportation of food grains to the north eastern region from other parts of the country as well as imported foodgrains can be an important commodity for IWT movement to the north east. Representative of Food Corporation of India was therefore requested to explore the possibility of using IWT for transportation of foodgrains to the north eastern region, and to provide his inputs by 19.10.06 for inclusion in the final report.
- ix) The representative of Ministry of Coal was requested to indicate the potential of Meghalaya coal which can be transported by IWT sector. Representative of Ministry of Coal stated that all the coal mines in Meghalaya are in private hands and therefore his Ministry does not have such data. He was also requested to give data about potential of handling of coal at each major port of the country. On this also the representative stated that the handling of coal at various ports depend on requirement of the power sector which is controlled by the Ministry

- of Power and hence he was not in a position to give authentic data in this respect as well.
- x) On the proposal of opening of Farakka –Padma route by constructing suitable lock at Jangipur and dredging of channel up stream and down stream of Jangipur lock, CMD, CIWTC suggested that most probably instead of one lock there may be need to construct two locks, - one at Jangipur and the one at the point where Bhagirathi river takes off from Padma river. It was decided that this aspect should be discussed with Chief Engineer, IWAI and if required suitable modification may be made in the report of the Sub Group.
  - xi) The representative of Goa Mineral Ore Exporter Association stated that waterways of Goa move more than 80% of IWT cargo of the country and therefore he suggested that the Goa waterways should be declared as national waterway. Vice-Chairman explained that the IWAI was aware about it and if the State Government recommended the same could be considered by IWAI. He added that this item did not pertain to TORs of this Sub Group, however, it could be incorporated in the Sub Group I report suitably. Vice-Chairman also requested the representative that if he wanted to give his input on this aspect or on IWT training, it may be forwarded to IWAI by 19.10.06.
  - xii) Some inputs with respect to utilization of IWT transit and trade routes, connectivity to North eastern region through IWT mode as well as on training aspects were expected by the Sub Group from CIWTC. However, these were also not made available to the Sub Group. CMD, CIWTC who was present in the meeting was therefore requested to give his inputs latest by 19.10.06 for incorporating them suitably in the Report of the Sub Group. CMD, CIWTC also suggested for some changes in some parts of the write up of the draft report pertaining to CIWTC. He was requested to give the relevant paras after due correction as he thinks fit so that the draft report may be suitably modified. This would also be given by CMD, CIWTC by 19.10.06.
  - xiii) It was also decided that an introductory para may be included in the beginning of the report of the Sub Group giving a little background about formation of the Working Group, the Sub Group, its terms of reference, its two meeting held etc.
  - xiv) The meeting ended with a vote of thanks to the Chair.

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## CARGO MOVEMENT FOR NW -

SI No	STRETCH	2000-01	2001-02	2002-03	2003-04
1	NW -1	335356	411238	632037	786,159 MT
	THE GANGA	MT	MT	MT	159,573,347 Ton -KM
2	NW-2	49768	41453	98354	795,661 MT
	THE BRAHMAPUTRA	MT	MT	MT	29,493,946 Ton KM
	WEST COST CANAL				
3	NW -3	1085151	1164460	1188156	1,362,149 MT
		MT	MT	MT	21,913,759 Ton-KM
	SUB TOTAL	1470275	1617151	1918547	2,943,969 MT
	IN NWs	MT	MT	MT	210,981,052 Ton-KM
4	THE GOA (Mormogao)	18047353	15691958	19008853	22,876,763 MT
					1,143,838,150 Ton-KM
5	Mumbai Waterways	2714350	2455615	5972204	6661279 MT
	dharmatar Creek				273112439 Ton -KM
	Grand Total	22231978	19764724	26899640	32482011 MT
					1,627931641 TKM

1.628 BTKM

- Note: 1 These figer are collected by IWAI local offices from IWT operators. No Passanger m  
2. Data for goa waterways received from Mormugao Port trust, Goa barge owners asso

**List of participants who attended the meeting of Sub Group II (Inland Water Transport) of the Working Group on Shipping and IWT, held on 17.10.06 at IWAI Noida office.**

**MEMBERS OF THE SUB GROUP**

1. Shri Susheel Kumar, Vice-Chairman, IWAI - On the Chair
2. Shri S.C. Srivastava, Member (C&F), IWAI – Member Convener
3. Shri K.C. Samria, D.S, Ministry of Coal
4. Shri Glenn Kalavampara, Jt. Secretary, Goa Mineral Ore Exporters' Association
5. Shri Kulwant Singh, Dy. General Manager, (Movt) Food Corporation of India,
6. Shri N.C. Das, Director IWT, Assam
7. Shri D.C. Parida, Joint Director IWT, Orissa
8. Shri Vivek Singh, Secretary (Transport), Govt. of Bihar
9. Ms. G.S. Laxmi, Director, Transport Research Wing, MoSRTTH
10. Ms. R. Sushila, Executive Director, Representative of IWT Federation, Kolkata
11. Shri P.K. Biswas, Director, IWT, West Bengal
12. Shri Chander Bhan, Commissioner, Customs, Kolkata
13. Shri Praful Tayal, CMD, CIWTC
14. Shri S.N. Chakrabartty, Director, IIPM

**ALSO PRESENT**

15. Shri Pradeep Kumar, Secretary, IWAI
16. Shri R.P. Khare, Director (P&C), IWAI
17. Shri Surendra Singh, Asst. Director, IWAI

# **Report**

**of the Sub-Group (Finance) of the Working Group of  
Shipping and IWT**

**for preparation of the 11<sup>th</sup> Five Year Plan**

**MINISTRY OF SHIPPING, ROAD TRANSPORT &  
HIGHWAYS  
GOVERNMENT OF INDIA**

**OCTOBER 2006**

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## Preface

**Sub: Preparation of the 11<sup>th</sup> Five Year Plan – Constitution of  
Sub-Group (Finance) of the Working Group of Shipping and**

**IWT**

The Sub-Group (Finance) of the Working Group of Shipping and IWT for the preparation of the 11<sup>th</sup> Five Year Plan was constituted vide OM No.SY-11018/3/2006-SC dated 5.9.2006.

The constitution of the Committee is as follows:

- |     |   |    |    |                 |
|-----|---|----|----|-----------------|
| 1.  | AS & FA, Deptt. Of Shipping<br>(Shri C. Balakrishnan)   | .. | .. | Chairman        |
| 2.  | Joint Secretary, M/o Finance, DEA<br>(Shri Amitabh Verma)   |    | .. | Member          |
| 3.  | Director (Transport), Planning Commission<br>(Shri A.K. Gautam)   | .. |    | Member          |
| 4.  | Representative of INSA<br>(Shri Atul Agarwal, Jt. Mg. Director,<br>Mercator Lines Ltd.)   |    | .. | Member          |
| 5.  | Representative of State Bank of India, Mumbai..<br>(Shri A. Krishna Kumar, CGM - Mid Corporate)                                     |    |    | Member          |
| 6.  | Representative of ICICI Bank, Mumbai<br>(Shri Shashi Johnson, Dy.Gen. Manager)  | .. |    | Member          |
| 7.  | Representative of HDFC Bank, Mumbai<br>(Shri Nirmal Bansal, Vice President, Head<br>Northern Region of Financial Institution Group) |    |    | Member          |
| 8.  | Representative of UTI Bank, Mumbai<br>(Shri Sidharth Rath, Vice President,<br>Capital Markets)                                      | .. |    | Member          |
| 9.  | Representative of IDBI Bank, Mumbai<br>(Shri S. Ananthakrishnan, Chief Gen.Mgr)   | .. |    | Member          |
| 10. | Representative of IFCI, Mumbai<br>(Shri R.S. Sandhu, Gen.Mgr (CIAS)   |    | .. | Member          |
| 11. | Director (SD), Deptt. Of Shipping<br>(Shri Dinesh Kumar)  |    | .. | Member          |
| 12. | Director (Finance), SCI, Mumbai<br>(Shri B.K. Mandal )  | .. |    | Member-Convener |

The Terms of Reference of the Sub-Group as per the above mentioned OM are as follows:

1. Review of investment made during the 10<sup>th</sup> Plan
2. Analysis of taxation and other fiscal issues impacting the growth of the Indian Shipping Companies.
3. Analysis of Government assistance/incentives for the intended Acquisitions during 11<sup>th</sup> Plan period
4. Analysis financing arrangements (through Equity & Debt routes) in both Domestic and International markets.
5. Analysis of financing requirements related to LNG Transportation & Contain and other Cargo ships

The Committee had its meeting on 18<sup>th</sup> September, 2006 at New Delhi and on 25<sup>th</sup> September and 9<sup>th</sup> October, 2006 in Mumbai and deliberated on various issues. The Report of the Committee is enclosed herewith.

## Introduction

The present Indian tonnage as on 1.7.2006 is 8.75 million (756 ships) as per details below:

<b>Nature of ships</b>	<b>Number of Ships</b>	<b>Tonnage (GRT)</b>
Overseas	246	77,48,725
Coastal	298	6,14,016
Offshore Supplies/ Specialised Vessels	120	1,67,829
Port Trust and Maritime Bodies	89	44,127
Barges	3	1,220
<b>Total</b>	<b>756</b>	<b>85,75,917</b>

(Source INSA)

The strength of Indian fleet is hardly 1.5% of the World Fleet.

The Indian ships carry about 15% of the country's Liner cargo and 30% of its bulk cargo and the balance are carried by foreign vessels. The average Indian cargo carried by Indian fleet is about 13%. The country's dependence on foreign ships to carry overseas trade has been increasing and there is an urgent need to increase Indian fleet strength. Further as per the current age profile of the Indian fleet, vessels over 20 years old account for 50% in the dry bulk sector and 44% in the oil tanker segment. This calls for early replacement of the ageing fleet. As projected, about 374 vessels of 3.79 million are likely to be scrapped over the next 5 years due to crossing over the 25 year age limit.

### Investment during the 10<sup>th</sup> Plan Period:

There was no target of investment set for the 10<sup>th</sup> plan period.

During the first four years of the 10<sup>th</sup> Five Year Plan (2002-03 to 2006-07), the investments made in the acquisition of ships (both newbuilding and secondhand) was to the tune of Rs. 10,656 crores as under :- (Source DG Shipping office)

<b>Year</b>	<b>Tonnage (GRT)</b>	<b>Value (Rs./Crore)</b>
2002-03	90503	339
2003-04	1151270	1910
2004-05	1824467	4200
2005-06	1131115	4207
	<b>Total</b>	<b>10656</b>

### Investment requirement during 11<sup>th</sup> Plan Period

- The investment in the shipping sector during the 11<sup>th</sup> Plan period will consist of
- i) investment in replacement of ageing vessels;
  - ii) fresh investment in acquisition of additional ships;
  - iii) investment in shipbuilding activities;
  - iv) investment in Inland Water Transport

In the shipping sector, where both public and private sector investments take place, it is generally difficult to fix the overall Plan target for investments. Accordingly, there was no target set for the X Plan period. However, based on the discussions, the Group could arrive at a tentative investment figure for XI Plan of the order of 72,000 crores –

		<u>Rs.</u>
1.	Addition of ships	.. 55,000 crores
2.	Port/shipbuilding	.. 15,000 crores
3.	IWT	.. 2,000 crores
		<u>72,000</u> crores

### **Analysis of Financing Arrangement (Equity and Debt)**

Considering debt equity ratio of 70: 30 for financing of the above investments, the requirement of equity comes to Rs. 21,600 crores and the requirement of borrowings comes to Rs. 50,400 crores.

The equity component in case of already established companies are expected to be deployed primarily from the internal resources which is supplemented by Tonnage Tax reserve in case of companies who have opted for tonnage tax. Estimated tonnage tax reserve per annum is Rs.625 crore. As the tonnage tax regime started in 2004-05, the amount of estimated tonnage tax reserve over 8 years culminating in the financial year of 11<sup>th</sup> Plan i.e. 2011-12 is of the order of Rs.5000 crore which will be available as equity for investment.

The availability of funds from lenders for a particular sector depends on the revenue flow as well as the consistency of the revenue flow vis-à-vis the other sectors competing for finance. Shipping is known for its cyclical nature. Therefore, the lenders emphasize quite a lot on good revenue margins which will be able to stand against the worst of the cycles and provide enough cash flows to the lenders for recovery of their debt. Shipping is a global activity. Indian shipping sector has to compete globally with the others for securing business. The business environment and operating conditions of the shipping companies in our country vis-à-vis the other global shipping companies become an important factor while Indian shipping companies approach the lenders for financing.

### **Shipping Industry : Banker's Perspective regarding Debt Financing**

## **1. Growth and Fund Requirement**

1.1 Shipping is a cyclical industry. It's revenue model depends a lot on the quantum of traffic handled and the freight rates as may be realized. In so far as the traffic handled at major ports in India is concerned, over the last five decades commencing 1950-51, the average compounded annual growth rate (CAGR) was 5.5%. During the post reforms period reckoned from 1991-92 the CAGR marginally rose to 6.7%. However, in the last 4 year period commencing 2002-03, the average annual rate of growth clocked a double digit figure ranging between 10-11%. Given the expectation that the economy might grow at 8-9% per annum, the potential for import export trade through major as well as minor exports in the country could be truly phenomenal. In this context, there is a great need to increase the Indian fleet strength by adding new vessels. Further, as per the current age profile of Indian vessels, around 50% in the dry bulk sector and 44% in the oil tanker segment are more than 20 years old. The situation calls for an early replacement of this ageing fleet.

1.2 The fund requirement of the shipping industry for acquisition of new tonnage and maintenance of existing tonnage has been estimated, as indicated in the earlier para at Rs.72,000 crore during the 11th Five-year Plan Period ending 2012. Considering a debt equity ratio of 70:30 usually prescribed for funding capital intensive projects, the above requirement could be met by way of equity including internal generation (Rs.21,600 crore) and debt (Rs.50,400 crore), by way of rupee or foreign currency resources provided by Financial Institutions, Commercial Banks and Overseas Sources.

## **2. Exposure Norms for Commercial banks**

The policy of funding borrowers by Commercial Banks is typically governed by the prudential guidelines prescribed by Reserve Bank of India (RBI) further limited by the internal credit policy of each bank. As per RBI guidelines for funding normal and infrastructure projects, maximum exposure to a single borrower is limited to 15% and 20% respectively of the bank's net worth. The ceiling for a single group, the limits are 40% and 50% respectively of the bank's net worth. However, with the approval of the Board of Directors, an additional 5% could be considered for sanction in both the categories. Some banks also have an internal cap on exposure to term loans and also to a particular sector. The policy issues relating to exposure norms are not likely to have a bearing on the flow of funds to the shipping industry from the banking system.

## **3. Shipping Industry Outlook and Bankers' Perspective**

The banking sector typically monitors the performance of any sector at the time of proposing to take additional exposures therein. As per current indications, the shipping industry is buoyant with reasonable EBITDA margins. Further, the exim trade from India expected to continue to grow at a healthy rate. The funding requirement of the industry, as indicated, is spread over a period of 5 years over the 11th five-year plan period. In the circumstances, funding by way of debt for viable projects will not be a constraint to the banking system. However, it may be mentioned that within the sector, preference might be given to companies that have,

- relatively young fleet that meets with the requirements of safety and also command better freight rates;
- an assured and steady income stream, namely, tie-ups with charterers /large industrial units, etc.
- been promoted by established industrial groups.

#### **4. Credit Products on offer**

Typically, the credit products that are offered by the Domestic Commercial banks include assistance by way of Term Loan for construction of new vessels as well as acquisition of second hand vessels and improving structural liquidity needs. Working capital needs including funding of cash flow mismatch and day to day operational needs are normally met through sanction of cash credit or overdraft facilities. Both Term Loans and Working Capital facilities could be denominated either in rupees or any foreign currency. Depending on purpose and the cash flow stream, the tenor could go up to a maximum of 10-12 years. However, if the loan is sourced out of FCNB, the maximum tenor can be only 5 years as per extant policy guidelines of Reserve Bank of India.

#### **5. ALM Issues and Associated Risks**

Strictly speaking, long term loans are provided by the Banks mainly out of deposit funds whose tenures are normally shorter than those of the term of these loans leading to Asset Liability Mismatch. However, the deposit funds form the core of the resources of the Banks and hence while a significant percentage of existing deposits get renewed, new deposits are constantly added. Hence, ALM as an issue for the banking system could be viewed more from the angle of managing the liquidity and interest rate risks, the cost of which would need to be passed on to the borrowers appropriately through reset as well as put/call options as may be necessary. In respect of foreign currency lending, the additional risk is that of exchange fluctuations. However, fleet operators who have forex earnings have a natural hedge and hence avoid this risk.

#### **6. External Commercial Borrowings**

6.1 As regards External Commercial Borrowing (ECB) is concerned, the fleet operators could either source these funds through international banks or through the offshore offices of the Domestic Commercial Banks. ECB for investment in real sector (including infrastructure sector) falls under the Automatic Route and will not require RBI/Government approval. However, the following are the limits in regards to the amount and duration of ECBs raised through automatic route:

- ECB up to USD 20 million or equivalent with minimum average maturity of three years

- ECB above USD 20 million and up to USD 500 million or equivalent with minimum average maturity of five years
- The maximum amount of ECB which can be raised by an eligible borrower under the Automatic Route is USD 500 million during a financial year.
- ECB up to USD 20 million can have call/put option provided the minimum average maturity of 3 years is complied before exercising call/put option.

6.2 The all-in-cost ceilings for ECB as indicated by Reserve Bank of India currently applicable are as under:

Minimum Average Maturity Period	All-in-cost Ceilings over six month LIBOR*
Three years and up to five years	200 basis points
More than five years	350 basis points

\* For the respective currency of borrowing or applicable benchmark.

6.3 While the depth of ECB market is not perceived to be a problem, the issue remains that the tenure of ECB borrowings is usually short (typical exposures being limited to around 5 years) while the typical funding needs of the fleet operator is normally long. Further, the withholding tax @20% applicable on the interest paid on ECBs raises the cost of funds procured through this route. It may be noted that the Domestic Commercial banks are not normally permitted to issue guarantees, standby letters of credit or letters of comfort to secure ECBs. Of late international commercial banks have shown great interest in sanctioning term loans of longer duration say 10 to 12 years door to door particularly to Corporates having established credentials.

## **7. Assistance from Insurance Companies**

7.1 The other major category of institutions that could provide long term funding to the sector are insurance companies and among these, Life Insurance Corporation of India with a huge corpus is a very significant player in meeting with requirements of both debt and equity. However, it may be observed that the Insurance Regulatory and Development Authority of India (IRDA) has mandated the pattern of investments to be followed by the insurance companies as under:

### **Limits for investments by Life Insurance Companies**

Sino	Type of Investment	% of fund
i)	Government securities	25%
ii)	Government securities or other approved securities (including (i))	Not less than 50%
iii)	<b>Approved Investments as specified in Schedule – 1</b>	
a)	Infrastructure and Social Sector	Not less than 15%
b)	Others to be governed by Exposure Norms. (Investments in `Other than in approved Investments' in no case exceed 15% of the Fund)	Not exceeding 35%

### **Limits of Insurance specified for General Insurance companies**

S No.	Type of Investment	Percentage
i)	Central Government securities <b>being not less than</b>	20%
ii)	State Government Securities and other guaranteed securities including (i) above <b>being not less than</b>	30%

iii)	Housing and Loans to State Government for Housing and Fire Fighting equipment <b>being not less than</b>	5%
iv)	Investments in Approved Investments	
	a) Infrastructure and Social Sector	Not less than 10%
	b) Others to be governed by Exposure Norms. However the investments in 'Other than in Approved Investments' in no case exceed 25% of the Assets	Not exceeding 55%

7.2 Considering the corpus available with the insurance companies and the requirement of the shipping industry as also the variety of other sources available for funding, there is no likelihood of paucity of funds available from insurance companies for investment in the sector at macro level. However, in case of individual borrowers, insurance companies, by way of assistance, may not be able to give more than 20% of the net worth of the borrowing company. However, in participation with other players under the consortium approach the requirement of every single borrower could be met.

As far as tenure of the financing is concerned, insurance companies can provide very long term loan spanning upto say 15 to 20 years as they have availability of long term funds with them.

### **Analysis of Taxation and Other Fiscal Issues Impacting the Growth of the Indian Shipping Companies**

Keeping in view the above background, the fiscal regime under which the Indian shipping companies work become very important.

World's top 20 ship registries provide haven to 79.3% of the world's total shipping tonnages and the main reason for this is the low taxation level prevalent as compared to that in the ownership nationality countries" (Rakesh Mohan Committee Report 2002).

Tonnage tax scheme was introduced by the Government of India in the year 2004-05, which has made the domestic shipping sector definitely more competitive to face competition from international shipping companies operating in other countries.

However, there are many other taxes, which are inhibiting the growth of Indian shipping companies and improvement of its competitiveness vis-à-vis the global shipping companies. The list of such taxes are as under :-

#### 1. **Withholding Tax liability on charter hire charges**

In India charter hire charges paid to foreign ship owners is considered as royalty and subjected to withholding tax at the rate of 10%. In a recent Order of June 2006 that may have serious bearing on all shipowners in India who charter ships, a Chennai bench of the Income Tax Tribunal has held that a ship is an "equipment" and hence payment for chartering foreign

ship could be construed as royalty and therefore taxable in India. The Order by the division bench of Income Tax Appellate Tribunal (ITAT), Chennai was in the case of Poompuhar Shipping Corporation, a Tamil Nadu Government Undertaking. In other countries, such withholding taxes are not applicable or applicable only when the foreign shipowners have permanent establishment in the country.

2. **Withholding Tax on Interest paid to Foreign Lenders on External Commercial Borrowing (ECB)**

In India withholding tax at the rate of 20% is applicable on the interest paid on external commercial borrowings to the non-resident. ECB loan agreements entered into by Corporates have conditions by which interest net of any taxes are to be paid to the lenders. Therefore, in effect, the burden of withholding tax falls on the borrower and that too on the grossed up basis by which the actual impact is increased from 20% to 25%. Further, when the surcharge and education cess is added, it comes to 26.1375%. This substantially increases the cost of borrowing. As per the Double Taxation Avoidance Agreements with certain countries, concessional withholding tax at 10% is applicable and borrowings from certain multi national institutions are exempted from withholding tax.

Under the domestic law of Singapore, interest paid to foreign lenders is exempted from withholding tax subject to the condition that the loan is utilized for purchase of vessels registered under the Singapore flag.

3. **Service Tax**

In India, Service Tax at the rate of 12.24% is applicable on various services rendered to shipping companies. Domestically, various services received in India are subject to service tax. Over and above, service tax on services received in India from overseas such as P&I Insurance, brokerage and commission, consultancy, manpower recruitment shipmanagement services, etc. are also subjected to service tax on reverse charge basis.

In countries like UK, Ireland, Singapore and Australia, the services availed by shipping companies are either exempted from service tax or “zero” rated. Generally, it is found that most of the maritime countries are not subjecting the shipping industry to service tax.

4. **Minimum Alternate Tax (MAT) on profit/loss on sale of vessels**

In India, profit resulting from the sale of vessels is outside the tonnage tax scheme and shipping companies have to pay MAT @ 10% which effectively comes to 11.22% with surcharge and education cess. In many other countries like UK, Singapore, Ireland, Netherlands, Spain, Brazil, profit on sale of vessels is covered within the scope of tonnage tax scheme. It may

be recommended that profit from sale of vessels if reinvested in acquisition of ships be exempted from MAT.

5. **Tax on other income**

Income such as interest income earned by tonnage tax companies on investments is outside the tonnage tax scheme and subject to tax at normal corporate tax rate. Since creation of tonnage tax reserve @ 20% on **net profit** is compulsory and this reserve can only be utilized for acquisition of ships within a period of 8 years, such reserves are necessarily to be invested which will earn interest. Therefore, atleast the interest income on investment of such tonnage tax reserve should be exempted from corporate tax. In many other countries such income is taxed under the tonnage tax scheme. Further, unlike India in U.K. Netherlands, Germany etc. the income from incidental/ secondary activities qualifying under the tonnage tax scheme is not restricted to a percentage of the turnover from the core activities. In India, this is restricted to 0.25% of the turnover from core activities.

6. **Lease Tax**

Lease Tax/VAT is levied on charter hire charges by various States. Some States charge such tax if agreement for charter hire is signed in that State. Some States are even seeking to levy tax if the ships are located in their territory. In foreign countries like Singapore, lease tax is either not leviable on hire charges of ships or they are “zero” rated like in Singapore, UK, Germany, etc. It is, therefore, recommended that charter hire be exempted from lease tax/VAT..

7. **Customs Duty**

The stores, spares and bunkers imported are taxable in India but the stores and spares imported by Ship Repair Units (SRUs) are exempted from customs duty. When such stores and spares are imported by the shipowners for use on their ships, the same is subject to customs duty. In most of the countries like Australia, UK, Netherlands, etc. customs duty is not applicable on stores, spares and bunkers for use in international sea-going vessels.

The Sub-Group, therefore, recommends that customs duty should not be levied on import of stores, spares and bunkers on the supplies for use in international sea-going vessels.

**Dividend Distribution Tax**

In India, Dividend declared is subject to dividend distribution tax @ 12.5% which effectively becomes 14.03% after addition of surcharge and education cess. In many other foreign jurisdictions like UK, Singapore, Germany, Australia, there is no such dividend distribution tax. The Sub-

Group therefore, recommends Indian shipping companies should be exempted from payment of dividend distribution tax on the dividend declared to the shareholders.

8. **Seafarers' Taxation**

“The shipping industry is facing shortage of qualified and trained manpower as a result of the continued drift of qualified personnel to foreign ships on lure of higher take home pay without subject to tax at source” (Rakesh Mohan Committee 2002)”. Indian IT Act provide for tax exemption in respect of income received by the Indian crew serving on Indian ships outside India for 182 days or more in a year. For this purpose, the period of the seafarers service when the ships are in Indian territorial water is treated as period of service in India for computation of their service outside India for 182 days in a year. As Indian ships generally operate in India trades and Indian ships call frequently at Indian ports, a large number of the crew employed on Indian ships though trading outside India cannot comply with the eligibility criteria. Even incase where an individual is non-resident in India, he is liable to pay tax on his salary income received/related to the service rendered in India. Thus, where an individual renders service on board the vessel in international waters and is a non-resident, he is liable to pay tax in India on the salary income received in India. However, incase of foreign crew, rendering services on vessels operating in international waters, salary paid outside India does not constitute taxable income as the salary is not received in India nor it is related to services rendered in India. In other countries like Mauritius, Malaysia, the emoluments relating to employment either exercised on board the vessel registered in Mauritius or Malaysia, is exempted from tax. Incase of Mauritius, employment exercised on board a foreign vessel is also exempted from tax.

As there is acute shortage of manpower on board globally, unless this taxation issue on seafarers salary is addressed, there will be exodus of skilled manpower from Indian ships to foreign ships. Further, to retain manpower, Indian shipping companies who bear the tax burden on behalf of the employees, ends up paying on the grossed up amount thus sacrificing profitability vis-à-vis the foreign shipping lines.

10. **Fringe Benefit Tax**

In India Fringe Benefit Tax is applicable and payable by employer. The Finance Act 2006 has reduced the valuation for Fringe Benefit Tax on account of hospitality, use of hotel, lodging and boarding facilities at the rate of 5% for airline and shipping companies. Valuation for Fringe Benefit Tax on account of traveling expenses is also now levied at 5% for all assesses. However, it is to be stated that Fringe Benefit Tax does not exist in other countries like UK, Singapore, Germany which offer tonnage tax regime similar to that in India. FBT is applicable in Australia with limited application. One of the major components of business expenditure of shipping companies is on account of travel, boarding/lodging of ship board

personnel when they “sign off” and “sign on”. Therefore, Sub-Group recommends that the travel and related expenditure for relocation and posting of the crew on board the vessels and back home should not be subjected to FBT.

## **Conclusion**

It may, thus, be concluded that there is no major policy related or resource related constraint that come in the way of the banking system or insurance company for providing assistance to viable projects in the shipping sector. Indian shipping sector should look competitive vis-à-vis the international shipping companies operating out of other countries. It is necessary that there is a fiscal regime conducive for encouraging and attracting investment in the sector. Shipping sector is global by nature. It is observed that even though 100% FDI has been allowed in the shipping sector there is not much of FDI flow in the sector. In case, the fiscal regime is improved it is likely to have a positive impact on the FDI flow as well as on the lenders to lend money to the shipping sector.

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**Composition of the Working Group on Shipping and Inland Water Transport (vide Planning Commission – Transport Division OM No. 18 /7 /2005-Tpt dated 17/ 4/ 2006)**

1.	Secretary, Department of Shipping	Chairman
2.	Adviser (Tpt), Planning Commission	Member
3.	Director General (Shipping), Department of Shipping	Member
4.	Chairman-cum-Managing Director, Shipping Corporation of India	Member
5.	Director General, Light Houses & Light Ships	Member
6.	Representative of the Department of Defence Production & Supplies – Ministry of Defence	Member
7.	Chief Controller of Chartering, Department of Shipping	Member
8.	Director, National Institute of Oceanography, Panaji	Member
9.	Chairman, Inland Waterways Authority of India	Member
10.	Joint Secretary, Ministry of Petroleum	Member
11.	Representative, Department of Coal	Member
12.	Commissioner (PR), Ministry of Water Resources	Member
13.	Secretary, Inland Water Transport, Govt. of Goa, Daman & Diu	Member
14.	Secretary, Coop. & Transport, Government of Kerala	Member
15.	Secretary, Transport Department of West Bengal	Member
16.	Representative from Food Corporation of India	Member
17.	Representative from Federation of Indian Chambers of Commerce & Industry (FICCI)	Member
18.	Chairman, Indian National Ship Owners' Association	Member
19.	Chairman, Indian Coastal Conference, Shipping House, 245, Madam Cama Road, Mumbai – 400021	Member
20.	President, Indian Barge Owners' Association, 402, Abhay Steel House, Baroda Street, Mumbai – 400009	Member
21.	CMD, M/s. Vivada Inland Waterways Limited, P-468 / B, CIT Scheme, Keyatola, Kolkata – 700029	Member
22.	Joint Secretary (Shipping & IWT), Department of Shipping	Convener

## Terms of Reference

### Working Group on Shipping and Inland Water Transport (vide Planning Commission – Transport Division OM No. 18 /7 /2005-Tpt dated 17/ 4/ 2006)

- i. To review the financial and physical performance of Shipping and IWT sectors during the Tenth Plan period.
- ii. To formulate a strategy for the development of shipping sector keeping in view the need for – (a) making Indian shipping more competitive, and (b) meeting the emerging requirements of sea transportation of Indian trade.
- iii. To project the traffic flows (commodity-wise) and assess the capacity requirements to meet the projected traffic demand by Indian vessels during 11<sup>th</sup> plan.
- iv. To formulate programmes for the development of Shipping sector during 11<sup>th</sup> Plan indicating – (a) physical targets and financial outlays, and (b) sources of funding.
- v. To assess the role of coastal shipping and inland water transport (IWT) in achieving optimal inter modal mix.
- vi. To recommend a policy framework for development of IWT and coastal shipping keeping in view the need for relieving pressure on other surface mode of transport.
- vii. To recommend measures for promoting private sector participation in the development of coastal shipping and IWT.
- viii. To review the measures taken to restructure Central Inland Water Transport Corporation (CIWTC).
- ix. To evaluate the performance of IWAI with particular reference to the development of National Waterways.
- x. To review CSS with particular reference to development of infrastructure facilities for promotion of IWT.