GOVERNMENT OF INDIA

MINISTRY OF SURFACE TRANSPORT

REPORT

MAJOR PORTS REFORMS COMMITTEE

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REPORT

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INTRODUCTORY

The Committee submitted its Interim Report to Government in October, 1985. This Report dealt with the restructuring of managements of the major ports of India.

2. Following the presentation of the Interim Report, the Committee had occasion to deliberate further on this issue. These discussions did not generate any need to modify the conclusions and recommendations the Committee had reached earlier and given expression to in the Interim Report.

3. It is necessary to outline the Committee's views on various other important operational, fiscal and developmental issues which it has studied in depth in the background of the evidence produced before it by port users, port personnel, maritime experts and also other distinguished representatives from specialised agencies, like ESCAP, UNCTAD which have been doing splendid work for the past many years in helping the ports of the developing countries to improve their performance efficiencies.

4. The report has been presented in Seven Sections with different chapters, each dealing with specific issues.

5. The Committee and the special task groups constituted by it to facilitate indepth examination of all activity areas of the ports, had the benefit of associating with these task groups, persons of eminence in various fields of transportation including port users, labour leaders etc. The task groups and the main Committee met altogether on 95 occasions. The details are at Annexe-A which also gives the names of the organisations and individuals who assisted the Committee. It also lists out the reports and studies which the Committee has relied upon. Some of these studies were initiated by the MPRC on its own with the help of IPA. The replies to the questionnaire sent out by the Committee to the port managements threw up a good lot of data and information which helped the Committee to gain a clear insight into the myriad of problems faced by the major ports.

6. The series of reforms and remedial measures introduced in the major ports have been quite impressive; but not the results. The Committee has tried to go deeply into it and find out why certain well meaning and thoughtful reforms had either failed wholly or partially in producing the anticipated results. The principal reason is that the measures were adhoc. No serious thought was given to the need to create an environment conducive to the success of these reforms.

7. The Committee has noted that, by and large, the port managements have not made any serious and concerted attempt to involve the port users more actively and closely with the working of the ports. This is somewhat surprising because the Bombay Port experience was there and it had demonstrated its potential for forging close cooperation between the users and the management, which found reflection in streamlined operations. While meeting the users in Bombay, the Committee was happy to find that rather than highlighting the inefficiencies in various areas and attempting to quantify the resultant losses suffered by users or apportioning blame, their perception of port problems showed a remarkable degree of identity with that of the port management. The port users evinced pride in the port and demonstrated their commitment to improve its image and efficiency. This augurs well for the future of the industry. Though the Ministry of Surface Transport had commended this system for adoption to other ports as well, yet the Committee found that the pace of its integration in other port administrations ranged widely. Presumably the interplay of local factors in the ports may have retarded the pace.

8. The Committee has no doubt that the personnel manning the major ports, at least majority of them, are dedicated, innovative and risk taking but they find their initiatives floundering generally because of their inability to ride over somewhat deep rooted prejudices against change. The prevailing port environment contributes significantly to this situation. Like the country itself, the ports are a mosaic of cultures with diversity as their principal attribute. It is not possible for the Committee, therefore, to suggest any tailor made remedies except to urge that no effort should be spared by the higher echelons of port managements and the Ministry of Surface Transport to educate and inform the employees, users and the interacting agencies and their staff about the deleterious consequences of an attitude characterised by status quoism. This cannot be done, it is realised, by a hey presto touch, as it were, and will require constant and concerted

attention of all concerned for quite sometime. The Committee believes that efforts on these lines will help foster a new work culture and ethos in the ports.

9. When the world is finding itself in the midst of sweeping technological changes and witnessing unparalleled explosion of scientific knowledge, understandably the ports can not remain immune from these spectacular changes and have to fall in line. This is not to suggest that the ports will have no choice but to respond to the new technologies positively all the while. A selective approach is necessary. In selecting the appropriate technology, it will be important to ensure that socio-economic tensions which the induction of capital intensive technologies unleash invariably, are minimised if not altogether eliminated. Take for example, modernisation. In a highly labour intensive industry as ports, there can be no modernisation without retrenchment of labour. That is the experience world over. Re-employment, retraining, golden hand shake etc. are frequently trotted out as remedies. In any economy already burdened with a large backlog of unemployment and underemployment as ours, these remedies cannot but be termed as cosmetic. This poses a serious dilemma to port managements. They respond to it by slowing down the programmes of modernisation even where there is a felt need for it. There is little choice.

10. In view of the new thrust in Government policies for public enterprises becoming internationally competitive and generating, at the same time, their own resources to finance their developmental plans, there is need for a fresh appraisal of port policies and programmes and orienting them to the set goals. This in turn will be contingent upon changes being made in Government policy. Logically, it should free the ports from meeting certain obligations either wholly or to a significant extent, through measures suggested in Section II of this Report (Financial Management).

11. The Committee hopes that the package of measures suggested in this report will, if implemented speedily, take the major ports forward towards greater productivity, efficiency and profitability.

SECTION – I

PORT ORGANISATION & ADMINISTRATION


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SECTION I

PORT ORGANISATION AND ADMINISTRATION

CHAPTER 1

PORT ORGANISATION

The Committee would solicit perusal of its Interim Report submitted to Government in October, 1985. This Interim Report deals exhaustively with the problems of the policy making bodies in the ports. The Committee in its Interim Report, came to the conclusion that the present structure of the Port Trust Boards is not conducive to the growth of professionalism in the Ports, which need a good deal of awareness, even specialized knowledge, to appreciate the intricacies of management. Furthermore, it is not oriented to the achievement of the underlying objectives viz., (a) catalyst for economic development of the region in which the port is located, (b) efficient nodal point of exchange of import/export cargo, (c) important point of interface for international shipping and ports.

1.1.2 With a view to making this Report self-contained and avoiding frequent reference to the Interim Report, the Committee considers it prudent, even at the risk of the repetition, to recapitulate here briefly the Committee's recommendations outlined in that Report. Before doing so however, it appears necessary to update the Preface to the Interim Report, as under :

By means of two Government Resolutions Nos. TW/MPRC-16/85 and TW/MPRC-16/86 dated 28th January, 1986 and 6th October, 1986 respectively, the time allowed to the Committee to submit its Report was extended from 7th January, 1986 to 30th November, 1986.. By another Government Resolution of identical No. dated 2nd June, 1986 vice Shri K.K. Uppal. Shri S. Ramamoorthi, and vice Shri T.C. Dutt, Shri M.K. Kar Gupta, Chairmen, respectively of the Bombay and Calcutta Port Trusts were appointed as Members of the Committee. The Resolution further provided for continued association of Shri T.C. Dutt, Chairman, Food Corporation of India as a Member of the Committee.

After his assumption of charge as Director General of Shipping, on 16th April, 1986 Shri Praveen Singh also participated in the delibrations, as a member of the Committee.

The Secretariat of the Committee comprised :—

(1) Shri R.C. Joshi, Deputy Secretary — MPRC

(2) Shri A.S. Bajaj :

(3) Shri Moti Ram : Research Officers

(4) Shri H.P. Sharma :

Interim Report Recommendations

Each major port should have a set of corporate objectives to guide its functioning and promote its well being.

2. Direct representations on Port Trust Boards should be given to user interests through their own professional or voluntary organisations.

3. All non-official bodies/associations/interests to be given representation on Port Trust Boards should send a panel of three names for each vacancy for selecting one from amongst them, considered most suitable and willing to contribute his knowledge of or experience in any one or more of the specialised fields of Finance, Operations, Engineering, Marine etc.

4. The scope of Section 6 of the MPT Act about disqualifications of Trustees should be widened to cover other exigencies.

5. The Public Sector nominee on the Port Trust Board should generally be aware of the Governmental policies and their impact on the growth of trade and commerce and fully associate himself with and actively participate in board deliberations, concerning subjects falling even outside his given area of responsibility.

6. The Ministry's representative on the Port Trust Board should have some background of ports and shipping. His regular attendance at the Board meetings should be facilitated. His active association with the Board's decisions would obviate the need for review of such decisions subsequently, on Governmental files.

7. The agenda notes for the meetings of the Port Trust Boards should be circulated to the members, well in advance, and the practice of rushing in items at the last moment by way of supplementary agenda, except where this is unavoidable, be discarded.

8. All members of the Board, official or non-official, other than the Chairman and Deputy Chairman, should be paid adequate sitting fee.

9. While officers of promise and potential with the ports should be given consideration for appointment to top level posts, foreclosure of the option to induct officers from outside is not favoured so long as the portss do not demonstrate their capability of throwing up a succession of leadership from within.

10. The quality and range of professionalism in ports should be upgraded and powers and responsibilities decentralized.

11. Excluding the Chairman and Dy. Chairman, for Ports of Madras, Bombay and Calcutta, each Board should have a statutory ceiling on membership of 14, and for all other ports the ceiling on membership should be 10 as indicated below :

I. For Ports of Bombay, Calcutta & Madras

Officials

Chairman	:	1	
Dy. Chairman/Dy. Chairmen	:	1	(2 for Calcutta)
State Govt.	:	1	
** Ministry of Shipping & Transport	:	1	
Customs	:	1	
Navy	:	1	
Railways	:	1	
Public Sector Undertakings	:	1	
Shipping Corporation of India	:	1	
		9	

Non Officials

Labour	:	2	
Chambers of Commerce	:		

**Now designated as Ministry of Surface Transport.

Stevedores Association	:	
Customs House Clearing Agents Association	:	
Indian National Ship Owners Association	:	
Shippers Association	:	5
Steamer Agents Association	:	
Sailing Vessel Owners Association	:	

II. For all others ports*

Officials

Chairman	:	1
Dy. Chairman	:	1
State Govt.	:	1
Ministry of Shipping and Transport	:	1
Railways	:	1
Customs	:	1
Public Sector	:	1
		7

Non-Officials

Labour	:	2
Chambers of Commerce	:	
Stevedores Association	:	
Customs House Clearing Agents Association	:	
Indian National Ship Owners Association	:	
Shippers Association	:	3
Steamer Agents Association	:	
Sailing vessel Owners Association	:	

12. Each Port Trust Board should be reconstituted after every three years. vacancies occurring during the middle of the term should be filled only for the unexpired term of the Board.

13. To enable the Port Trust Boards to concentrate on basic issues of policy formulation and exercise overall superintendence and control on the port, the Board should be freed from the burden of resolving day to day operational problems etc. A statutory Board of Management should be set up to take over these functions and consequential changes in the Major Port Trusts Act, 1963 made.

*In the ports of Vizag, Cochin & Mormugao representation may be given to Navy also.

The distribution of functions and responsibilities between the Port Trust Board and the Board of Management should be as given below :—

PART A — MAIN BOARD

(i) Approval of the budget, review and evaluation of all schemes and works included in the budget.

(ii) Appraisal of development projects.

(iii) Sanctioning of plan and non-plan schemes included in the budget.

(iv) Raising of resources to meet plan and non-plan expenditure.

(v) Industrial relations policy matters referred by the Chairman.

(vi) Sale, lease, licensing or alienation of land and estate.

(vii) Oversee the performance of the port in relation to its corporate objectives.

(viii) Approval/revision of port rates and tariffs.

(ix) Amendment to acts, By-laws and Regulations.

(x) All other powers now vesting in the Main Board, not exercisable by the Board of Management as indicated in Part B.

PART B — BOARD OF MANAGEMENT

(i) All operational matters.

(ii) Exercise of financial and administrative powers in the areas and the extent indicated below :—

	PROVISION OF THE ACT		BOARD OF MANAGEMENT
(a)	Sec. 34(1)	To enter into contracts.	1. Rs. 100 lakhs for Bombay & Calcutta. Rs. 75 lakhs for Madras, Cochin & Vizag. Rs. 50 lakhs for other ports. 2. Board of Management will exercise powers to the above extent in respect of projects/schemes included therein sanctioned under section 92 and 93 of the Major Port Trusts Act, 1963 subject to evaluation/scrutiny of tenders by the tender Committee.
(b)	Sec. 36	To execute deposit works	Full Powers
(c)	Sec. 85	To take overdraft of temporary loan	Rs. 10 lakhs in all ports.
(d)	Sec. 92(1)	To charge expenditure to capital	Rs. 100 lakhs for Calcutta & Bombay. Rs. 75 lakhs for Madras, Cochin & Vizag. Rs. 50 lakhs for other ports.
(e)	Sec. 93(1)	To sanction new works of appliances	Rs. 100 lakhs for Bombay & Calcutta. Rs. 75 lakhs for Madras, Cochin & Vizag. Rs. 50 lakhs for other ports.
(f)	Sec. 94	To order execution of works	Rs. 50 lakhs for Bombay & Calcutta. Rs. 25 lakhs for other ports.
(g)	Sec. 95	To compound or compromise claims	Rs. 3 lakhs for all ports.
(h)	Sec. 96	To write off losses	Rs. 30,000 in each case and Rs. 10 lakhs in aggregate in one year.

(i)	Sec. 101	(1) To sanction expenditure without adherence to approved estimates except emergencies	Rs. 5 lakhs for Bombay and Calcutta. Rs. 3 lakhs for other ports.
(j)	Sec. 26	Power to appoint consulting engineers	Board of Management may appoint a person as consulting engineer subject to prior sanction of the Central Government.

In the succeeding chapter the Committee has outlined the existing administrative structure through which the policies and programmes initiated or approved by the Government/the Port Trust Boards are implemented, its inherent short comings and how in the committee's view, the set up should be restructured and rationalised.

CHAPTER 2

ADMINISTRATIVE RESTRUCTURING

Of the various considerations that determine the organisational pattern of a port, the most important is the volume of throughput and its broad break up in commodity groups viz. liquid and dry bulk, break-bulk and containers. There are other influencing factors also as in the case of Calcutta which is a riverine port, population of the work force and the infrastructural and other facilities and assets of the port. Hence, for each port the organisational requirements vary.

1.2.2 At present the number of departments in the major ports vary from 6 in Tuticorin to 16 in Bombay. To the best of the Committee's knowledge no study has been made to rationalise the departments in the ports and to orient them to the changing needs, technological or otherwise. The position obtaining in different ports at present is indicated below :—

Port	No. of Deptts.	Departments
Calcutta	15	Administration, Finance, Traffic, Civil Engineering, Mechanical Engineering, Ship repairs, Marine, Stores, Planning & Research, Land, Medical, Legal, Labour & Industrial Relations, Vigilance and Hydraulic Study.
Haldia	8	Administration, Finance, Traffic, Marine, Plan & Equipment Materials Management, Personnel & Industrial Relations, I & C.F.
Bombay	16	Administration, Finance, Traffic, Railways, Civil Engineering, Mechanical Engineering, Marine, Medical, Stores, Planning & Research, Estate, Law, Personnel & Industrial Relations, Labour Services, Organisation & Methods and Vigilance.
Madras	8	Administration, Finance, Traffic, Civil Engineering, (including dredging), Mechanical Engineering, Marine, Medical, and Stores (Finance deals with Planning and Research).
Visakhapatnam	9	Administration, Finance, Traffic, Civil Engineerng, (including dredging), Mechanical Engineering, Marine, Medical, Stores and Planning & Research (Administration deals with Law Personnel, Vigilance and Fishing Harbour and Civil Engineering with Estate).
Cochin	9	Administration, Finance, Traffic, Civil Engineering, Mechanical Engineering, Marine, Medical, Stores, and Fishing Harbour. (Administration deals with Planning & Research, Estate and Personnel).
Mormugao	7	Administration, Finance, Traffic, Medical, Civil Engineering, Marine, and Planning & Research. (Civil Engineering Department deals with mechanical engineering and Estate, and Administration deals with Personnel and Security).
Kandla	8	Administration, Finance, Traffic, Civil Engineering, Mechanical Engineering, Marine, Medical and Offshore Oil Terminal Vadinar. (Administration also deals with Estate, Law and Personnel and Civil Engineering Department deals with Stores).
Paradip	7	Administration, Finance, Traffic, Marine, Civil Engineering, Electrical & Mechanical Department, and Medical. (Civil Engineering Department also deals with Law and Personnel).

Tuticorin	6	Administration, Finance, Traffic, Marine, Civil Engineering, and Medical. (CE's Department deals with Mechanical and Electrical Engineering deals and Stores also. Administration deals with Vigilance, Security, Labour, Industrial Relations, Estate Management and Legal matters also).
New Mangalore	6	Administration, Finance, Traffic, Marine, Civil Engineering, and Mechanical Engineering. (Administration deals with Personnel, Legal, Vigilance and Medical matters, and Civil Engineering Department deals with Stores and Estate also).

1.2.3 The Committee examined the detailed pattern of each port and had detailed discussions with port managements and groups of officers. The Committee recommends that the normal pattern for each port should be ten departments:

1) General Administration.
2) Personnel & Industrial Relations.
3) Planning & Research.
4) Finance & Accounts.
5) Traffic.
6) Marine.
7) Civil Engineering.
8) Mechanical Engineering.
9) Stores.
10) Medical.

1.2.4. In ports like Tuticorin and New Mangalore, Stores, Departments may be organised at a later stage when the need arises. In ports where Planning & Research (P&R) is not a separate department, the ports may decide, whether they should start an independent department of P&R immediately, or whether a beginning could be made with a small cell to handle this task. Personnel and Industrial Relations in view of their crucial importance to productivity and efficiency should be handled by a separate department in all ports. This department should have two distinct division — Personnel and Industrial Relations. Ship repairs may form part of the Mechanical Engineering Department except in those ports where ship repair is a major activity.

1.2.5 At present only Calcutta and Bombay have got separate departments to deal with the management of estates. The Committee feels that the ports which have sizeable stretches of land under their control, should have separate Estate Departments. For example, at Visakhapatnam, Kandla and Cochin the stretches of land now under development are sizeable. It is desirable to set up separate Estates Departments in these ports. In the other five ports, the land matters may be dealt with by the Civil Engineering Department. Ownership of land by ports need proper management and also programmes of development for increasing resource generation. This Committee has outlined its views on this subject in Section-II, Chapter-2 of the Report.

1.2.6. In the two large ports of Calcutta and Bombay, departure from the norms suggested earlier appears necessary. This is discussed below :

1.2.7 **Calcutta**

In Calcutta there are 15 departments of which two are special only to Calcutta — one is Ship Repair Complex which was set up recently to manage the five Dry Docks and the second one is the Hydraulic Study Department which has been set up to study and do research on the regime of the Rivers Bhagirathi and Hooghly. The present department of Labour Adviser & Industrial Relations should, the Committee feels, deal with personnel functions and may be suitably re-organised. Since the Legal and Vigilance departments work in Calcutta is heavy, no change is proposed.

1.2.8 **Bombay**

In Bombay at present there are 16 departments. The Committee felt that there is no need for having a separate department of Railways. Its activities should be merged with the Traffic Department as in other ports. The Personnel, Industrial Relations and Labour matters are at present dealt with in Bombay by three separate departments viz. Chief Personnel & Industrial Relations Manager, the Chief Labour Officer and the Manager (Services and Organisation & Methods). The Manager (Services and Organisation and Methods) also deals with MIS and EDP functions. The Committee recommends that the personnel and industrial relations matters should be dealt under one department which may be designated as Personnel and Industrial Relations Department with 2 Wings. To this extent the functions now performed by the Manager (Services and O&M) would get included in the proposed Department of Personnel and Industrial Relations. The EDP and MIS functions now dealt with by the Manager (Services and O&M) may be transferred to the Department of Planning & Research. Thus there will be 13 departments in Bombay — including legal and vigilance.

1.2.9 The Committee considered different functions which now form part mostly of the General Administration Department under the Secretary. The Commitee's recommendations in this regard are :—

1.2.10 **Legal matters**

Only Bombay and Calcutta have separate Legal Departments to deal with all legal matters. This arrangement may continue. In all other Ports this subject is under general administration. It is recommended that legal matters should be dealt with by a separate section headed by a professionally qualified and competent legal adviser in the General Administration Department under the Secretary.

1.2.11 **Vigilance**

In Bombay & Calcutta there are separate Vigilance Departments headed by an IPS Officer drawn on deputation from the State Cadre. In other ports vigilance is dealt with under the General Administration Department. The Committee recommends that while the present position in Calcutta and Bombay may continue, in other ports the Deputy Chairman should be the Chief Vigilance Officer. He should be assisted by a Vigilance Officer of appropriate level with necessary supporting staff.

1.2.12 **Security**

In all ports, except Bombay, security is looked after by the CISF. In Bombay the port security is looked after by the Bombay Police and the port's own security set up. In Calcutta, while the CISF looks after the major areas of the port, some areas are being taken care of by the port's own security outfit, which however functions under the overall control of CISF. The Committee recommends that the present arrangement may continue. The residual security matters i.e. watch & ward may be dealt with by the General Administration Department.

1.2.13 The Committee feels that some of the current concepts in modern port management should be given a distinct identity and dealt with by specific departments or divisions. Thus training could come under a definite division or a separate section/wing under the Personnel and Industrial Relations Department.

1.2.14 **Public Relations**

Public Relations is now being handled by the General Administration Department. This arrangement may continue.

1.2.15 **Trade Promotion**

Trade promotion which should be called Market Development is now being dealt with mostly by Traffic Department but in some ports, departments other than Traffic deal with this work. In Madras Trade promotion is under the General Administration Department, while in Calcutta the Planning and Research Department looks after it. It is recommended that this function should be entrusted to a cell under the Traffic Department.

1.2.16 **Financial Advice, Accounts and Audit**

It was observed that in all the ports financial advice, accounts and audit are dealt with in one department. i.e. Finance and Accounts. These three distinct and different functions should not be clubbed together and three sections or divisions may be created under the Finance and Accounts Department under the F.A. The Internal Audit Division should be directly under the Chairman.

1.2.17 **Dredging**

In all ports except Madras, dredging is under the Marine Department. In Madras too dredging should be brought under the Marine Department, more so when the volume is likely to decrease in view of the Committee's recommendations in Sec. II, Chapter-2

1.2.18 **Fishing Harbour**

In Cochin, there is a separate department for Fishing Harbour. In Visakhapatnam, the subject is dealt with by the General Administration Department. In Calcutta, Civil Engineering Department looks after the fishing harbour. The activities of the fishing harbour are not a part of the normal activities of a port. The accounts of the fishing harbour are also maintained separately. In Section-V, Chapter-2 of the Report on Port Operations some suggestions have been made about the future pattern of management of the fishing harbour.

In view of the above discussion, the Committee suggests that for ports other than Bombay, the departments may be reorganized as briefly indicated below :—

1.2.19 **Madras**

The departments of Planning and Research and Personnel and Industrial Relations may be created.

1.2.20 **Visakhapatnam**

Two departments of Personnel and Industrial Relations and Estate Management may be created.

1.2.21 **Cochin**

The department of Fishing Harbour may be treated as a special department and two more departments (i) Personnel and Industrial Relations* (ii) Planning and Research may be created.

1.2.22 **Mormugao**

Three more departments (i) Mechanical Engineering, (ii) Stores and (iii) Personnel and Industrial Relations Department, may be created.

1.2.23 **Kandla**

While the Department of Off-Shore Oil Terminal at Vadinar may continue as a special department, three other departments viz. (i) Personnel and Industrial Relations, (ii) Planning and Research and (iii) Stores may be created. Land Management may continue to be dealt with by the General Administration Department for the present.

1.2.24 **Paradip**

Two more departments — Personnel and Industrial Relations and Planning & Research may be created. There is no adequate justification for a separate stores department.

1.2.25 **Tuticorin**

Three more departments viz. (i) Mechanical Engineering, (ii) Personnel and Industrial Relations and (iii) Planning and Research may be created. As in Paradip no separate Department is suggested for stores for the present.

1.2.26 **New Mangalore**

Three more departments may be created viz. (i) Medical, (ii) Personnel & Industrial Relations and (iii) Planning & Research Department. Stores may continue to be dealt with by the Civil Engineering Department as at present.

1.2.27 The Committee's recommendations as above are based on detailed discussions and the assessment of the workload in each department. Yet another consideration which has influenced the proposed reorganisation is the strong belief that rational distribution of functions would lead to improved productivity, speed up disposal of work and more importantly than that, make for better accountability. The port managements may while reorganising work on the suggested lines take due note of the need for economy. As far as possible the present stength of staff should not be increased.

1.2.28 In a commercially oriented enterprise, speed is the essence of decision making. The port officials generally did not impress the Committee with their perceptions and attitudes which to put it briefly was more bureaucratic than organic more conservative than innovative and more traditional than forward looking. This may be the result of various factors like lack of training and low level of discipline. Because of the absence of any imaginative programme of career planning, officials lack motivation. This has been discussed elsewhere also in the Report. The Committee also noticed that the present set up inhibits initiative because there are too many hierarchial levels. The levels of reporting in various departments are too many. For example, in Madras Port the Traffic Department there are 4 levels, viz. Traffic Manager, Docks Manager, Dy. Traffic Manager and Asstt. Traffic Manager, while in Calcutta there are 5 levels in the Traffic Department — Traffic Manager, Docks Manager, Dy. Docks Manager, Supdt. of Traffic and Asstt. Supdt. of Traffic. The Committee feels that in general, there should be maximum number of 3 levels of reporting and final decision making in different departments. The number of levels may even be reduced to two where practicable. In engineering disciplines, however, this may not be practicable.

1.2.29 The Committee has in para 1.3.18 Chapter 3 of Section I of the Report pointed out the variations in pay scales of Chairman and Dy. Chairman and designations and pay scales of heads of departments in various Major Ports. The Committee noticed similar variations in designations and pay scales of officers below the heads of department level (Annexe B-1). The Committee has suggested in para 1.3.19 Chapter 3 of Section I of the Report, that a detailed study should be undertaken of all the officers from the head of the department to the lowest rung of Class I officers on the criteria of work load and type of responsibility of each officer at different levels to determine the appropriate pay scales. This will bring about some rationalisation and uniformity in designations and pay scales.

1.2.30 The pay structure of Class I & II officers was comprehensively revised with effect from 1.1.1974. The Ministry again examined the pay structure in the light of the changes and developments that had taken place since 1976 and a Government Order No. PE/PEO/2/84 was issued on 1.2.1984, under which 135 pay scales for officers of Port Trusts were after rationalisation reduced to 24. The Committee found that of these 24 revised pay scales, the first 3 i.e. E-1, E-2 & E-3 relate to Class II Cadre. At present, therefore, there are 21 pay scales for Class I officers as shown in Annexe B-2.

1.2.31 A detailed study of these 21 scales indicates that a number of these scales are very close to each other and, what is more, these are almost indistinguishable from one another. This has given rise to serious anomalies which the Ministry is now finding it difficult to resolve. Probably, this was done to suit the particular requirements at that time, but this needs to be remedied. The Committee strongly suggests that in the next pay revision exercises for Class I, II, III & IV as and when these are undertaken, all efforts should be made to rationalize and reduce the number of pay scales.

1.2.32 Incidentally, the significant role the pilots play in a sea port is not reflected in their service terms and conditions which do not compare favourably with master mariners at sea. Some remedial measures suggested to the Committee were :—

i) priority in the matter of allotment of residential accommodation;

ii) provision of telephone and transport facilities to all pilots, Deputy Conservator, Harbour Master and Senior Master Mariners.

1.2.33 **Functional Groups**

The Committee would like to invite attention to paras 3.32, 3.33 & 3.34 of the Interim Report. Since, submission of this report the Committee had occasion to study the various aspects of this matter further and closely. The Committee wishes to reiterate the recommendation made in para 3.32 of the Interim Report which for facility of reference is quoted below :

"In the interest of their functioning, the Port Trust Boards should shed off responsibility concerning day to day operations, monitoring of activities and overseeing the working of specialized departments of Finance, Traffic, Engineering and Marine. The study undertaken at the Committee's instance, to which a reference has been made earlier, has shown that quite a large number of items brought forward from time to time for consideration of the Port Trust Boards were very trivial in nature. A good number of other subjects also could easily have been decided, below the Board level much more speedily and without in any way militating against the Boards' approach or policy. The Committee accordingly, suggests that a statutory Board of Management comprising the Chairman and five functional heads, including the Deputy Chairman, representing Traffic, Civil/Mech. Engineering, Marine, Finance and Personnel and Industrial Relations should be set up and vested with full powers to consider and decide matters falling within the scope of delegation indicated in Annexure—IV without reference to this main Board".

1.2.34 During the last decade or so a number of Committees have been appointed and studies made. Most of them have come up with sound and practical suggestions for administrative restructuring of ports. At the instance of the then Ministry of Shipping and Transport, the International Association of Ports and Harbours sent a team of professional experts drawn from some of the biggest western country ports to visit all the major ports and examine all the national and local problems relating to port operations and developments. The Committee found that the suggestions made in the report were good and are valid to a large extent even today. One important observation of this team which the Committee fully endorses is that new departments created should be need based and whether the department is small or large, its functions should be organisationally recognised and provided for. The Committee has collected information about the administrative structure in some of the ports in South East Asia. In Singapore Port, organisational authority is exercised through 8 divisions at Annexe B-3.

1.2.35 The Committee examined all the possible functions of each port administration for which it should and must be made responsible in the context of the Corporate objectives of the ports. The Committee recommends that in the interest of effective and coordinated working of ports each organisation be divided into the following five functional groups as recommended in the Interim Report.

(i) Operations.

(ii) Marine.

(iii) Engineering.

(iv) Finance.

(v) General Administration & Personnel.

The Committee had detailed discussions with a cross section of experts, professionals and port officers of different levels of seniority. The Committee also studied the organisation chart of each port. The number of departments varies considerably and the package of functions performed also differs from port to port. The Committee therefore tried to concretise all possible items of work that every port has to perform.

1.2.36 Based on the above, the Committee has listed out all possible, functions of each group and reflected it in the table at Annexe B-4.

1.2.37 The Committee recommends that the Chairman should be responsible for overall policy and also directly deal with :

(i) Planning & Research.

(ii) Management Information System.

(iii) Trade Development.

(iv) Vigilance.

(v) Internal Audit.

1.2.38 The Committee found that at present there is no clear line of demarcation of work between the Chairman and the Dy. Chairman. There was considerable discussion whether the Dy. Chairman should be the head of one of the functional groups of departments. **The Committee recommends** that the Dy. Chairman should also be relieved of the day to day routine matters to the extent feasible and made responsible for the following items of work specifically.

(i) All Operational matters requiring inter-divisional coordination.

(ii) Dock Safety.

(iii) Security.

For the ports other than Bombay, Calcutta and Madras, the Dy. Chairman should also function as a functional head for one of the groups of the Departments and represent it in the proposed Board of Management.

1.2.39 With the reduction in the number of members of the Port Trust Boards some users interests may not find representation. In some ports, the Daily Port Operation Groups are functioning with wide representation to user interests like Vessel Owners/Agents/Customs Agents, Stevedores, Trans port Operators, and Freight Forwarders, Importers and Exporters. The Committee hopes that such groups will be set up in all ports. They should meet daily and also once a week in the presence of the port Chairman to discusss and decide all operational matters. Almost all ports fall within the cities/towns which have either a Corporation or a Municipality or a Municipal Board. The port management must establish a close working relationship with these bodies so also with the State Governments. In all ports a representative of the concerned State Government is on the Port Trust Board. His services should be utilised for establishing proper rapport with the local planning authorities, the Corporation and the State Government. This should be the direct responsibility of the Chairman and the Dy. Chairman of the Port.

1.2.40 The Committee has referred earlier to paras 3.32, 3.33 & 3.34 of the Interim Report, which seeks to impart a new orientation and infuse a new work culture in the port administrations. The Port Trust Board will now be a small and compact body freed from involvement in day to day

operational and other problems. This responsibility will now devolve on a compact professional body called the Board of Management with Chairman and 5 members including Dy. Chairman (and in the case of Calcutta two Dy. Chairmen). These functional heads correspond to the groups given in the chart at Annexe B.4. The Committee wishes to suggest that the Board of Management for Bombay, Calcutta, and Madras may comprise 5 functional heads besides Dy. Chairman and Chairman and for the other ports the Dy. Chairman would be responsible for and represent on the Board of Management one functional group of departments.

1.2.41 The Interim Report has not specifically mentioned the designations of the 5 functional heads. The specific mention of 5 functional heads for Traffic, Engineering, Marine, Finance and Personnel would mean that each functional head would be responsible for a group of departments coming under that function. This is clearly spelt out in the chart at Annexe B.4. The objective behind the setting up of the statutory Board of Management was to create a top decision making authority comprising professionals to deal with all operational and connected problems arising in the port. These members will constitute the base of the highest management level and function as a joint deliberative and decision making authority and remain fully accountable.

1.2.42 A suggestion was made to the Committee, that the members of the Board of Management should be designated as Executive Directors (either recruited from outside or promoted from amongst the heads of departments) and made responsible and accountable for all the activities in their functional group. It was further suggested that, to begin with atleast, in the bigger ports like Bombay, Calcutta and Madras, the posts of Executive Directors may be created. This position would be distinct from and senior to that of the heads of departments. It was also suggested that for other ports the most competent head of department in the functional group may be selected as the divisional chief and made a member of the Management Board and given a special pay. This proposal invited serious objections, because it would create one more tier between the heads of deptts. and the Dy. Chairman/Chairman. The Committee therefore decided that one competent head of deptt. in each functional group may be made a member of the Management Board to represent his particular group functions, in addition to his own responsibility as a head of department.

1.2.43 If the Committee's recommendation for setting up of the Boards of Management is accepted, it will make for collective and quick decision making and achieve the following objectives.

(i) Inculcate qualities of leadership amongst the members to handle senior assignments.

(ii) Give a concerted thrust to the spread of training, improve management skills and promote professionalism.

(iii) Decentralise powers and authority with accountability.

(iv) Give Commercial orientation to the transaction of business, promote a new work culture and ease out bureaucratic procedures and practices.

CHAPTER – 3

CENTRAL PORTS SERVICE

The performance of a port ultimately depends on the manner in which the officers and staff are recruited, trained and provided adequate opportunities for career advancement and professional development. At present each port is authorised under the Major Port Trusts Act to recruit and appoint all Class I & Class II officers. They are given certain amount of in-house training. The officer remains not only in the same port, but in the same department almost all his life. Prospects of promotion differ from department to department. This does not lead to proper career development. Further, by his life long involvement with the problems of his particular port only, the officer imbibes a culture and ethos of that port whatever it is.

1.3.2 The Committee examined the question of a Central Ports Service Cadre in the background of the recommendations made by various committees including the Estimates Committee. The relevant recommendation appearing in the Twenty Eighth Report of the Lok Sabha (1985-86) reads thus:

The Committee agrees with the observations of the National Shipping Board that no amount of infrastructure planning and mechanisation will pave the way for modernisation of the ports if the management and the organisational structures are not suitably designed and oriented to achieve results in this sphere and therefore long term perspective plan should be drawn up for the purpose. The Committee considers that manning of the top level posts in the various major ports by the officers, drawn from IAS cadre alone, may not be conducive to the efficient functioning of the ports unless these officers have been working in the various ports for sufficiently long durations and have acquired the necessary acumen to handle the diverse activities of the ports. The Committee, therefore, would like the Major Ports Reforms Committee to whom the question of suggesting an efficient administrative set up for the ports has been referred, to review the present administrative set up in the ports in depth and suggest ways and means to tone up the administration. The Committee would also like the Government to seriously consider whether the setting up of an All-India Ports Service is feasible so that the experience and expertise in handling of ports could be pooled together and uniformity of approach in the administration of ports could be achieved."

1.3.3 The National Transport Policy Committee (1980) has also observed as follows:—

"Port Trusts are conceived primarily as autonomous bodies. There are, however, certain limitations to their administrative and financial powers. The procedural formalities, prescribed at present, also at times inhibit efficient operations at ports. Proposals for replacing or acquiring adequate share of handling equipments for instance have to go through a long process, thus effecting efficiency. We recommend that port trusts should be given greater freedom in establishment matters, purchase of essential equipment and contractual work programme, so that they can take quick decisions. This is essential for improving port efficiency".

1.3.4 The Estimates Committee (1981-82) in its thirty second report has in this connection observed as follows:—

"Port Administration, like Railways and Airport Administrations, is highly specialised affair for which professionals who are committed to and soaked in the port culture and are fully acquainted and have grown with the port's problems would be better suited to head the Port Trusts. Only when such an officer is not available from amongst the port services the question of inducting an IAS or other such officers from the general Cadre should arise. The Committee therefore, recommend that the appointments policy followed as far in this regard should be reoriented and a cadre of senior officers from among the ports services should be gradually built up to man all the posts including the posts of Chairman and Deputy Chairman in the Port Trust".

1.3.5 The Estimates Committee of the Lok Sabha in its 32nd Report has while reiterating the aforesaid recommendation also recommended in para 11.41 & 11.42 as under:—

"Some ports were experiencing shortage of trained and qualified personnel for manning essential services. Shortage was prominent among pilots, marine engineers and motor drivers (tugs). That the trained personnel were leaving whenever they got foreign jobs, this should be taken care of by a proper system of manpower planning. The Committee would like the Ministry to draw up a long term perspective of requirements and availability of trained personnel for port services and initiate an integrated plan of action to ensure that adequate personnel become available from year to year"

1.3.6 Port operations are a complex amalgam of a host of activities closely inter-twined to each other This work demands dedication on the part of those charged with the responsibility of securing the best possible interaction of available manpower and material resources. They must have the capacity to motivate and inspire not only their own colleagues and subordinates but also those belonging to other agencies with which the port managements have to closely and continuously interface. This generates the need for a high degree of professionalism which does not exist in the port set-up at present. An employee generally looks for a career not just a job. For any organization, career planning therefore is of crucial importance because it provides the direction, timing and sequence of steps to attain a specific goal. Career planing, in other words is a deliberate process of enabling the employee to become aware of self opportunities, constraints, choices and consequences. It is only through proper career planning that the employees will be able to identify career related goals, programming of work and pooling of developmental experiences.

1.3.7 It is towards this end that the Indian Ports Association prepared a comprehensive training scheme nearly 2 years ago, envisaging future recruitment in the various port disciplines in base line class-I posts in the pay scales of 1060-1980. The scheme envisages training for base line officers in the disciplines of traffic (operations), engineering, personnel and administration, industrial relations, finance & accounts for one year in the Indian Institute of Port Management, Calcutta or National Institute of Port Management, Madras. Initially the trainees would be given training for a period of three months in the Institute. For another three months they will be sent to various ports for familiarising themselves with port activities. This would be followed by a six months course of intensive training in one of the two institutes. After the completion of one year's training, the trainees would be put through an examination. Those trainees who come out successful would be assigned to the various ports which would appoint them to base line class-I officers posts for one year during the course of which their performance would be evaluated periodically. Subject to satisfactory performance, the trainee officers would be regularised in the service. The scheme also provided that those trainees who fail to pass the examination would be given a second chance. If they fail again they would be weeded out; those who succeed in the second attempt would be sent to the respective ports where subject to one year's satisfactory performance, they would be regularised.

1.3.8 The scheme had received the approval of the Government. It has been implemented only in Calcutta in a modified form. The trainees are recruited through an All India competitive exami-

nation. The Committee was informed that the scheme has shown good results. But somehow this scheme in its original or modified form, could not take off in other ports, because of the temporary ban on fresh recruitment meanwhile imposed by the Central Government which was applied also to cover supernumerary posts which the ports would have had to create to make up the pool. The Committee was also told that the ban apart, the scheme got delayed also because the recruitment rules of some ports did not specifically provide for selection of trainee officers and that the exercise involved in suitably amending the rules took time. This has by and large now been accomplished. If this scheme is put on the ground quickly, in the next two years or so each port will have the first lot of properly trained officers coming into it and at yearly intervals thereafter. Within the next 5 years the Committee visualizes, the number of trained Class-I officers in almost all important port disciplines would form a nucleus of professionals large enough to permit of any meaningful moves being made towards the setting of the Central Ports Cadre, provided at the same time, the other imponderables, to which a reference is made, in the succeeding paragraphs, would also have been removed.

1.3.9 The Committee recommends the centralised recruitment of all class I officers in accordance with the scheme outlined above. The next question is whether there should be a Central Port Service which essentially means mobility i.e. an officer should be liable to be posted to any major port on initial appointment or on transfer. Mobility from one port to another generally on promotion will give the officers an opportunity to widen their horizon and gain experience in different ports with varying operating conditions. In this process proper career planning would become possible and alongwith it the professional competence of such officers would also improve. A common cadre will help in ensuring upgrading of skills, improving professional and managerial competence by training and mobility and in instilling a sense of pride and belonging which will foster high morale and esprit-de-corps among all officers.

1.3.10 Taking all factors and circumstances into account and also having regard to the prevailing environment, the Committee has come to the conclusion that while it may be desirable to set up such a service and bring within its purview all officers belonging to or recruited hereafter to posts in all major ports in all disciplines, but that its constitution and composition may be limited to Class-I posts only. The Committee's considered view, however, is that the time is not opportune to constitute this service at this stage because:

(a) the policy for recruitment/promotion to Class-I posts in all major ports is not uniform:

(b) most of the Class-I officers manning the major ports at present were not exposed to any well conceived and co-ordinated programmes of training either at the stage of induction/ promotion or on job to enhance their managerial skills and capabilities with the result that they show widely varying degrees of perception of their role and responsibilities, strongly influenced by local work environment. This has also been dealt with in the chapter on training.

(c) even at individual port's level around which the policy of promotion/recruitment has largely revolved so far, career planning so very essential for building up a team of motivated officers, has been virtually absent.

1.3.11 The Committee suggests that a centralised agency should review at the appropriate time the manpower and training requirements and earmark facilities available in different ports and national institutes for particular category and types of courses. Every class I officer should be compulsorily subjected to four weeks refresher course of training in a particular discipline/activity area once in every 2 or 3 years. Short duration seminars and workshops on various subjects should also be arranged to generate a proper climate for dissemination of information and acquisition of new knowledge and skills. There should also be regular in-service training programmes for all officers from the rank of supervisors. This arrangement, while enabling the officers to develop their capabilities and competence, would facilitate the emergence of a viable management cadre. During service and particularly during refresher courses, the officer's work should be evaluated by performance audit system.

1.3.12 At present the Central Government has been vested with the power to appoint the Chairman & Dy. Chairman of all the major ports. The powers to appoint the heads of departments also vest in the Central Government. The Chairman of the major ports are empowered to make appointments for all posts below the level of head of department where the pay scale of the post does not exceed Rs. 3700/-. The Chairmen/Port Trust Boards are also empowered to create posts in existing categories where pay scales do not exceed Rs. 2430/-. However, the approval of Central Govt. is required in the following cases:—

i) Whenever any change is made in the designation of the existing category of posts in a particular Deptt./Section even though the same may be existing in any other Deptt./ Section.

ii) Whenever any change is made in the existing pay scales, fees and allowances payable to an existing category of employee in a particular Deptt./Section even though the same may be payable in any other Deptt./Section of attached to any other category of post in the same Deptt./Section.

iii) Whenever a new category of post which is not existing at present in a particular Deptt./ Section is created even though a similar category of post may be existing in any other Deptt./Section.

iv) Whenever it is proposed to give any new allowance or special pay to a category of employees which is not paid at present to him/her even though some other categories of employees may be getting such allowance.

The Committee strongly recommends that whatever may have been the justification for imposing these curbs on the authority and powers of the port managements earlier in the present context these are anachronistic and sooner these directions are anulled, the better it would be for all concerned.

1.3.13 The heads of departments in ports in relation to their importance to port functioning can broadly be classified thus:

a) Operating Departments — Traffic and Marine;

b) On-line Departments — Engineering;

c) Supporting Departments — Finance, Personnel, Industrial Relations;

d) General Administration — Labour, Vigilance, Medical etc.

1.3.14 The posts of Chairman and Deputy Chairman are at present filled from amongst port officers or officers drawn on deputation from other Central Services. In its Interim Report, the Committee has dealt with this issue and made some recommendations. Pending the setting up of the Central Ports Service the Committee suggests that all posts of heads of departments which may fall vacant hereafter may be thrown open for selection from amongst the eligible officers of all ports and the most suitable person selected at the Central level and appointed regardless of his parent port. This arrangement, the Committee appreciates, may be faulted on the ground that mobility at higher levels which may to some extent ensure would not be palpable and visible, because it leaves the middle level of management which really accounts for a major percentage of population of port officers in Class-I, untouched and that the underlying objective may thus be subserved marginally at best.

1.3.15 On the assumption that the Committee's recommendation for centralized recruitment to Class-I base line level posts would be accepted, the Committee deliberated on the question as to whether an officer inducted into service in accordance with the procedure outlined above, should be moved out of the port to which he is assigned on initial appointment:

i) after he has served that port for 4-6 years or

ii) after he would have reached the level of deputy head of deptt. in that port say in 14-15 years.

The consensus was in favour of (i) above, yet the Committee is refraining from making any definite recommendation firstly, because, for reasons explained earlier, the time is not opportune for the constitution of the Central Ports Service. Secondly, a good lot of preparatory ground work is needed so that this vital reform in port management gets integrated and internalized into the system. The Committee's fear is that without creating an environment in the ports conducive to the success of such an important reform, it may well fail and give rise to more problems than it is intended to solve.

1.3.16 In elaboration of para 1.3.14 of this Chapter the Committee also wishes to draw attention to Table-II below, which shows that in the ports of Calcutta and Madras the level of satisfaction in-so-far as housing for Class I Officers is concerned ranges from 19% to 28%. In the case of Bombay for both Class I and II, the percentage of housing satisfaction is 40 and in other ports the range is 23% to 100%.

TABLE—I

(1)	Total number of Class-I officers in all ports.	2364
(2)	Total number of heads of departments.	89
(3)	Total number of additional heads of departments.	6
(4)	Total number of base line Class-I officers in all Ports.	996
(5)	Total number of officers between the base line Class-I upto the level of additional heads of departments (both exclusive).	1273

TABLE – II : HOUSING

Sl. No.	Name of the Port	Ratio of Satisfaction	
		Class-I	all employees
1.	Bombay	40.08*	19.15
2.	Calcutta (1)	19.8	38.8
	(2) Haldia	80.8	36.8
3.	Madras	28.0	9.7
4.	Visakhapatnam	43.8	23.8
5.	Cochin	48.99	10.25
6.	Kandla	23.00	50.00
7.	Mormugao	100.0	28.16
8.	Paradip	100.0	41.54
9.	Tuticorin	67.2	27.2
10.	New Mangalore	85.0	34.0

Class-II also included.

1.3.17 Most of the incumbent officers in Class-I at least from the three ports of Calcutta, Bombay and Madras which between them account for 69% of the total population of Class-I Officers of all major ports, may not opt for induction because the sacrifices it will demand at personal/ domestic level will be too forbidding for them to venture into the unknown, so to say. Firstly because of uncertainty about housing, transport and children's education. Secondly, initially atleast, in the new work environment they may have to contend with several difficulties including that of establishing rapport with their subordinates, more particularly the work force because of inevitable communication gap arising out of their possible in-ability to understand and talk in their language. If, notwithstanding this, some officers do opt for induction, though their number, the Committee does not forsee would be large, it may turn out to be a one way exodus. The cadre would thus become unviable.

1.3.18 The next point is that even though the designations for jobs carrying identical nature of duties and responsibilities is, by and large, the same in all ports, historically the pay scales assigned to these posts have varied widely as will be evident from the illustrative table at Annexe—B5.

1.3.19 The rationale followed for structuring/restructuring the scales in different posts in the past was not the academic and professional attainments of incumbents but essentially related to the cargo throughputs and financial profiles of the concerned ports. The constitution of the Central Ports Service should, the Committee feels, be preceded by a comprehensive study of all aspects by an appropriate agency. Its formost task would be to impart conceptual clarity to the basic issues. How the pay structure should be designed? Whether it should be related to traffic volume/ financial profile of a port or the foremost criteria should be the extent of responsibility and the competence for the job. Understandably this would necessitate case by case examination of a large body of officers engaged on a particular job, their academic and professional qualifications with reference to their jobs and the extent of responsibility the jobs carry could be made the basic criteria for determining the pay scales. The study will also examine and suggest the modalities of the type of common examination, selection, recruitment etc. of Class-I personnel. If all ports are brought on a common denominator, it would augur well for the proposed scheme The Government will also have to address itself to the question whether engineering and marine officers should be encadred more so officers of the marine disciplines, because for example Calcutta Port's requirements as a riverine port are totally different from that of others.

CHAPTER 4

THE NATIONAL PORTS AUTHORITY

The question of the future set up of major ports of India has been examined exhaustively by the Estimates Committee of the Lok Sabha in its 32nd Report (1981-82), 41st Report (1982-83) and again in its 28th Report (1985-86). The recommendation appearing in the 28th Report (1985-86) para 1.30 is quoted below in extenso:

> "The Committee regret to observe that Government has taken a very low-key attitude towards the pressing need of establishing a Central Ports Authority to administer and coordinate the activities of all the Major Ports even though the Committee in their 32nd Report (1981-82) and 41st Report (1982-83) had strongly recommended the establishment of such an Authority. Later, the Bureau of Industrial Costs and Prices, who had been asked by Government to go into this question in February, 1982 and the National Shipping Board in 1983-84 and 1984-85 also supported the recommendation of the Committee and suggested the establishment of such an Authority. Instead of giving a positive response to the suggesttions made by the above boides, the Committee regret to find that Government has again chosen to refer this question to Major Ports Reforms Committee, thereby further delaying the establishment of such an Authority which has been considered by so many bodies to be so essential for the smooth functioning and development of the Major Ports in the country. While agreeing that some of the Major Ports like, Calcutta, Bombay and Madras have grown-up in their own historical settings, the Committee cannot but once again strongly recommend that a Central Port Authority is essential for better coordination and administering the Ports on the lines of commercial and result oriented enterprises. The Committee do not consider that the establishment of such an Authority will in any way hamper the functioning of the individual ports except to the extent necessaary for the purpose of overall planning for integrated development of ports. The proposed authority will also take over all those functions which are now being performed by the various bodies like National Shipping Board, National Harbour Board, Indian Ports Association etc. Now that this matter has been referred to the Major Ports Reforms Committee, the Committee would expect the Government to have the report of that Committee expedited and to take concrete action in the matter."

1.4.2 Paras 1.19 and 1.20 of the same Report which are relevant in this connection are also extracted below for reference:—

> "1.19 The Committee find that at present coordination of matters pertaining to ports is the concern of several bodies with varying compositions and overlapping functions. This is praobably because these bodies were created at different points of time with specific objectives in view which have either become blurred or have expanded with the passage of time. The Committee note with regret that the National Harbour Board on which all the maritime State Governments are represented and where their views get projected has remained more or less dormant for the last about 2 years. It met last in 1983. Conferences of Chairmen of all the major ports are being held once a year to discuss matters of topical interest. The Indian Ports Association (IPA) a society of major ports, financed by contributions from Port Trusts has caome to play a vital role in coordinating the working of the major ports. It is ironic that crucial matters like procurement of supplies, caonsultancy services, data banks, training of personnel, promotion of sports and perspective planning for Major Ports have been left by the Government to this Association. Incidentally, the Governing Body of the IPA comprises of Chairmen of all the

Major Ports Trusts. The Committee would like the Major Ports Reforms Committee, to whom this matter has been stated to have been referred, to go deeply into the question whether there should be a single statutory apex body to administer the major ports, or the existing system of management of each Major Port through a Trust and having many bodies, for coordination and providing common services may be continued. It appears to the Committee that the existing system of management of major ports is costlier, cumbersome and far from satisfactory".

"1.20 The Committee noted that the expenditure on the Indian Ports Association is mounting year after year. Whereas it was Rs. 26.20 lakhs in 1982-83, it jumped to Rs. 48.81 lakhs in 1983-84 and to Rs. 55.04 lakhs in 1984-85. For obvious reasons the Committee do not subscribe to the view that since the expenditure of the Indian Ports Association is being funded by the Ports themselves, there should be no limit on the expenditure incurred by the Association. The Committee would like the Government to examine as to what extent this expenditure could be economised without sacrificing the services provided by the IPA to the Major Ports, keeping in view the fact that expenditure on Indian Ports Association comes out of the earnings of the ports and naturally affects adversely the profitability of the ports".

1.4.3 In its Report for the years 1983-84 the National Shipping Board also examined this question and came to the conclusion that "most of our port development works have suffered and will suffer due to delays at different levels. The costs go up and the targets remain unattained. Yet no one is held responsible for this national loss". In its opinion the most important reason for this is the absence of a single organisation which could be entrusted with scientific planning, designing and implementation and further that the development of the major ports including some of the selected intermediate/minor ports cannot be seen in isolation and that without proper information, projection, study and planning wastage of precious resources and inefficiency of port management would result, and reduce the importance and utility of some of the major ports. It highlighted the imperative need to have a scientific national planning body for the development of all major ports and some of the selected intermediate/minor Ports. This body, the National Shipping Board envisaged, should have experts, usere, Ministry's/Departments of Commerce, Finance, Railways and the States to plan the requirements for the next two decades and provide for the best utilisation of the major, intermediate and minor ports by this Central Agency called the National Port Authority or by any other nomenclature.

1.4.4 The National Shipping Board, the MPRC wishes to point out, is an advisory body set up by the Central Government under the Merchant Shipping Act 1958, in exercise of powers under sections 4 and 5 of the said Act. The Board is required to advise Government on matters of general policy relating to shipping development and problems of general nature arising out of this Act.

1.4.5 The National Harbour Board is another advisory board set up by the Ministry of Surface Transport under the Chairmanship of the Transport Minister to advise Government on all matters of general policy relating to ports. The MPRC's information is that the National Harbour Board has not made any proposal/suggestion for the setting up of a unified ports authority.

1.4.6 The Bureau of Industrial Costs and Prices was commissioned to make a study by the then Ministry of Shipping and Transport on 10 major ports on a specific issue to study and suggest the need for fixing port charges at a reasonable level, in the interest of promoting exports and protecting the consumer on the one hand and for operating the ports as financially viable units on the other, and any other matter incidental thereto.

1.4.7 In the opinion of MPRC, while some reforms in financial management suggested by BICP are practical and, therefore, implementable, this cannot, however, be said of its recommendation about the future set-up of the major ports. The Bureau has recommended the constitution of a National Port Board on the lines of the Railway Board to manage and administer all major ports which, in its opinion, would lead not only to financial integration and interport financing/sub-

sidisation but also pave the way for interport transfer of competent personnel and resources, overall integrated planning for equipment and facilities, planned manpower development and deployment and other benefits. The report further asserts that this arrangement would not mean that individual ports would lose their independent identity as the zonal Railways in India have considerable freedom and flexibility and yet the overall planning vests in the Railway Board. These assumptions and conclusions have been examined elsewhere in this Chapter.

1.4.8 In deference to the wishes of the Estimates Committee and the Ministry of Surface Transport, the MPRC, has concentrated its attention on the examination of the Reports and recommendations of the Estimates Committee and the submissions made to it by the then Ministry of Shipping and Transport now Ministry of Surface Transport, from time to time. The M.P.R.C. has also studied the National Transport Policy Committee Report 1980 and its recommendation favouring the setting up of a unified agency for all major ports.

1.4.9 The MPRC has given its considered thought to this proposal. It is, however, not clear whether the proposed Central Ports Authority is visualised as:—

(a) a unified set up of all major ports or

(b) as a holding company with all the major ports as its subsidiaries.

1.4.10 The M. P. R. C. has therefore examined both the alternatives carefully and objectively in the succeeding paragraphs:

(a) THE NATIONAL PORTS AUTHORITY — AS A UNIFIED SET UP

1.4.11 Several questions arise, the first being whether merger is the answer to the myriad problems which confront the major ports today. Secondly, will the proposed merger lead to closer coordination, that at present, under the umbrella of the Ministry of Surface Transport. Thirdly, whether it will lead to optimal utilisation of the available resources. Fourthly, will it bring about all round improvement in efficiency and productivity. Lastly, will the envisaged set up, be the harbinger of change in the prevailing port environment which is not conducive to the growth of a commercial culture and outlook.

1.4.12 In the MPRC's understanding, the unified set up is favoured by some committees, firstly, because the present structure of management of major ports and its relationship with the administrative Ministry has not subserved the objectives, underlying the setting up of these ports, and that it has helped in perpetuating an environment which inhibits the emergence of a commercial culture and ethos, so essential for their efficient functioning and growth on modern lines. Secondly, professional management is lacking in the ports because they are largely manned at top levels by generalists with little experience' in or exposure to the complex problems of administering and operating the ports. Thirdly, the present arrangement has not resulted in evolving an integrated approach for coordinated development of major ports at the macro level. Fourthly, this arrangement is not capable of ensuring optimal utilization of available assets on the one hand securing balanced development of all ports and their hinterlands on the other.

1.4.13 The MPRC considered it necessary to gather the experience of other enterprises where this arrangement may have been tried. Such a study, it felt, would be meaningful only if it is related to any industry or industries in the service sector. The Committee, therefore, examined the organisational structure and functioning of the International Airports Authority of India and the Railway Board.

1.4.14 The International Airport Authority was set up under the International Airports Authority Act, 1971 A perusal of the Act makes it clear that the Authority comprising Chairman, Vice-Chairman and members has been vested with powers to lay down the operating, financial and

developmental policies for the four International Airports viz., Delhi (Palam), Madras (Meenambakam) Bombay (Santacruz) and Calcutta (Dum Dum) and secure the execution of these policies through its ground level functionaries who have no direct say however, in the formulation of policies in any area. The Act further shows that the Central Government has reserved to itself the powers, which it exercises through the Department of Civil Aviation, of overseeing the functioning of this Authority.

1.4.15 The only similarity that the MPRC can, find between the major sea ports and the International airports in the country is the location specific nature of their services. The services rendered by the international airports are however oriented to and cater largely to passenger traffic. The facilities and amenities for passengers are universally standardised, whereas in major ports there is no such standardisation, except to a limited level in the national context. The volume and variety of air cargo handled by the international airports is not very significant. Compared to this, major ports handle enormous volumes and types of cargo traffic. A unified authority, therefore, for the airports may be in a better position to respond to the passenger needs whereas in case of major ports, centralization, because of the varied and diverse nature of operations and user requirements, may not be very meaningful.

1.4.16 The Railway Board, on the other hand, which has been in existence since 1906, is a body entrusted with all powers and functions of the Central Government by virtue of Section 2 of the Indian Railway Board Act 1905 and charged with the responsibility of management, administration and development of the National Railway network. Unlike in the other case, there is no middle tier between the Railway Board and the Minister to whom the Railway Board is directly accountable.

1.4.17 It is worth mentioning that a large proportion of railway assets comprise passenger coaches, freight wagons and locomotives which are mobile and can operate from one end of the rail transport system to another, to meet traffic demands. This flexibility in the untilization of assets, however, is not available in the case of seaports. The infrastructural and superstructural facilities installed in the ports are dedicated and location specific. Secondly, the Railway's work load in passenger sector is significant for which the requirements are more or less standardised, the operating rules and regulations are uniform and there is ample scope for optimizing the utilization of assets. In contrast, the seaports do not have this flexibility and their performance is influenced by a host of exogenous factors. Thirdly, the railway's set up has been, historically, unitary in character. Even during the Company days, the Indian Railway Conference Association used to coordinate the inter change of rolling stock and regulate the utilization of assets etc. In the ports which have historically grown as autonomous entities, this type of coordinating machinery is inconceivable nor is the pooling and common management of assets feasible. Fourthly, the ports have been rendering service largely to their geographical and economic hinterlands. The traffic pattern and the facilities of the ports have been varying widely from one port to another. This is not so in the case of Railways. Lastly, the staffing of the railways has been cosmopolitan and governed by a standard set of unified rules and procedures. As against this, each major port is having its own set of rules and practices strongly influenced by the local economic and social environment. Consequently the port personnel are not cosmopolitan. The two organizational set ups of the Railways and ports therefore, do not lend themselves any meaningful comparison.

1.4.18 (b) **A holding Company with all major ports as its subsidiaries**

While the unitary company concept is the common form of organisation in India, holding companies with certain differences are however operating in a number of European and other countries. The Combine, for example in G.D.R., which is the basic ecortomic entity in that country, is a special form of holding company.

1.4.19 In holding companies, Government's interface takes place at the level of the board. The Government sets the goals and targets for the company and periodically reviews the performance. The administrative responsibility for monitoring performance of the various subsidiaries lies with the holding company and not with the Government. The result is that the individual enterprises

become functionally more autonomous and their accountability is defined more in terms of day to day operations or decisions. The performance evaluation of an enterprise, however has to be commensurate with the overall goals and objectives as set out. This is done through deliberations between the holding company and the administrative Ministry. The goals may be set for each enterprise or for the holding company on annual basis, if necessary. If more than one objective is to be fulfilled relative prioritizations has to be made. These are set out in a contract or a Memorandum of Understanding between the particular enterprise or the holding company and the concerned administrative Ministry. The contract/MOU will form the basis for the business plan or the corporate plan of the enterprise/holding company and the performance is evaluated with reference to it. The administrative Ministry has also to fulfil certain obligations under the contract. This is the essence of the French Model. The Sen Gupta Committee has also reportedly recommended a somewhat similar pattern.

1.4.20 In favour of the holding Company, the Committee was told that:—

(a) If the goals and objectives of each enterprise are clearly defined, Ministry's direct interference in day-to-day operations would be reduced and it would be left to deal with the holding company which in turn would take over the responsibility for coordinating and monitoring the performance of its subsidiaries.

(b) the holding company would be in a better position to envolve a set of indicators for the evaluation of its own performance as well as that of its subsidiary units and the prevailing confusion about autonomy and accountability thus largely eliminated.

(c) the holding company would usher in competitive work environment in ports and with the help of the administrative Ministry succeed in achieving its set goals of profit and productivity with the assurance that the predetermined inputs would be made available by the Government within the stipulated time frame. The Company would in turn set corresponding goals and targets for its subsidiaries and judge their performance with reference to the clearly defined responsibilities.

1.4.21 The MPRC also examined the legal, organisational and operational structure of the General Insurance Corporation of India which is a holding company with four subsidiary companies.

The main objectives gleaned from the constitution of the GIC are to supervise and control the business of the general insurance, aid, assist and advise its subsidiaries in setting up the standard of conduct and sound pracitce in the matter of general insurance business, rendering efficient service to policy holders, to advise the subsidiaries to control their expenses including the payment of commission, to provide for common service and investment of their funds and issue directions to the subsidiary companies in the conduct of their business.

1.4.22 The Corporation has also been given the right of directly transacting business relating to crop insurance and aviation insurance and act as a reinsurer and receive 20% obligatory cessions in respect of all business transacted by the subsidiary companies.

1.4.23 While the Chairman and the Directors of the GIC are to be appointed by the President, the Directors and CMDs of the subsidiary companies are to be appointed by the Chairman of the GIC with the prior approval of the Government of India. The Memorandum and Articles of Association of the GIC and also that of its subsidiaries show that:

(a) while the GIC is left to formulate policies within the operational areas entrusted to it as indicated above and also for the subsidiary companies, it has freed the subsidiaries from day to day interaction with the concerned administrative ministry;

(b) between them, the GIC and subsidiary companies hav freedom to decide upon the investment of their funds and also other related fiscal matters;

(c) the President and the Central Government have been vested with powers regarding appointment, removal etc. of the Chairman, GIC and its Directors and of the subsidiary

companies and also for fixing their remuneration, perks etc.

1.4.24 This model could also not be made the basis for restructuring the major ports. Firstly, MPRC visualises serious legal and administrative problems in its application to ports which have close interdependence qua the quality and cost of service levels of international ports and shipping. This is not so with the GIC or its subsidiaries. Secondaly, the port services, unlike insurance, are a compound of number of activities not wholly within the control of the port managements. Thirdly, since each port has a defined geographical and economic hinterland as indicated elsewhere, the port managements require considerable freedom to take spot decisions.

1.4.25 The Committee is unable to advocate the holding company concept with all major ports as its subsidiaries. Unlike the Railway Board the holding company cannot act as a Government. In other words the administrative Ministry/Department will continue to remain on the scene as of now, unless of course there is a radical structural change in the existing relationship between the Government and the major ports or the holding company. This is however not in sight. The Government's reluctance is understandable. Our polity is a functioning democracy with a written Constitution, parliamentary in character, with the Cabinet as its executive instruement. It has to remain answerable to Parliament for its actions and decisions. As pointed out in the Chapter on Financial Management also Government's interaction with ports is close qua the National Five Year Plans and the Central Budget. Under this system it is difficult to conceive of a scheme which can help maintain the existing level of autonomy of the ports.

1.4.26 Other problems apart, the major casualty in a centralised system would be the quality and level of user staisfaction which is the raison-de-ter of all ports world over.

1.4.27 The first task therefore, for the MPRC is to impart conceptual clarity to the subject proposal, keeping in view the goals and objectives of the major ports in India. The Committee has no illusions that the port enterprises can, if at all, to a very limited extent, be given a level of autonomy different from that of other public enterprises, whatever their organisational structure may be. As for the major ports, so also for other public enterprises, in the transport sector and other sectors of the economy, the Government and the public enterprises interaction has to be seen in the latter's close nexus with the aims and objectives of the successive Five Year Plans and the instrument of budgetary control. The ports or the proposed National Ports Authority will apparently, therefore, not be allowed to view their needs and demands in isolation of the national economy and its aspirations. It bears mention here that the performance of ports has been judged so far more in terms of simple operating and financial indicators than in terms of efficiency, technological upgradation and level of service. This somewhat lopsided evaluation has at times produced contrary results in that while cost-plus tariff for certain activities in some ports has resulted in profits, it has also simultaneously shown a decline in productivity levels.

1.4.28 The Committee's own study and examination of the various view points, voiced before it, has served to highlight the deficiencies which deserve to be mentioned to facilitate an objective understanding of the situation. The port proposals, at least the important ones, are invariably delayed. The quality and examination of the proposals is capable of improvement.

1.4.29 The Committee suggests that the Ministry of Surface Transport may conduct a study to find out as to how for its own approach and philosophy has remained oriented towards the achievement of the perceived goals. Secondly, where delays have taken place their impact on the ports image, the quality and level of service to port users and on port's financial health, should also be examined.

The system of reviewing and monitoring the performance of ports by the administrative Ministry, the Committee agrees, has over the years so evolved as to become indistinguishable from that of administering them. This is inherent in the system itself which is pronouncedly status quoist. As the Committee had occasion to point out earlier, in its Interim Report any attempt to exercise rigid control over the ports not only erodes their autonomy but also destroys the basis of accoun-

tability. The Committee was also told that the Ministry of Surface Transport s intervention in the name of accountability, suo moto or at the instance of any other agency, is incompatible with the autonomy envisaged under the statute. The Committee does not subscribe to this view. There is no incompatibility between the two and what really brings them into conflict is control. There is a great deal of unanimity amongst the modern management experts, that stricter the control the less accountable the management of an enterprise becomes. Where port managements in disregard of the authority vested in them by the statute, are made to conform to the directions of Government, they cannot ipso facto be made accountable for any failure in achieving the goals, nor can they be expected to respond with foresight and alacrity to technological changes in shipping or anticipate other envents and make preparations for meeting them. However much one may wish otherwise they will be seen to stumble from Crisis to expediency and back to crisis again.

1.4.30 Another complicating factor is the philosophy and the scheme of the Major Port Trusts Act itself. It revolves round control and regulations and no where explicitly states that the ports basic objective is service to its users. No wonder, the thinking and actions of the administrative ministry and the port management alike are oriented more towards exercise of authority rather than providing service. The Committee feels that if the service aspect is properly highlighted, it would influence attitudes positively. Without this change the Committee sees very little prospect of the port managements shedding their traditionalism in favour of modernism so very essential for rendering efficient service.

1.4.31 The apparent advantages a unified set up is likely to offer, in the Committee's view, would be more than offset by the problems it will throw up. The principal among these being integration of the personnel of all major ports. While it is true that salary scales for all cadres and workmen have been standardized, the various allowances that go with them, however, vary widely; so also the work norms, incentive payments etc. in the middle and senior hierarchy of port administrations also the facilities and perks of the officers are not uniform. Attention is also invited to Chapter 3 of this section on Central Ports Service where this aspect has been discussed. The fall out of the unification therefore, in respect of allowances, perks and work norms alone would be enormous. Under a unified set up, the facilities and perks available at one port would inevitably be demanded by the personnel at the other ports. It would also generate the demand for rationalization of work norms. In a highly unionised port sector, the work norms most favourable from the workers point of view, howsoever delecterious their cosequences on productivity at macro level, would be demanded. The perceived advantage of a unified setup by way of better coordination, usage of port facilities and equipment etc. may thus prove ephemeral because each major port is permeated by a socio cultural environment of its own. Any attempt at the fusion of these different cultures into a social milieu may give rise to clash of cultures. Its consequences on the economy would be adverse. The Committee is not convinced by the argument that the replacement of Port Trust Boards simultaneously by an advisory board with almost identical composition to aid and advise the Chief Executive of each port, by whatever designation he may be called, would mitigate this possibility.

1.4.32 The decision will also be difficult to defend on the ground that the proposed Authority will be better placed in any way to ward off the temptation of extracting better prices for the services eliminating rather than promoting the inefficiency of some of the units. There is no knowing also that the healthy units may find their growth aspirations snapped by the need to succour their ailing brethern. This points to the need for a cautious approach. In the Committee's view the PDF concept proposed by it marks the first step towards integration. Unless this reform gets internalized, superimposing a unified set-up over the ports, may prove counter productive.

1.4.33 The assumption that a unified authority will strengthen the management and help the units to become economically viable is somewhat far fetched. Generally bigger the organisation, more difficult it is to manage. Even if this does not turn out to be so in the instant case and the proposed Authority is set up and the administrative Ministry given continued and final say on

major and minor issues of policy as of now, the Authority's major pre-occupation would really descend to the level of monitoring and overseeing day to day functioning of the ports. The unified authority with all the organisational apparatus, will in effect thus only become yet another tier between the Government and the ports.

1.4.34 The major ports of India, like in most other maritime countries, were conceived and designed to serve primarily their own geographical hinterlands. The demand for port services, as indicated earlier also is location specific. The traffic to a port from outside its hinterland is attracted to it by the level of availability of other infrastructural facilities like road, rail and waterway linkages and the level of availability of supporting services of vessel agents, stevedores, C&F agents etc. A typical example is that of Bombay Port which has been handling traffic for the last many years in certain commodities far in excess of its designed capacity. It is not that the shippers, the importers and vessel owners are unaware that in Bombay they may have to contend with relatively serious problems like congestion, delays in berthing, cargo handling and documentary hangups et al. They prefer nevertheless this port, because it offers at the same time, a host of compensatory advantages locational and otherwise which more than off-set the disadvantages.

1.4.35 The Committee found it necessary to allude to this because quite often absence at macro level of any efficient institutionalised mechanism for rational allocation of import and export cargoes and regulation of vessels to major ports is blamed for serious imbalance in the demand and supply of port facilities. It must be said in fairness that the Ministry of Surface Transport has evolved an institutional mechanism for rationalised distribution of import cargoes, brought by or on Government account, and it is by and large working well. It is difficult to imagine how, given the dynamic nature of variables involved, the present port managements or even a unified authority can resolve this imbalance wholly or even significantly. The problem of mismatch between demand and supply of port facilities is not unique to India's major ports only. Even in the ports of developed countries, demand supply equation is rarely in balance. It bears mention that cargo imported on Government account, other than POL which represents more than 46% of the aggregate annual cargo throughput of major ports, does not even represent 30% of the residual traffic. Obviously, the large volume of import/export traffic, moving through the major ports on private account, cannot be brought within the purview of this institutional mechanism because in making their choice of the ports of call the shippers and importers make their own cost benefit analysis.

1.4.36 While reiterating its concern, however, about the imperative need to rid the major ports of their existing deficiencies both in the areas of management as well as operations and development the Committee strongly feels that even in the existing set up, without a middle tier in between, the relationship between the ports and the administrative Ministry can be made more business like. The port users and the port managers who appeared before the Committee also emphasized the need for building up professionalism in the ports, speeding up the decision making process at the ports and Ministry and for inculcation of a commercial culture and ethos. No doubt some misgivings were expressed to the Committee about the administrative Ministry shedding its bureaucratic approach at least till such time as the need for this reform finds greater recognition across the board at the governmental level. The series of bold and imaginative fiscal, financial and administrative reforms initiated over the last two years or so by the Government, which have generated positive impluses in the economy, inspire the hope that this recognition would be forthcoming adequately and soon.

1.4.37 The Major Ports Reforms Commission 1970 which had also examined this question perhaps for identical reasons came to the conclusion that it would be desirable to leave the Port Trust Boards as they stand constituted at present.

The Committee is therefore inclined to the view that there is no compulsive need for any radical change in the existing structure of major ports and the Administrative Ministry though a review of their relationship is called for.

1.4.38 Introduction of an additional tier in the shape of a holding company or an Authority is also not warranted. In this context the Committee has taken note of the Arjun Sengupta Committee's Report and the Jha Committee's recommendations for restructuring the management of public sector enterprises. Note has also been taken of the Government's reported decision on two important recommendations of the Sengupta Committee for greater autonomy to public sector enterprises in the context of the Parliament's right for information and evaluation of performance of public enterprises as per present practice.

1.4.39 Elsewhere in this Report on financial management, the Committee has suggested some reforms and also endorsed in principle the proposal for constituting under a phased programme a common port cadre. The Committee in its Interim Report has also, while maintaining the need for continued representation to the port users on the Port Trust Boards, suggested certain structural changes, which the Committee hopes Government would consider objectively.

1.4.40 In the background of the above, the Committee's considered view is that the Major Ports can play their assigned role with the suggested changes and reforms, provided the ports wing in the Ministry is reconstituted.

1.4.41 The Committee therefore recommends that the ports Wing of the Ministry may be augmented by inducting four senior and experienced port officials representing traffic, marine, engineering and finance disciplines. These professionals may be brought on deputation from the major ports at the level of Deputy Secretaries/Directors for a period of five years. This in effect is an extension of the principle already accepted by the Government while setting up the Development Advisers Wing.

1.4.42 The Committee further recommends that a Major Ports Development Board may be set up in the Ministry with the following composition:

Secretary, MOST	Chairman
Addl. Secretary, MOST	Vice-Chairman
Financial Adviser, MOST	Member
Representatives of the Ministries of Finance, Commerce and Railways	Member
Three Chairmen of major ports by rotation	Members
Two eminent outside professionals	Members

Joint Secretary (Ports) should be the Member Secretary.

1.4.43 The Major Ports Development Board should be responsible for:

a) over-all planning and integrated development of all major ports;

b) investment decisions;

c) securing optimal utilization of manpower and other assets;

d) coordination with Planning Commission and other Governmental agencies;

e) management of the Port Development Fund and

f) evaluation/appraisal of all ports projects.

1.4.44 The Ports Wing as reconstituted, should serve as the secretariat of the proposed Major Ports Development Board.

1.4.45 In the Committee's view this arrangement would have two fold advantages in that it will not affect the operational autonomy of the ports and in due course of time, the ports Wing of the Ministry would build up the perspective, skills and the expertise needed for policy planning in respect of major ports. By the very

nature of their operations and interface with international shipping, port proposals demand appraisal which is sensitive, quick and meaningful. The proposed board would help and guide the port managements and in the process make them clearly accountable for their failures if any, in achieving the goals and targets that may be set for them by the Government.

CHAPTER 5

INDIAN PORTS ASSOCIATION

Attention is invited to the extracts from the 28th Report of the Estimates Committee of the Lok Sabha (paras 1.19 and 1.20) which have been quoted in the preceding Chapter. The Committee has desired the MPRC to examine to what extent this expenditure could be economised without sacrificing the services rendered by IPA.

1.5.2 MPRC has examined the IPA's Budget and Expenditure statements (1982-86). All its expenditure is met by the Ports. Its net expenditure was Rs. 26.20 lakhs in 1982-83, Rs. 45,81,550 in 1983-84, Rs. 55,04,150 in 1984-85, Rs. 72.61 lakhs in 1985-86.

1.5.3 A detailed analysis made shows that the major items of expenditure for four financial years both capital and revenue was accounted for by the two Institutes of Ports Management (Calcutta and Madras), computer installation and provision of infrastructure including maintenance software etc., Major Ports Sports Control Board and Guest House etc.

1.5.4 The IPA, the two training institutes of Calcutta and Madras and the sports control board have benefited all major ports immensely. If IPA had not been on the scene, this volume of expenditure or even more would invariably have been incurred by the major ports individually; IPA has managed it with much less. The location of the central computer facility in IPA, is much more advantageous.

A national data bank has been set up which caters to the needs of the ports, the Ministry and other Governmental agencies. It has built up an excellent referral library and the quarterly journal the 'Indian Ports', which the IPA publishes is widely read in India and abroad.

1.5.5 The IPA has built up expertise and competence to undertake perspective planning. Its preparation of master plans and specific studies entrusted to it by ports or the Ministry is of high quality. If these studies had been entrusted to private consultants, the costs would have been high and the quality inputs not comparable.

1.5.6 The Central Purchase Coordination Committee ensures supply of quality goods at competitive prices. It also makes for scale economy gains. The Committee is headed by a Chairman of one of the major ports. He is assisted by port professionals from finance and stores disciplines as its members.

1.5.7 The IPA's budget is approved by the Governing Body of the IPA of which Chairman of all the Major ports are members. The Chairmen have full freedom to decide what activities IPA should undertake. Its expenditure is audited by an experienced Chartered Acctt./Financial Adviser of one of the Ports.

1.5.8 The Estimates Committee had also observed that IPA is coordinating the working of Major Ports in crucial matters like procurement of supplies, consultancy, promotion of sports and perspective planning. The MPRC realises that all these are important areas which concern the major ports vitally. It cannot be denied however that for balanced and coordinated growth of the major ports such advisory assistance as IPA provides to the ports and Govt. is absolutely necessary.

1.5.9 To sum up, the MPRC's conclusions and recommendations are that —

IPA is a well run association dedicated to the ports industry generally and major ports particularly;

— its funds are regularly audited and there is no wasteful expenditure;

— it has established collaborative arrangements with a number of similar national and international organisations like the British and Canadian Ports Associations, IAPH etc. Their close interaction helps in keeping the ports abreast of technological and other developments;

In view of the expertise IPA has built up it should function as a technical consultant to the proposed Major Ports Development Board and the Ministry of Surface Transport.


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SECTION – II

FINANCIAL MANAGEMENT, COSTING

&

PRICING OF PORT SERVICES

SECTION II

FINANCIAL MANAGEMENT AND COSTING AND PRICING OF PORT SERVICES

CHAPTER I

INTRODUCTION

One of the terms of reference of the MPRC was to make suitable recommendations regarding "the funding pattern and the policy to be followed for investment of any surpluses generated in the port sector."

2.1.2 Almost all our Five Year Plan documents and industrial policy resolutions focus attention on the importance of obtaining a reasonable rate of return on investments in the public sector and promoting the concept of self-financing. The Sixth Five Year Plan advocated a 10% rate of return on investment by the Public Sector. In reality the returns were far below the norm. This expectation also rings through the Seventh Five Year Plan document which lays emphasis on generation of internal resources, improvement in efficiency and productivity. Even the National Commission on Labour while accepting the need for strengthening the internal resources base of the public enterprises for financing their developmental programmes, has recognised that the new emphasis on generation of resources would necessitate reorientation of the approach to the workers' welfare programmes. Quite recently, the Economic Administrative Reforms Commission has reportedly urged the Government to lay down principles for determining financial and economic obligations of each enterprise, creation of reserves and responsibility for self financing.

2.1.3 The latest Industrial Policy paper published by the Planning Commission in elaboration perhaps of what appears in Chapter 7 of Vol. II of the Seventh Plan document, while reiterating the view that the public sector should continue to occupy a central role in the strategy for economic development has however, cautioned that this sector will not be allowed to operate under a soft budget option. Simply put this means that Government is no longer prepared to burden the central exchequer with the liability of financing assets formation in public sector companies.

2.1.4 The 7th Plan provides for generation of surpluses of Rs. 35,000 Crores by the central public sector. That the investment target is crucially dependent on public sector enterprises generating more surpluses needs no emphasis. Every fourth rupee that the Government will invest in the 7th Plan will have to come from public sector enterprises. Should these enterprises fail to generate the surpluses, not only will the planned investments not materialize but the process of development may well be jeopardised. Against a total investment of Rs. 43,000 Crores in these enterprises, even a 10% return will yield Rs. 4,300 Crores which is almost 75% of the 1986-87 budgeted revenue estimates from Income Tax and Corporate Tax. This is a formidable task

indeed. Its achievement is contingent upon the willingness of those concerned to address themselves to the basic issues Viz:—

- upgrading management efficiency, effectiveness and accountability.
- careful choice of areas for investment.
- speedy completion of projects.
- cost control and plugging of wasteful expenditure.
- appointment of competent people as heads of undertakings.
- non-interference by other agencies in operational areas.
- realistic pricing policies for products and services and safeguarding against managerial inefficiencies being passed on to users through higher prices.

2.1.5. An analysis of the financial performance of the major ports for the last five years shows that depreciation was a major source of generation of internal funds. The Bombay Port largely and to a lesser extent Calcutta and Madras ports, have been generating surpluses from oil revenues, demurrage earnings and estate rentals. Since profitability of an enterprise has a direct bearing on its growth, the somewhat poor resource generation by ports, seen at macro level reflects adversely on thier financial performance. It bears mention that only a profitable enterprise can find it possible to plough back at least some, if not whole, of its profits. An enterprise with a good track record can confidently tap the capital market for bonds/debentures.

2.1.6 The analysis further shows that the ratio of net profits to net capital employed is low. Consequently, the ports do not generate enough resources to service their loans and replace depreciated assets.

2.1.7 The major ports failure to achieve a reasonable rate of return can, to an extent, be traced to delayed investment policies or managerial failures to ensure optimal utilisation of assets or other adverse factors outside the control of the port managements.

2.1.8 The Major Ports, the Committee strongly feels, like other public and private enterprises, should be enabled to raise funds both internally and externally. Internal source of funds for major ports are reserves, surpluses and provisions; the external sources would comprise funds raised by open market borrowing. The facility of cheaper form of borrowing is already available for infrastructure projects-power, water supply etc.

2.1.9 If self financing is made an important parameter of efficiency in the major ports, generation of adequate internal resources may become possible. The problem of raising internal resources however is as closely associated with the pricing policies of a port as that of its operational efficiency. The Committee was repeatedly told that even with the given level of operational efficiency, the financial performance of ports would have been much better than it is, if rate revision proposals had not been subjected to varied examinations at various levels as they are, with inevitable delays. The Committee on the other hand, was also told, and there is substance in it, that

delays in clearing rate revision proposals largely arose out of the ports inability to back up such proposals initially with full justification. The cost of services is generally high because cost of such assets as invite taxes and duties, gets inflated. This should not be construed to mean that Government should not insist on a proper study of the socio-economic implications of port pricing proposals and more particularly to satisfy itself that the proposals are based on optimal level of efficiency and aim at recovering the long run marginal costs/normative costs and at the same time insulate the users of port services against demands arising out of organisational inefficiencies.

2.1.10 In the major ports, and this is in fact true of many public enterprises, prices are now determined on the basis of historical costs and one important element in it is the cost of resources consumed in the process of providing a given service. In the Committee's considered view, this cost should reflect the current price levels and not those ruling when the equipment facility was originally installed.

2.1.11 Due to persistent inflation in the economy the provision of depreciation on historical cost basis and write-off of the value of the assets over its economic life is somewhat outdated and this straight line method or diminishing value method, by whatever name it is called, needs change. If the method of providing depreciation on replacement cost basis is adopted the price of the service can be more realistically determined. The Committee is aware that by restructuring the port pricing policies on the lines indicated the ports may invite criticism that they are indulging in profit making. The Committee sees no escape from it, in view of the renewed thrust of Government policy on all public enterprises generating their own resources for development and growth and its own conclusion that even as a service industry, the ports should be run on commercial principles. This implies that ports will be required to operate in a competitive environment and remain subject to interplay of the forces of free market mechanism.

2.1.12 The three important elements which make up the revenues earned by the major ports are:

1. income earned from supply of services to port users including port railways;

2. demurrage charges recovered for default in clearing cargo by the consigness within the prescribed time schedule; and

3. Estate rentals and leases.

2.1.13 To study the various financial and cost aspects a Working Group on Financial Management and Costing and Pricing of Port Services was set-up. The composition of this is given in the Interim Report Submitted by the Committee to Government in Oct. 1985. The Group, and later on the Committee, studied various reports such as the Report of the Working Group on Ports for the Seventh Five Year Plan (October, 84); Study of Ten Major Ports, Bureau of Industrial Cost & Prices (February 1982); Simplification and Rationalisation of Port Procedures etc. (August 1984);

the Annual Reports of the Major Ports. The statistical data and analysis of port operations made available by the data bank of the IPA were also carefully considered.

The study and the recommendations have been incorporated in three main chapter—Financial Management; Costing and Pricing of Port Services and General.

CHAPTER 2

FINANCIAL MANAGEMENT

Viability Criteria for Ports

(a) Ports are essentially service organisations meant to facilitate imports and exports of the country. Nevertheless, they should be run on commercial lines. It is essential that ports function as economically viable organisations. They must operate at acceptable levels of efficiency and productivity to generate surpluses which would be at least 12% of the capital employed. This surplus should be arrived at after providing for all working expenses including social obligations and depreciation on replacement cost basis. It is also essential to ensure that the surpluses so generated are not only sufficient to meet the debt servicing obligations of the ports but also take care of thier developmental needs.

(b) However, it must be stressed that viability and adequacy of return on investment should be ensured on the basis of rates and tariffs which are competitive with other ports in the country and also with the ports in the region. While this criteria should hold in all cases, for assessing new projects as also items of major capital expenditure, there could be some exceptions. For instance, proposals or projects for acquisition of major items/equipment essential for efficient functioning of a port should not be overruled just because they do not meet the viability criteria per se, so long as the overall operations of the port, even after the execution of such projects, meet the viability criteria.

2.2.2 The Committee is also strongly of the view that the Government should seriously consider waiver of customs and excise duty on all equipment acquired for use within the ports. This is in line also with the recommendations of the Directing Group appointed by Govt. and the decision of the Empowered Committee on this report. This matter has assumed added urgency firstly because as indicated in Section IV, Chapter 4 of this Report, the ports cannot undertake any worthwhile programmes of modernization with ever mounting inflationary costs. Secondly, the users are seen to be increasingly resisting payment of charges for the use of specialized equipment services like container systems based on economic costs. More particularly the shippers fear their products getting out priced in the international market. This inevitably reduces the usage of such equipment below viability levels, forcing port managements to go for cross subsidiation.

2.2.3 **Investment Policy**

The ports should undertake only such works/projects which are commercially viable to produce an adequate surplus. The following broad guidelines may be observed:

(a) Replacements, renovation and modernisation must take precedence over expansion/ additions.

(b) Pending approval of a scheme or project, there should be no piecemeal approval of any component works of that scheme or project by any authority lower than the authority which is competent to approve the scheme or project.

(c) Investments in tied or captive projects/schemes/works fall largely under two categories:

(i) Facilities set-up at the behest of any governmental agency exclusively or very largely for its own usage. In such cases it would be only fit and proper that the entire capital outlay thereon should be undertaken by the agency at whose instance the capital

expenditure has been incurred. As the capital expenditure will be undertaken by the user agency the latter would have the right of first preference to use the facilities. In fixing-up the rates for the use of these facilities due regard should be taken by the port of the fact that funding has been done by the user agency. In any case the rates should be so fixed that the ports recover slightly more than the direct costs plus overheads.

The ownership of the facilities so created will devolve on the ports at the end of their economic life which could be mutually arrived at and fixed in advance. If such facilities are rented or leased out to users other than those who have financed these, the financing agencies concerned should be suitably reimbursed.

(ii) Projects undertaken purely on the basis of projections of imports and exports made by third parties in which the ports really do not play any part — For instance, port facilities have been created for export of iron or manganese ore on the basis of projections made by MMTC, Ministry of Commerce and the Planning Commission. In making these investments ports have little opportunity of exercising their own commercial judgement. In any case the final projections for exports and imports are made by the user agencies, viz. MMTC, Ministry of Commerce and the Planning Commission. The question arises as to who should bear the burden of losses in case there is underutilisation of such investments.

This issue has much wider implications. Execution of integrated projects involve investments in other sectors also, viz. stepping-up the production from mines (NMDC), creating rail transport capacity (Ministry of Railways), creating shipping capacity (Shipping Corporation of India) etc. in addition to creation of port handling capacity by the ports. It would be unfair to make the ports (and other sister organisations) suffer financially for the over optimistic projections made by a third party or for the under-utilisation of such investments. Hence in the case of integrated projects, falling in this category, the responsibility for such losses should be squarely placed on the organisation(s) which has/have failed to fulfil the obligations which formed the basis of the projections, viz. either the quantum and/or value of exports projected. Unless this is done there will be no realism into planning by the user organisations because they may have no investment of their own at stake. It is suggested that there should be in-built guarantees and penalties in such integrated projects in which a number of organisations have to coordinate to ensure that they execute their part, as envisaged in the project report which forms the basis of investments in various sectors. A suitable mechanism should be devised for assessing such penalties. It would be logical that such organisations should compensate the ports for losses sustained both by way of additional investments and running costs resulting from slippage in completion of their component of the integrated project and also due to their failure to attain the projected volume of traffic. The port should examine the desirability of introducing the concept of a minimum charge for a guaranteed volume of traffic to cover the direct costs plus overheads as in the case of electricity tariffs. This would provide an additional safeguard against any improvident planning by the user agency with little stake in investments.

2.2.4 Raising Resources

(a) In a developing country like India, capital will continue to be a scarce resource despite the encouraging rate of savings. Though the pool of investible savings has been growing, the fact remains that competing demands on the limited resources have been growing at an even faster rate. The Government has hence been seriously exercised at the need for optimum utilisation of resources available as also generating larger surpluses from public enterprises in which over Rs. 43,000 crores of public savings have been invested. The object of this is twofold. First, to instil greater financial discipline among those entrusted with the management of public resources. Second, to reduce the burden on the central exchequer. The Seventh Plan rightly therefore lays great stress on generation of adequate internal resources by state enterprises through better management and improvement in efficiency and productivity. In fact out of a total public sector investment of over Rs. 154,000 crores in the Seventh Plan, Rs. 35,000 crores i.e. 23%, is expected to be met

from out of the surpluses of state enterprises.

(b) Out of all the major ports only four ports namely, Bombay, Kandla, Mormugao and Madras generate net surpluses from year to year from which they have been able to finance wholly or partly their modernisation and development programmes. The other ports either generate modest operating surpluses or incur losses and consequently have to depend to a large extent on the Government to supplement their resources.

(c) The very bulk of the loans advanced by government so far have gone to ports which are simply not in a position to service their debts; at any rate repay loan instalments. This is due to factors largely beyond their control such as providing for traffic build-up based on projections which have later turned out to be gross-overestimates and fixing of uneconomic port rates for certain commodities which are either export oriented (iron ore) or which are meant for mass consumption (foodgrains). Many of the ports which have raised large loans for capital projects have not been able to make even interest payment to government much less amortise the loans. The heavy burden of debt continues to be a serious drag on their future development and also gives a distorted picture of their financial position. Hence it is recommended that all outstanding loans be treated as interest bearing loans in perpetuity at an interest rate of 6.75%.

(d) As an integrated view of development of all major ports has to be taken, it is necessary to evolve with the ports concerned a mechanism, whereby non-availability of funds does not pose a serious problem for undertaking programmes of modernization and development which are vital to the national interest. Under the present dispensation modernisation and development programmes have suffered badly both for want of resources as also because of the considerable delay and time lag in appraising and sanctioning of the projects. This results in considerable time and cost overruns affecting the viability of projects. There is an imperative need therefore for setting up a special agency to raise and lend finances for port development. A Port Development Fund (PDF) is proposed to be constituted to undertake the task of appraising, funding and monitoring capital projects of the ports in the Seventh and subsequent plans. This, however, would not be concerned with financing the operational losses of the ports. The Committee recommends that loans to PDF by surplus ports be guaranteed by Government. It is recommended that the PDF may be set up on the following lines:—

(i) The PDF may be managed by the Major Ports Development Board. The organisation, scope and objectives of Major Ports Development have been covered under Chapter 4 of Section I of this Report.

(ii) The corpus of the fund shall be as decided by the Government from time to time. It is suggested that the initial non-refundable contribution should be Rs. 300 crores. PDF should pay an interest of 10% to Govt. on this loan.

(iii) Ports should make an initial contribution to the PDF from their accumulated surpluses. Such surpluses should be determined, after providing for funds likely to be required, for projects to be sanctioned in the remaining period of the Seventh Plan and the loan assistance committed to other ports. PDF should pay interest at 10% to ports on such contributions. In respect of loan assistance already disbursed or committed to other ports, the lending ports shall be paid interest at the contracted rates and the loans will be amortised as set out in the respective loan agreements.

(iv) Thereafter, ports which generate surpluses will make annual non-refundable contributions to the PDF which will pay 10% interest to ports. Such surpluses will be determined after making the following appropriations and provisions:

(a) 10% of the operational surpluses;

(b) additional plan allocation for the following year in excess of what has been provided at (iii) abaove;

(c) depreciation of fixed assets on replacement cost basis computed as per guide-

lines to be evolved;

(d) loan repayments;

(e) working capital requirements based on current norms.

(v) Borrowing from the capital market in the form of bonds and debentures. For this purpose the Major Port Trusts Act will have to be suitably amended and the PDF clothed with powers to borrow from the capital market.

(e) All ports would be eligible for loans from the PDF. However, the quantum of assistance will be ascertained after taking due note of the resources generated from the sources mentioned below:

(i) Internal accruals, present and projected.

(ii) External resources to be raised from one or more of the following sources:

(a) deferred credit from suppliers in case of imported equipment, which is currently available at reasonable rates of interest and for fairly extended periods.

(b) leasing.

(f) Broadly the following terms and conditions should govern the grant of loans to the ports by the PDF.

(i) Rate of interest will be at a rate not exceeding 11% per annum.

(ii) The loans will be normally for a term of 10 years with a moratorium of two years. However, in respect of very long gestation projects a maximum term of 20 years may be allowed with a moratorium of 5 years.

(g) When a new port is established or a minor or intermediate port upgraded to a major port, it would be the responsibility of the government to provide the requisite funds.

2.2.5 **Management of Estates**

(a) Some ports, particularly Bombay and Calcutta, have very large estates outside the dock area, which are not used or cannot be used for any activity related to the functioning of the docks. These estates are managed departmentally by the Port Trust Boards. For historical reasons the rents charged are at rates which are totally out of alignment with the ruling commercial rates in the areas concerned. Periodically the Port Trust authorities raise the rentals. However, the experience of recovering such increased rates is wholly unsatisfactory. For instance in Bombay the rents were revised upwards in 1982-83 on the recommendations of the Kirloskar Consultants. However, due to the adamant posture of the tenants and lessees and time consuming legal procedures for recovery, there have been serious defaults.

(b) Management of real estates has become a very specialised and complex business. By their very nature autonomous bodies like Port Trusts, which have to function within a well defined legal and administrative framework, have not been able to equip themselves to tackle the task so as to optimise the use and returns on these estates, many of which are located in prime areas. The Committee would like to make the following recommendations:

(i) the existing estate departments of ports may be revamped and suitably trained staff appointed to ensure professional management of the estates.

(ii) a special committee for estate management and development, headed by the port chairman, consisting of outside experts and port officials under the proposed board of management may be appointed to:

(a) draw up a master plan for the land and property which would be required by the Port Trust for its own use in the foreseeable future say upto 2000 AD;

(b) evolve a plan of action to optimise the use of land and properties which would not be required as in (a) above;

(c) to fix economic rates of return for these estates.

(iii) The committee's examination has revealed that generally the return on port estates bears no relationship to the rental/licensing fees prevailing in the market. This has given rise to serious problems, prominent among these being resort to unethical practices by those in occupation of these estates. The Committee's considered view, therefore, is that the relevant statutes should be suitably modified to empower the ports to revise rentals/licence fees and even to secure eviction of wrong doers and defaulters.

Provision should also be made to safguard the ports right to enforce recovery of revised rent from a lessee who may in turn have, without violating the terms of lease, sub leased the plot/premise to a 3rd party. It is seen that while the Port Trust as an owner is exempt from the purview of the Rent Control Act, the sub-lessee nevertheless, feels free to invoke its provisions and thus frustrate the ports efforts to recover enhanced rent. The Committee was told that this problem is quite serious in the ports of Bombay and Calcutta.

2.2.6 **Port Railways**

(a) The operation of port railways presents a mixed picture. While major ports of Bombay, Clacutta, Haldia, Madras, Visakhapatnam, Paradip and Mormugao operate thier own railway systems, in the ports of Kandla, Cochin, Tuticorin and New Mangalore however the Indian Railways operate the service directly.

(b) In most ports the port railways have been incurring losses on operations. For instance in the two major ports of Bombay and Clacutta the annual losses have been of the order of over Rs. 5 crores each. This is due to the fact that the total revenue earned from railway operations by these ports is substantially lower than the recurring expenditure; for instance in the case of Bombay the operating expenditure is as much as 5.4 times the total revenue.

(c) One of the major reasons for this very uneconomic operation of the port railways is that during the last five years or more there has been no revision of terminal charges whereas the railway freight rates have gone up substantially. Since the port railways are performing the function of the Indian Railway within their area of operation, there is no reason why the latter should not compensate the former, by way of terminal charges the cost actually recovered by them for such operations in their overall tariff. For this purpose a detailed cost study must be undertaken to equitably apportion costs between the Indian Railways and the Port Railways. Besides the rates need to be periodically reviewed. This matter should be taken up on an urgent basis by the Ministry of Surface Transport with the Ministry of Railways.

(d) The port railways cannot possibly build up the infrastructure and expertise to run the system as efficiently as the Indian Railways. Hence it is a matter for serious consideration whether the operation of the port railways should not be taken over gradually by the Indian Railways. A detailed feasibility study should be made for each major port and a time frame within which the operation of the port railways where found feasible may be transferred to the Indian Railways, determined. The object in view should be to optimise the efficiency of the sub-system as also to stop the large drain on port finances.

2.2.7 **Financing of Dredging Expenditure**

There have been rapid developments in shipping technologies with strong emphasis inter alia on attaining economies of scale. This has resulted in the construction of bigger and sophisticated ships world over and consequent increase in the draught of the vessels. Thus the issue of providing adequate draughts at our ports to service such vessels has assumed considerable importance. New and specialised dredging technologies are in use today. These technologies are highly capital intensive and beyond the financial capacity of any Indian major port to undertake. Hence dredging, both capital and maintenance, of the channel and the turning basin, should be treated as a national obligation and financed from the central exchequer. This is also in line with

the policy followed by many other industrialised countries like Japan and U.K.

2.2.8 **Financing Cost of Social Obligations and Welfare Amenities**

(a) As a result of the relatively modest spread and quality of public services in India, employers have had to assume social and welfare obligations for their employees and in some cases for the communities in areas where they operate. Ports are no exception. However, a distinction must be made between social obligations and welfare amenities.

(b) Social obligations have a much larger connotation than welfare. The ecological, environmental and other factors which affect the community at large, are in their very nature obligations which must be assumed by the State. Welfare amenities, where the scope is extended beyond those required for the well-being of the employees of the port trusts, should also be considered as a social obligation. This becomes necessary in locations where no public or government facilities are available and the Port Trusts have to extend facilities in the nature of housing, education, medical care, bus services etc. to other members of the community. The Port Trusts initially would be required to assume the financial responsibility for funding, maintaining and operating these facilities. Even where some charges are levied for the use of such facilities, both by the employees and the community at large, subsidising the running expenses of activities becomes unavoidable. It is therefore recommended that where social obligations are assumed by the Port Trusts after these are duly approved by government, the capital expenditure thereon should be met from out of an interest-free loan from the proposed Port Development Fund. The loan should be preferably for a period of 20 years with a moratorium of at least 5 years.

(c) Welfare acitivities assumed by the Port Trusts are essential for the conduct of business as is the case with other commercial organisations. These are generally in the nature of providing educational facilities for the children of the employees, housing facilities, medical care and hospitalisation facilities, bus services etc. Some of these activities are statutorily imposed on the port trusts while others are undertaken with a view to ensuring the wellbeing of the employees and for their motivation.

(d) The scope and quality of welfare activities provided by the Port Trusts should be in keeping with the practice adopted by other well run organisations. In no case should these be extravagant or lavish. Besides, it is necessary that, to the extent possible, employees should be made to contribute for the facilities used. Even where such activities are to be subsidised the element of subsidy should be kept to the minimum. This would ensure that there is no misuse of the facilities offered and the burden on the financial resources of the Port Trusts is minimised.

CHAPTER - 3

COSTING AND PRICING OF PORT SERVICES

(a) Rates and charges are generally classified as scheduled and non-scheduled charges. Scheduled charges over inter alia (a) docks scale of rates (b) bunders scale of rates, (c) ports and pilotage scale of charges, (d) goods tariff at Port Trust railway. Scheduled charges constitute the bulk of the charges recovered by the Port Trusts. The tariffs for these services are proposed by the Port Trusts to the government and take effect only after they have been sanctioned and published in the official gazette. The rates which fall outside these four schedules are termed as non-scheduled rates. These can be sanctioned by the Board of Trustees.

(b) The Commission on Major Ports in its report submitted in 1970 had set out certain guidelines for charging tariffs. This took cognisance of the capacity of various commodities to bear port charges. Thus low value bulk commodities, coal and salt for instance, were made to bear relatively low charges recovering in most cases only the direct costs. The less bulky high value commodities were made to bear higher tariff on the principle of "what the traffic can bear". The Commission considered that the actual rates on commodities should range between these two limits viz. "direct costs" and "what the traffic can bear". Thus for formulating proposals for revision of tariffs in respect of scheduled rates proposals are forwarded to the Government, in the specimen proforma prescribed, setting out details regarding historical background, cost data, utilisation statistics, comparative rates, financial implications, etc. The guidelines usually taken into consideration by the Government for processing proposals for fixation/revision of rates are the following:

(i) The cost of the service:

Usually the cost comprises of direct cost for operating the service plus allocated overheads including depreciation computed on historical cost basis.

(ii) Need to augment revenues:

These may be necessitated for meeting increased expenditure, budgeted deficits or raising finances for development.

(iii) Making service self-supporting:

When a particular service shows a deficit in its working results, year after year, attempts are made to reduce such deficits if the service cannot be made self-supporting. This enables the port administration to reduce the element of cross subsidisation to a losing service from a comparatively more remunerative service.

(iv) What the traffic can bear:

Public interest may necessitate preferential tariff for some commodities for certain periods. The application of this guiding principle helps in generating surpluses which are applied for reducing or eliminating losses incurred in rendering other services. However, this has to be used with caution and care must be exercised to ensure that such rates are not pitched unduly high.

(v) Comparative rates at other ports of India and the World. This largely serves as a guide to assess how the proposed rates compare with the rates charged by other ports. This is also essential in maintaining the competitive position of the Ports.

vi) Fixing promotional rates for new equipment.

In view of the escalating costs of capital equipment due consideration has to be given to the level at which the rates should be pitched. If the rates are worked out on the basis of the capital cost of equipment and applied to the level of utilisation, which in most cases would be low in the initial years, the rates would be prohibitive and non-competitive. Hence promotional rates will have to be worked out which are lower than those based on actual costs. However, it is essential to ensure that the rates cover the actual costs within an acceptable time frame, by optimal utilisation of the facilities. A periodic review also should be made to ensure that this objective is achieved.

(c) Ports operate in a competitive environment both internally as well as externally. In fixing the rates therefore the generation of adequate surpluses must be ensured. The surpluses however must be generated by operating at acceptable levels of efficiency and productivity which is comparable not only with ports in India but also with ports in the region. What is essential is that the rates so fixed are based on the parameters assumed when the projects were conceived and sanctioned.

(d) Further a lot needs to be done in terms of ruthlessly controlling and reducing costs. For this purpose norms will have to be evolved for attaining productivity levels, manning strength, etc., which could make our ports truly internationally competitive. Unless this is done in a determined manner the viability criteria will not be attained. Further more, port development will lag behind defeating the objective of making the ports competitive.

2.3.2 **Comparative Cost of Handling Cargoes at Different Ports**

(a) The cost of handling cargo and the tariff structure for different types of cargo varies widely from port to port. Several reasons have been identified for these differences.

(b) In this background, the feasibility of having uniform rates in all the ports for different types of cargoes handled and also uniform basis of costing was examined. The following conclusions emerged:

(i) Uniformity in the package of services rendered may be attempted.

(ii) Uniformity in the principles of pricing may be adopted.

(iii) While there can be uniformity in the package of services rendered and the principles of pricing, there can not be uniformity in the actual rate prescribed by the ports, as the cost of handling differs from port to port.

(iv) If it is not possible to achieve uniformity in the package of services, a rate can be fixed taking into account the total services rendered in a port (which can be made uniform to all ports) and suitable adjustments made by way of surcharge or rebate to take care of additional services rendered or service(s) not rendered. This principle can be adopted in the case of handling foodgrains and fertilizers where shore labour is used wholly or partly or not at all.

(v) Though the cost of rendering service for handling oil is more or less the same, the rate varies very widely from port to port. As the cargo has the capacity to bear a higher rate there is scope for substantially bridging the wide variation in rates after giving due consideration to the type of service rendered, the rate of discharge and of course what the traffic can bear.

(vi) The berth hire charges cannot be uniform in all ports because of the cost differential in the construction of berths; the wide variation in the infrastructure provided in the berth and the use to which the berth has been put.

CHAPTER — 4

GENERAL

Depreciation

(a) The current method prescribed for providing depreciation, replacement of assets, repayment of loans is as follows:

(i) Depreciation on a straight line basis based on the original (historical) cost of the assets spread over their estimated economic life.

(ii) Reserve for replacement, rehabilitation and modernisation of capital assets calculated at 3% of the capital employed. The reserve is intended to cover investment to keep pace with technological advancement in ship design, cargo handling methods etc. and to cover replacement due to premature obsolescence.

(iii) Reserve for development, repayment of loans and contingencies calculated at 3% of the capital employed.

(b) The Government has also indicated that, subject to the availability of surpluses, provision for additional depreciation should be made in addition to the provision for normal depreciation and reserves and this should be treated as appropriation of the surpluses. At the moment only Bombay, Madras and Kandla ports have been able to provide for additional depreciation besides making the above provision and reserves.

(c) The importance of providing depreciation on replacement cost basis has assumed particular importance because of the persistent inflationary conditions. The annual rate of inflation which was 2.8% between 1950-51 and 1964-65 has been at an average level of 9% since 1970-71. What is even more relevant is that proces of construction materials and capital goods have tended to rise at a much faster rate than the general rate of inflation. Besides the escalation in the cost of imported equipment has been even higher than in the case of indigenous equipment as a result of steady depreciation of the Indian Rupee against the major currencies of the world from which such equipment are normally imported, as also the gradual increase in the rate of customs duties.

(d) Provision for additional depreciation is currently made by some ports (Bombay, Madras and Kandla) according to a certain formula. The assets are revalued annually in the light of increase in the wholesale price index and the depreciation for the relevant year computed on the revalued cost spread over the remaining economic life of the asset. The difference in depreciation as computed on revalued cost basis and historical cost basis constitutes the additional depreciation. This method, though a distinct improvement over the historical cost method, is somewhat adhoc and results in a provision, at the end of the economic life of the asset, which is inadequate to take care of the replacement needs of the asset.

The Committee recommends that major ports should gradually shift to making provision for depreciation on replacement cost basis.

(e) It is recognised that the computation of depreciation on replacement cost basis will post many problems. Nevertheless well accepted principles for calculating depreciation on replacement cost basis have been evolved by certain companies in India already, both in public and private sectors. These principles can be usefully adapted to the requirements of the major ports. It may be advisable to engage the services of a team of experts to work out the detailed modalities.

(f) Adoption of the replacement cost basis for providing of depreciation will also serve two important purposes:

(i) It will ensure that the provision for depreciation is adequate to replace capital assets at the end of their useful economic life wholly or very largely from the depreciation provision made and to that extent eliminate or considerably reduce the dependence on budgetary support and/or the proposed port development fund.

(ii) The operating surplus/deficit arrived at after providing for depreciation on replacement cost basis will reflect a truer picture of the working of the ports than at present.

2.4.2. **Autonomy**

(a) Wherever there is substantial public funding, the role of the government in appraising and monitoring of projects cannot be questioned. However, in keeping with the current economic thinking of placing greater thrust on implementation of projects, within the time and cost estimates, it is imperative that procedures and systems are not only simplified but made to work within a time frame.

(b) Presently well-defined limits of capital expenditure have been laid down. Thus even in respect of schemes included under the Plan, major ports can only sanction expenditure upto Rs. 1.5 crores. Expenditure over these limits has to be referred to either the Ministry, Expenditure Finance Committee or Public Investment Board depending on the size of the capital investment involved. The port authorities have represented that even where projects are well formulated and the requisite information furnished in the proforma prescribed, it takes six months or more to obtain the project clearance, inevitably resulting in time and cost overruns. What is even more important is that slippage in execution of vital projects often results in great inconvenience and avoidable cost to the users by way of delay in clearance of goods as a result of congestion in ports and slower turnround of ships resulting in loss of foreign exchange to the country by way of payment of demurrage or surcharge on freight.

(c) The Committee therefore strongly recommends that the powers be reviewed and the project evaluation process streamlined on the following lines:

The sanction limit in respect of capital expenditure schemes included under the plan for the major ports be revised uniformly to Rs. 3 crores for all ports. Decision in respect of projects submitted in the proforma prescribed should be taken within a maximum period of two months.

(d) In view of the substantial escalation in cost of capaital expenditure since the original limits were fixed, it is recommended that in the case of non-plan capital expenditure also the discretionary limit for new works be increased to Rs. 50 lacs and for replacement works to Rs. 100 lacs.

(e) There is considerable need and scope for allowing greater degree of autonomy to port managements in pricing of various services. The present process entails interminable delays. Now that the Directing Group and the Empowered Committee have set down well defined guidelines after a detailed review, the ports may be allowed to do their own pricing within these guidelines.

(f) Financial adviser and Chief Accounts Officer (F.A. and C.A.Os.) of the Port Trusts have a pivotal role to play in the raising and management of financial resources. It is, therefore, imperative that they should be actively involved in all major decisions, which commit the Port Trusts to incur large expenditure either of a capital or revenue nature, and particularly those which have longterm implications. While the FAs-cum-CAOs belong to the second hierarchy of the Port Trust managements and report to the Chairman and Deputy Chairman, in reality their involvement in the formulation of policies having financial implications has not been to the extent desired. Hence it is very necessary that the scope of their authority and responsibility be enlarged so that they are enabled to play a more effective role as integrated financial advisors. The setting up of the statutory boards of

management, comprising the Chairman and five functional heads including the Deputy Chairman and the FAs-cum-CAOs, may be implemented as recommended by the MPRC in its Interim Report. The Committee also recommends that FAs-cum-CAOs be given a status commensurate with their role and responsibility as envisaged in the hierarchy.


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SECTION — III

INDUSTRIAL RELATIONS

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PRODUCTIVITY

SECTION — III

INDUSTRIAL RELATIONS AND PRODUCTIVITY

CHAPTER — 1

INTRODUCTION

In looking at problems of the major ports and trying to work out solutions for their improvement to enable the major ports in India to attain levels of efficiency comparable to the ports in the region, or internationally, the Committee recognised that massive investments of funds in equipment and increase of capacities alone would not resolve the problems facing the major ports in India. Ultimately the success or failure of the major ports, as indeed of any other ogranisation, shall depend on the quality, involvement and dedication of the people who are engaged in the activities of the major ports.

3.1.2 The need for a separate department of Personnel and Industrial Relations has been recognised and has been provided for in the Committee's recommendations in Section I, Chapter 2 of this Report. An imaginative and well designed system of personnel administration, with special emphasis on training and career planning, would enable a port management to carry on the functions and responsibilities with compact and well integrated team of employees, at various levels, from the Chairman downwards. Likewise a dynamic industrial relations system based on collective bargaining between the management and responsible bargaining agent, will ensure not merely maintenance of industrial peace and harmony but also increasing the levels of performance resulting in higher productivity, lower costs and all round efficiency.

3.1.3 The chapters below on Industrial Relations and Productivity deal with these aspects in some detail. One of the major handicaps faced in the major ports in the matter of improving cargo handling efficiency, has been the existence of different agencies involved in cargo handling operations and the consequent irrational allocation of work resulting in overlapping and duplication, delays and also increased costs. A unified cargo handling system on the shore and on the deck has been found necessary. A separate chapter has been devoted to it in this Section.

CHAPTER — 2

INDUSTRIAL RELATIONS

UNIFIED CARGO HANDLING

3.2.1 The advantages of this are obvious; several committees have pointed out to the need for this. Particular mention may be made of the Chatterji Committee (1976) which, inter alia, recommended as follows:
"(a) The Dock Labour Board should be converted into an advisory body pure and simple, with more comprehensive representation of the users of the port like public sector enterprises who are not now represented:
"(b) The executive and financial powers and responsibilities of the Board shall be vested in the Chairman and the Deputy Chairman of Dock Labour Board, as an interim measure, till the proposed cargohandling department of the port Trust takes over the administration of the existing Dock Labour Board Schemes. In that event, the Head of the Department under the over-all guidance of the Chairman of the Port Trust, will perform these functions.
"The Committee is strongly of the view that just as the cargo handling shore workers of Port Trusts have been or are being decasualised, the dock workers should also be progressively decasualised and integrated with the shore labour over a period of five years—the phasing schedule being left to each port to ensure flexibility of placement, reduction in the number of categories, training on different skills of cargo-handling, etc. Eventually, all decasualised workers will be Port Trust employees, whose services will be made available to whoever functions as a stevedore or user of the port. (2.26)".

3.2.2 The Committee agrees with the need for a unified cargo handling agency in the major ports. While such a step will do away with the Dock Labour Boards wherever they exist and to that extent may meet with opposition from the trade union leaders, resistence can be minimised by working out a suitable tripartite consultative arrangement for each port each tripartite body may contain representatives in equal numbers of the Port Trust management, of labour and of other interests which may include stevedores, shipping companies, major public sector users etc. (It may be desirable that public sector users of the ports should be encouraged, if not compelled, to register themselves as stevedores to handle their own cargo). These bodies will be advisory and the ultimate decision-making will be with the management and the Port Trust. Such an arrangement will obviate the need for continuance of the Dock Workers (Regulation of Employment) Act which can be repealed.

3.2.3 The proposed arrangement under which the cargo handling labour, currently under the Dock Labour Boards and the Port Trust, will be under the single administrative control of the Port Trust management will make for unified control as well as direct employer-employee relationship. Such a unified arrangement could provide for rational use of the manpower, including inter-changeability, the absence of which has added to the cost of cargo handling. A careful assessment of the total number of workers required, categorywise, based on peak period requirement will have to be done and the numbers, categorywise, fixed taking into account the likely trends in the types and volume of cargo that will be handled in a port, the technological changes that will have to be introduced to make for efficiency and competitiveness, etc. All such workmen would be permanent and monthly rated, entitled to all the benefits and subjet to all the service conditions of a regular employee of a Port Trust. Such an arrangement may be objected to by the currently registered workers of the Dock Labour Boards with minimum guarantee of 21 days employment on the ground that if they were to be converted into monthly-rated workers, they would stand to lose the benefit, which now accrues to them, under a system where their daily wages are calculated by dividing the monthly rate by 26 instead of by 30. But, in a unified system of functioning, it would not be proper to have different levels of emoluments for workers in the same category. Any requirement of labour in any particular category

over and above the permanent strength, will have to be met by taking people from outside. Such workmen will be entitled to only their daily rate of wages plus incentive earnings, if any, based on their output. For such casual employment, preference will have to be given to those persons who had been rendered surplus consequent on the introduction of a unified system of cargo handling and proper fixation, categorywise, of the numbers required.

3.2.4 The resulting surplus labour, category-wise, will have to be identified. Cargo handling involves, despite increasing mechanisation, arduous physical work. It would be advantageous, therefore, if workers, above the age of 45 are induced to retire voluntarily from service under liberal voluntary retirement schemes. Naturally, these schemes should provide for payment of compensation on very liberal terms than is provided for under the law, namely, the Industrial Disputes Act. Experience of ports in working out such schemes in the past may also have to be taken into account in formulating and implementing the schemes. The compensation amount will have to take note of the number of years of service that a retiring workman has already put in and the number of years of service that he will be foregoing consequent on voluntary retirement. A recent successful experience is that of the Food Corporation of India, where, as a result of a properly conceived scheme of voluntary retirement, in the light of detailed discussions with the concerned trade union leaders, a large number of surplus workmen-5000 out of a total of 6480 were enabled to quit employment voluntarily on attractive terms. This experince could also be studied and adapted with advantage, particularly as bulk of these workmen were working in the major ports.

3.2.5 Facility must be provided for appropriate training and retraining of various categories of employees in operations where their services can be used, keeping note of the changes in the technologies that may be introduced and changes in the nature and types of cargo that will be handled in future. It may be desirable to examine the feasibility of different levels of technologies, the highest being adopted in all areas where the competitive efficiency of a port, in terms of international trade, is likely to be jeopardised otherwise. For certain types of traffic, as for e.g. coastal trade, it may be adequate to make do with relatively low levels of technology. The technology mix will have to be carefully decided. The major consideration should be to avoid reduction of work force unduly, merely for the sake of inducting up-to-date technology across the board.

3.2.6 Attempts may simultaneously be made to redeploy the surplus labour in other areas of work within the port wherever feasible or in other port related activities like container freight stations, inland container depots, free trade zones, ship-breaking and the like.

3.2.7 While it is necessary to have a competent and compact work force, the exercise must be undertaken with a certain measure of flexibility so that the rigours of retrenchement are reduced; wherever possible, phasing of the operation could be thought of. It may also be expedient to have a small surplus over the actual requirements and at the same time stop further addition to their numbers so that vacancies arising out of natural wastage can be filled up from among the small surplus.

3.2.8 The problem of surplus and the need for a unified work force are not confined to cargo handling operations. The entire range of port operations will have to be studied to identify areas where unified operations would be feasible and where such measures will result in efficiency.

Union — Management Relations

3.2.9 The present system obtaining in various ports in respect of industrial relations leaves much to be desired. It is imperative that every major port has a separate Personnel & Industrial Relations Department manned by professionally trained and competent persons. The present practice in some ports of industrial relations being handled as part of the Secretary's department must stop. A fullfuledged Personnel & Industrial Relations Department with two wings, one for Personnel Management and another for Industrial Relations, under competent professionals must be set up in each port.

3.2.10 As far as union management relations are concerned, multiplicity of unions and inter-union rivalries have resulted in a situation where the management is unable to function effectively. Without going into the various

aspects of the problems as they exist, it is adequate to state that the time has now come for a clear break with the past and to work out a system of industrial relations which will be conducive to discipline, increased production and productivity, and above all participative functioning. Such a system predicates the need for a management which is autonomous and a bargaining agent which is responsible and responsive. Given the present pattern of negotiations and industrial relations in the port transport industry and recognising the fact that in matters of wages and major allowances like dearness allowances, house rent allowances etc; there is uniformity of practice through out all the major ports, it is not desirable to do away with it. Accordingly all matters relating to wages, dearness allowance, house rent allowance and city compensatory allowance may be allowed to be negotiated and settled at the All India level on a basis which is common to all ports. Excepting for these, all other matters relating to the terms of employment and conditions of service of the work force must be left to be decided at the level of each port. Unless this is done, the present reluctance and apprehension about taking decisions at port level lest it should have repercussions on other ports, results in decisions being deferred or decisions being allowed to be pushed up to the Government. Such a situation militates against the growth and autonomy of a port. It is, therefore, necessary that a conscious and deliberate decision is taken that, excepting wages and allowances referred to above, all other matters will have to be decided by the port trust concerned. The present system of negotiating, in respect of certain matters at the departmental or even at a lower level, and that too with a particular union (s) having or claiming superiority in membership in that particular section or division, should stop and all negotiations should be only with the recognised bargaining agent. The Indian Ports Association would no doubt continue to function as a clearing house of information on matters relating to industrial relations and the like so that experiences of the ports are exchanged; but the pattern of industrial relations to emerge will be one of each port functioning autonomous.

3.2.11 In such a situation, it also becomes necessary that the port trust management holds negotiations with a well indentified bargaining agent. In the absence of any central law on the subject, practices very. The Committee considered this problem in depth in the light of existing practices, the submissions made before it by various interests more particularly the port managements and the trade union leaders, and other relevant factors. Various alternatives were examined. These included the following:

(i) Where there is only one registered union, the same shall be certified as the Sole Bargaining Agent. The Committee took note of the fact that based on the recommendations of the National Commission on Labour and subsequent discussions at various forums, the law relating to registration of trade unions may be amended to provide for a certain minimum size for a union to become eligible for registration. The Committee also took note of the fact that in major ports, unionisation of the work force is near universal and considered that, in this situation, a minimum percentage of 20 or 25 of the total work force, should form the membership of the union before it can be registered under the law, is not an unrealistic pre-condition. Such a provision will result in any major port, which will be the bargaining unit, having not more than four registered trade unions. Such a step by itself, will be a major improvement on the existing situation, both in law and in the field. This, coupled with another provision if made in the law to the effect that no union shall be registered if its membership is restricted to specific categories of workmen either in terms of crafts or of occupations and that every union in an establishment should permit all employees in the establishment to be eligible to become its members, will also help in restricting the number of registered trade unions.

(ii) A single registered union among the registered trade unions to be the sole collective bargaining agent if it obtains votes of at least 50% of the total strength of workers in the major port in an election conducted through secret ballot.

(iii) Where there is more than one registered union, the one with the highest membership but not less than a specified percentage will be the sole bargaining agent. Such a union should have not less than 51% of the workmen as its members; a possible variant is that the percentage should be 60, if not 66 2/3.

(iv) Where there is more than one registered union, the one with the highest membership below 50% but above a certain specified percentage, say 35%, will be the principal bargaining agent and other registered unions, if any, (subject to their having a membership of not less than a specific percentage) would be the associate bargaining agents, in a composite bargaining council. The council would consist of one member from each of the associate bargaining agents, with the principal bargaining agent having one member more than the total number of representatives of the asociate bargaining agents; a representative of the principal bargaining agent may be the Chairman of the Council.

(v) Where there is no union in existence with a membership above a specific percentage, say 35% then all registered unions should jointly form the bargaining council and one with the highest membership would be the Chairman of the bargaining council.

(vi) Two of the largest unions in a major port, each with a membership not less than a specified percentage, say 25, would be the bargaining council; all other registered unions will be ignored for this purpose.

(vii) A collegeiate type of union with office bearers such as President, Vice-President, General Secretary etc. being elected by the entire general body of workmen and this body to be recognised as the collective bargaining agency, irrespective of the existence or otherwise of registered trade unions in the port, and irrespective of their strength.

(viii) The term of office of the collective bargaining agent, whether it be a registered trade union, or a council, shall be for a period of 3 years.

3.2.12 In considering these proposals the Committee was aware that these very matters are under the active consideration of the Government with a view to bringing about the necessary legislative changes and that proposals in this regard have also been very recently discussed at a session of the Standing Labour Committee. It would have been easy for the Committee to merely state that in this matter, the national policy as reflected in the changes to be made in the law, would apply and that there is no need to discuss, much less to recommend, any particular set of proposals in regard to these matters as far as the major ports are concerned. However, the Committee felt that it is both necessary and desirable to incorporate in its report its reasoned conclusions on this subject, arrived at in the light of the evidence before it and discussions within it. It is not surprising that in a matter like this, unanimous conclusions or even a consensus is not easy. The Committee's experience has also been the same. Notwithstanding this, the committee has been able to reach some broad conclusions: these are incorporated below:

(i) Negotiation at the national level in respect of all major ports will be held at the Central Government level and under its auspices by the port managements with representatives of the four federations of ports and dock workers, as at present. These discussions will be confined to matters relating to wages, dearness allowance, house rent allowance and city compensatory allowance. For negotiations at this level, various port trust managements may have a negotiating body of 3 or 4 Chairmen, assisted by the IPA and the chiefs of Industrial Relations and Personnel Managements, in the various ports.

(ii) In respect of all other matters, the negotiations shall take place at the level of each major port; no matter shall be negotiated and settled at a departmental or at a lower level.

(iii) The bargaining agent in respect of each major port shall be identified in the following manner:

(a) Where there is only one registered union in a major port, it shall be the sole bargaining agent.

(b) Where a registered union has a membership, as verified through check off, of not less than 66 2/3% of all the workers in a major port, it shall be the sole bargaining agent.
In the alternative, where any union gets the support of not less than 66 2/3% of the total work force in an election conducted on the basis of secret ballot, such union shall be the sole bargaining agent.
In either of these situations, all the other registered unions will have no rights, except taking up with the management problems of an individual nature relating to their members.

(c) Where on the basis of verification of membership through check off or through secret ballot, no registered union becomes entitled to be a sole bargaining agent, then all unions with a membership of or a support of not less than 20% of the total work force shall form a bargaining council whose composition will be based on the relative strength of the unions concerned, with largest of the unions entitled to nominate its Chairman as well.

(d) The recognition once granted should be valid for a period of 3 years and a recognised union or the bargaining council shall continue to function till it is replaced by another body.

(e) Only the sole bargaining agent or the collective bargaining council will be entitled to give notice of a strike and such a notice shall be preceded by a strike ballot in which atleast half of the workers employed in the port vote in favour of a strike.

3.2.13 The Committee believes that these recommendations if accepted and implemented will over a period of time, bring stability and strength to the industrial relations system in the major ports. While negotiations at the national level on major questions of wages and allowances will set the general frame work of the emoluments structure, the negotiations at the level of major ports will not only generate a feeling of autonomy and self-reliance, but also make negotiations more meaningful and relevant in respect of

matters that affect an individual port. Such an arrangement will also enhance the status of the management in the eyes of the workmen, apart from not allowing it to plead an alibi on grounds of repercussions on other ports or on the need for clearance at the level of the Central Government. The informed advice of the IPA should no doubt continue to be available to the individual port on a formal or an informal basis. Such an arrangement will greatly assist in the formulation of appropriate proposals for modernisation, for manning, for increasing production and productivity and for participative functioning in each major port with the understanding cooperation of the sole bargaining agent or the bargaining council. Interport competitive performance will then become a reality, as the failure to be competitive can be laid at the doors of individual port managements; productivity bargaining, productivity linked bonus payments, agreed work norms and manning scales will be facilitated.

3.2.14 The system may also have an inbuilt arrangement under which where the management and the union are not able to come an agreement on any matter, such disagreement can be referred for decision to a mutually acceptable arbitrator. Such an arbitrator may be appointed for a period of 3 years at a time with a provision of renewal, so that it enables the arbitrator also to understand the port transport industry and its problems and to get to know the parties well. Such arbitrators can also be requested to quickly intervene should sudden work stoppages take place.

3.2.15 Participative arrangements at various levels within the port system should be encouraged. The successful experience of quality circles in Madras port could be replicated in other ports and in various areas of work. In setting up participative systems at various levels, representation to workers may be given not on the basis of union affiliations, but on the basis of election, constituencywise. These participative bodies will deal only with work-related issues, leaving all interest-related matters to be negotiated and settled at the port level by the bargaining agent.

3.2.16 Appropriate training arrangements for various categories of workers could be worked out so as to enable the work force to improve its skills and therefore its performance progressively over a period of time.

3.2.17 Another related problem would be privatisation. In the type of industrial relations that are envisaged at the port level, it would be inexpedient for the port managements to proceed with proposals for privatisation except in consulation with the recognised bargaining agent. In the context of unified cargo handling system envisaged in the ports and a sole bargaining agent for industrial relations, the feasibility of privatisation facility being operated by non-port labour is open to doubt; also to talk in terms of surplus labour and their being sent away under voluntary retriement schemes on the one hand and at the same time to permit private labour to be employed at the privatised facilities on the other,would appear to be inconsistent.

CHAPTER — 3

PRODUCTIVITY

Productivity is a concept difficult to define precisely, more so in the case of a service industry like Ports. One has, therefore, to go by the widely accepted norm of productivity which is the efficient interaction of various assets.

3.3.2 Several studies, debates and seminars have underlined the need for improving the productivity of men and machines through optimal utilization of assets, casting away old concepts and techniques, adoption of new production technologies which are sweeping the ports and shipping industries. The common theme of some of the studies is that though historically our ports were modelled on the British pattern and philosophy and though the working of the British Ports has changed radically, yet the efficiency of Indian ports has been bedevilled by their inability to create a climate conducive to the success of measures considered essential for upgrading the quality of service to port users to comparable levels of efficiency obtaining in the Ports in the industrialised countries.

3.3.3 Of the various measures suggested to improve the situation, the prima facie feasibility of the following measures was deliberated upon by the Working Group and the main Committee:

(a) Revision of datum/norms of daily output with due regard to the level of mechanisation in cargo handling equipments and change in the pattern of traffic viz. unitisation, palletization, preslinging, containerization, roll-on-roll off, lash barges etc. The existing port facilities and equipment particularly in older ports — Madras, Bombay and Calcutta — (for example hydraulic cranes in Bombay which have fully depreciated and their presence only impedes port efficiency apart from demanding high maintenance costs) should be discarded or their service efficiency upgraded suitably. The success of efforts to improve productivity of men and machines cannot be realistically quantified with reference to these units of equipment.

(b) There is a close co-relation between productivity and capacity utilization. Till late, in our ports no norms of capacity utilization of equipment and infrastructure were fixed. The Ministry had not long ago advised the port managements to fix optimal norms of equipment utilization. The actual utilization of equipment compared to the normative level of utilization fixed by Government reveals very heavy under utilization in many ports. It bears mention that if the ports are operated at a level commensurate with the facilities established the traffic handled would generally be high and in turn bring in more revenue. The following indicators are used to measure port productivity —

(a) Rate of handling per ship berth day;

(b) Output of port/dock labour per gang per shift;

(c) Rate of utilization of —

(i) mechanised system of handling.

(ii) mobile cargo handling equipment.

3.3.4 If not massive by international standards, the technological inputs into the Indian ports system, during the last two decades or more, have nevertheless been sizeable. The datum lines or productivity parameters fixed earlier have long lost their relevance and should have been updated pari pasu with the increase in the input of mechanization.

3.3.5 The Port managements and the Labour Unions are evidencing greater awareness of the need to rid the major ports of their deficiences, removing bottlenecks and improving port productivity. This is amply reflected in the various statistical returns. Some of the suggestions to give further impetus to the task of improving productivity may be the following:

(1) Each Port should set up productivity committees comprising trustees, senior port officers and labour leaders for monitoring periodically operating performance and productivity and eliminating wasteful practices.

(2) Review of maning scales and simultaneously exploring avenues for deploying surplus labour in peripheral port activities imparting training and upgrading skills.

(3) Taking measures to train the work force and discarding the pratice of compartmentalization/ specialization of unskilled labour.

(4) Greater attention to the up keep and maintenance of equipment and reduction of down time and improving workshop efficiency.

3.3.6 Some studies contain far reaching recommendations like integration of dock and port labour to facilitate interchangeability for promoting optimal use of manpower and economising costs, abolition of Dock labour Board system which has outlived its utility in the present context, introduction of new incentive schemes to attain higher levels of productivity and efficiency as in the present situation labour does not find it worth its while to make any additional effort to attain higher levels of productivity.

3.3.7 The major ports during the year 1984-85 serviced 7423 vessels of which 769 vessels were container ships compared to its immediate predecessor when 7014 vessels including 565 container vessels were handled. The volume of cargo handled during 1984-85 was 106.7 million tonnes as against 100.6 million tonnes in the previous year. Commodity wise break up during these two years is given below:

Category of Cargo	1983-84	1984-85	Percentage Increase (+)/ Decrease (-)
1. POL and products	47.5	49.8	(+) 4.8
2. Iron ore and other ores	21.9	26.1	(+) 19.2
3. Fertiliser and fertiliser raw material	3.6	6.2	(+) 72.2
4. Coal	4.2	4.4	(+) 4.8
5. Others	23.4	20.2	(-) 13.7
Total	100.6	106.7	(+) 6.1

3.3.8 The rate of handling quantitatively per ship berthday has declined at many ports during 1984-85 as is illustrated in statement Annexe C-1. Except for Bombay, Madras, Paradip in all other ports the berth day output has declined. In the case of break bulk cargo only Bombay and Madras have shown some improvement, the rate of handling of dry-bulk cargo has also declined except at Bombay, Madras and Paradip New Mangalore and Tuticorin showed improvement in respect of tanker cargo handling while at all other ports it has declined. The level of output performance in respect of break-bulk cargo for 1984-85 was much below that of 1983-84. The non working time of vessels at berth has been quite substantial and the average turn round time of vessels increased by one day from 10.8 days in 1983-84 to 11.9 days in 1984-85. The performance of 1983-84 and 1984-85 in terms of certain key parameters is shown in the table below:—

Parameter	1983-84	1984-85	Percentage Increase (+)/ Decrease (-)
1 2	3	4	5
1. No. of vessels handled	7014	7423	(+) 6.0
2. No. of vessels waited for more than 5 days for berth	100	165	(+) 65.0
3. Volume of cargo handled (In M. Tonnes)	100.6	106.7	(+) 6.1
4. Cargo handled per ship berthday (In tonnes)			
(i) Break Bulk	473	435	(-) 8.0
(ii) Dry bulk	2388	2345	(-) 1.8
(iii) Liquid bulk	10716	9404	(-) 12.2

1	2	3	4	5
	(iv) All combined	2401	2314	(-) 3.6
5.	Average turn round (time in days)	10.8	11.9	(+) 10.2
6.	Average pre-birthing awaiting time (in days)	3.2	3.6	(+) 12.5
7.	Pre-berthing waiting time as percentage of time spent at berth	53	56	(+) 5.7
8.	Idle time at berth as percentage of time spent at berth.	38	39	(+) 2.6

The position will be amply clear from the three annexe (C-2, 3 & 4).

(1) selected port performance indicators during 1983-84 and 1984-85.
(2) percentage of idle time of vessels at berth to time spent at berth (categorywise).
(3) productivity of port labour for general cargo.

3.3.9 It will be further seen that in 1984-85 the percentage of the time spent at berth, to pre,berthing waiting time worked out to 40% which in other words means that the vessels idle time at the ports, preberthing waiting accounted for over half the time they actually spent at berth. During the year 1984-85 the vessels idle time at berth accounted for 50% of the total time. This was more pronounced at Cochin and Paradip.

3.3.10 The Committee considered this problem in great depth in the light of the discussions held earlier in the working group on Industrial Relations and Productivity, more particularly the views expressed by the trade union leaders. The Committee s conclusions are incorporated in the paragraphs below:

3.3.11 One of the factors contributing to relatively low levels of production and productivity in cargo handling is the lack of interchangeability of labour for operations on board the vessels and on the quay side. The recommendations earlier made for unifying the cargo-handling operations both on shore and on board the ship will, if accepted, offer a considerable amount of flexibility in the deployment of labour. Such deployment and also the need for upward revision of norms and datum particularly in the context of increased mechanisation and continuing technological changes in cargo handling operations even in our ports, is likely to result in a fairly substantial number of employees employed in cargo handling being rendered surplus. A careful assessment of the total number of workers required, categorywise, based on peak-period requirements will have to be done and the numbers fixed, categorywise, taking into account the likely trends in the types and volumes of cargo that will be handled in a port, the technological changes that will have to be introduced to make for efficiency and competitiveness etc.

3.3.12 In assessing the total requirements of cargo handling workers under the proposed unified system, there will be a temptation to rework the datum lines upward for each type of cargo on the basis of past performance. While such a measure may appear logical, this is likely to be resisted by the workers. Datum lines have had a long history and the actual performance is a function of so many variables as discussed elsewhere in the report; The Committee would advise a cautious approach. If, in the new culture of industrial relations that the recommendations will, the Committee hopes, bring about in the major ports, it is possible to negotiate this matter with the bargaining agent and reach agreed conclusions, nothing would be more satisfying. What is perhaps feasible and may also be acceptable would be to work out a system by which productivity can be stepped up by superimposing a more liberal and incremental incentive payment scheme for performance over the present levels of achievement. The emphasis must be to reduce the overall unit cost of handling different categories of cargo. Also, a rigorous enforcement of a policy of not permitting workmen either to come late or to leave their work places before the end of the shift would help; likewise, to guard against undue speed which may result in acidents as also in damage to cargo. Provision may be made by which senior supervisory staff may be empowered to disallow payment of incentive earnings in any shift where he is satisfied that work is being done at unsafe speed. Such a measure may also help in minimising the pernicious practice of speed money. The unified cargo handling system on the lines proposed above will also help in preventing entry into the dock system of unauthorised persons.

3.3.13 With increasing mechanisation and improved methods of cargo handling, it will be necessary, if the productivity of workers is to go up, for existing ratio of skilled and unskilled workers to be improved substantially. While working out schemes for inducing workers to retire voluntarily under liberal schemes, efforts may simultaneously be made to retain skilled and semi-skilled workers in preference to unskilled workers. Even among the unskilled, those who are relatively young and who have the capacity to be benefited by training may be retained.

3.3.14 As regards productivity improvements and sharing of gains arising out of such improved productivity, it must be recognised that the major contribution for improvement of productivity in the port transport industry is to be made by the managements. There is considerable scope also for contribution by labour to increased productivity. Even in the area of cargo handling, which is usually the target of criticism against labour, it must be recognised that out of the total volume of cargo, both export and import, that is handled by the major ports, POL and Iron Ore, which are mechanically handled acount for nearly 75% of the total tonnage. The role of labour in the handling of such cargoes is relatively small. It is only in the general cargo that the cargo handling labour has an important role; even here, the trend and policy are in favour of containerisation and unitisation.

3.3.15 The suggestions made earlier for superimposing a liberal incentive scheme over the existing levels of performance coupled with a system of paying the incentive earnings once in a week and not at the end of the month and informing the workman of his output at the end of the shift or at least on the next working day will help. It is also necessary to examine in detail the various protective and restrictive practices that may be operating in each port. A large number of practices which may now be restrictive have had their origins as protective rather than restrictive arrangements.

3.3.16 Apart from the above it is necessary for each port to work out a list of indicators for measuring productivity of the port as a whole; these could include turn-round time of ships, berthing delays, idle time and their causes, productive efficiency of equipment and their capacity utilisation, and the like. Depending on the situation in each port, a composite index for measurement of improvements in productivity will have to be worked out with appropriate weightage for each of the factors. More importantly, a share in the gains of such productivity increases for the port system as a whole will have to be extended to all the employees of the port irrespective of the levels at which they function or the nature of duties they perform. It is only by doing this that the total involvement of the entire work force can be ensured. Such productivity linked payments will be in addition to the incentive payments that may be in force in various departments of the port.

3.3.17 Usually, in any system of sharing the gains of productivity three parties, namely the management, the workers and the consumers are expected to get a share. In the situation obtaining in the port transport industry, there is no party which can be identified as representing the consumer. Since a large volume of cargo handled by the ports in exports and imports belongs to government or government owned corporations, to this extent, the consumer interest could be considered to have been taken care of by improved productivity. Thus the gains of productivity increase may be shared equally in the port transport industry by the management and the employees.

3.3.18 One of the suggestions that was made in the context of improving the efficiency of cargo handling operations was to adopt a system of levy at a per ton rate instead of the present practice where levy is calculated as a percentage of wages. While some advantages can be claimed for this proposed change, there are several factors which have to be kept in view before a decision can be taken in the matter. It may be expedient for such matters to be left to be decided by each port, taking into account the practices and problems that are relevant to each. However, this will become an academic exercise, if the Dock Labour Boards are abolished as recommended by the Committee.

SECTION — IV

DEVELOPMENT & MODERNISATION

SECTION — IV

DEVELOPMENT AND MODERNIZATION

CHAPTER — 1

INTRODUCTION

It appears necessary to set out the Committee's own views on the widely debated question that development and modernization of the port industry cannot. the same meaning. It is contended that when a new port like Nhava Sheva is built naturally the best available technology will be used and as the port expands further and if it is run by a team of professional managers, well versed with the techniques of modern management, it will stay modern. The identical view is advanced in the case of ports going in for development of specialised system facilitates for example, containers. Secondly, since replacement of old machinery and equipment of a unit is financed out of general development funds and depreciation reserves have freely been used in the past for accelerating the developmental processes, the process of modernization and development cannot but be viewed together. Thirdly, so long as Government's own perceptions as also its fiscal and industrial policies at macro level do not clearly differentiate between modernization and development, port industry need not be treated differently.

4.1.2 The Committee's own view is that port modernization and development even in the face of seemingly close cause and effect relationship cannot but be viewed separately from each other. Take for instance Nhava Sheva which is being built with the most modern technology available. It designed capacity of 5.90 million tonnes (MT) in the first phase would account for only 3.6% of the aggregate port capacity of 161.4 MT by the terminal year of the 7th Plan. Having regard to the rapid pace at which technological changes are taking place all round, obsolescence would be a formidable problem for Nhava Sheva port to contend with. If this is tied to its expansion plans, which means that its depreciation reserves can be used to finance partly or wholly its development plan, its programmes of modernisation, even inspite of the most enlightened management, will stand jeopardised. It may well be that both the programmes will lag behind and the port conceived and planned as a modern port comparable in all respects with the best in the world, may within a few years of its commissioning find itself falling behind its counterparts technologically and operationally. There is ample evidence to prove this point at macro level where we find that inspite of massive input of resources in new technologies, the technological gap between the industry in the developed countries and India rather than narrowing or stabilising at a particular level, is measurably widening. Railways and some public sector units saddled with outdated equipments, are classic examples.

4.1.3 True, in the past partly because of serious resource crunch and partly because of the anxiety of the policy planners to reach the fruits of economic development to larger sections of the populace speedily, the same degree of emphasis, as of now, was not laid on modernization. Presumably, also it was the fall out of the policy of self reliance at any cost with no distinction between the strategic and non-strategic industries. Now that the deleterious effect of this policy is known and more importantly appreciated by Government, there is visible evidence of change in this policy.

4.1.4 Besides financial resources there are some other factors also which influence the pace of modernization namely:

i) the industrial relations climate. In the labour intensive industries like ports particularly, labour and management do not bring an identical perception to bear on modernization. Unless there is an attitudinal change on the part of the labour and the management, the environment will not change and the later day conflicts resulting from large scale structural changes in employment, an inevitable consequence of modernization, would be difficult to resolve.

(ii) flexibility in decision making to respond quickly to the changing market environment.

(iii) R&D efforts both in-house and at the national level.

4.1.5 Though the Committee's attention was pointedly drawn to the problems faced by the port managements in selecting the best available technology, yet the Committee has no ready solution to offer to resolve the inherent conflict between indigenous and imported technologies. It would recommend a selective approach. All efforts should however be geared to get the indigenous and imported technologies to play a complementary role to each other.

CHAPTER — 2

FOREIGN TRADE

PERSPECTIVE

Foreign trade has a crucial role to play in national development. The bulk of it will continue to move through sea ports. The analysis of past trends has to be blended on the one hand, with the national policy scenario and on the other, with the anticipated lines of development of the global trade largely influenced by national policies of countries with mature economies acting individually or collectively.

4.2.2 In the Indian context, the first and foremost need is to reorient thinking at all levels on export promotion. Secondly, the export sector requires to be more actively nursed and asisted than hitherto. The real break through in export promotion is possible if the imperative of systematic export planning are clearly appreciated and closer involvement of Central and State Government's, producers and labour in this effort secured.

4.2.3 In the interest of accelerated growth of the economy the country's import requirements should largely, if not fully be met by the exports of goods and services. In 1985-86 while the exports in the value terms were around Rs. 10,500 crores, the imports exceeded Rs. 18,500 crores. In other words the exports financed imports only to the extent of about 57% against more than 90% in early fifties. This brings the problem of adverse trade balance into focus. The solution to it lies in giving a major policy thrust to our exports. Simultaneously with it the nation has to gear itself up and actively promote efficient import substitution and self-reliance.

4.2.4 The Committee while fully appreciating the Government's concerted efforts at building up a national consensus on exports hopes that before long a new export policy clearly articulating the aims, objectives, goals and sectoral responsibilities will be formulated.

4.2.5 The Committee has made an indepth study of the import/export traffic handled by the major ports since the advent of planning, the other relevant data, the studies and documents to help it in making as realistic as possible an estimate of the likely trends of growth based on which it has worked out the projections commodity groupwise for the three Five Year Plans in the succeeding Chapter.

4.2.6 In the Committee's view the projections made will, to a large extent, materialise if in formulating the new export policy note is taken among others, of the following suggestions:—

(a) Production costs must be brought down and the quality and marketability of goods improved to enable us to compete with more consistent and determined competitors in the international market.

(b) A big thrust should be given to counter trade particularly in the general currency areas.

(c) The African continent imports goods and services annually of around Rs. 60,000 crores. It offers considerable scope for Indian products to penetrate deep into the African markets provided our goods are competitive in price and quality.

(d) Of the thrust areas identified, concentrated attention is required to be given to:

(i) Engineering goods

(ii) Agro based commodities

iii) Marine products; and

(iv) Iron and other ores.

CHAPTER — 3

PORT DEVELOPMENT

The Committee discussed the time frame which should be covered by the report on the development of Ports. It was decided to cover the three Five-Year Plan periods starting from 1985-86 ending with the year 2,000 A.D. It was realised that while the projections and the recommendations which would be made for the 7th Five Year Plan, ending with the year 1990, could be detailed and made more realistic, the traffic projections and capacity for the succeeding plan periods will have to be in the nature of questimates and that too in general terms.

4.3.2 Ports are the nodal points of exchange of seaborne and inland traffic and have to remain geared to handling cargo brought by the vessels and cargo received from the hinterland for shipment. Any plan for development of ports will have to take into account the different types and volumes of cargo expected to be handled and the different types of equipment needed for handling such cargo efficiently and smoothly.

The Committee first proceeded to consider the traffic projections by commodities for the period ending 1990. The commodities that are handled in the ports can be classified into three broad categories, which are:—

(i) Liquid Bulk (P.O.L.)

(ii) Dry Bulk

a) Iron Ore,
b) Fertilizers,
c) Coal.

(iii) Break bulk — This will include cargo handled conventionally as well as containerised cargo.

Annexe — DI presents the commodity-wise traffic handled by major ports during the years 1980-81 to 1985-86.

4.3.3 While the total traffic handled by the ports at the end of the 6th Plan i.e. in 1984-85 was 106.74 million tonnes, in 1985-86 — the first year of the 7th Plan — the Ports handled a total traffic of 120.04 million tonnes.

4.3.4 A Working Group set up for preparing the development plans for the major ports for the 7th Plan, had projected the traffic at 163.85 million tonnes by 1990 Ad. This estimate was revised by the Planning Commission while finalising the 7th Plan and fixed at 147.03 million tonnes. The Table below shows the commodity-wise projections made by the Ministry's Working Group and by the Planning Commission for the 7th Five Year Plan period:—

(Million Tonnes)

Commodity	Projected by the Working Planning	As revised by the Planning Commission
(1)	(2)	(3)
P.O.L.	76.12	67.35
Iron Ore	36.05	26.00

1	2	13
Fertilizers	8.47	12.18
Coal	10.55	10.55
General Cargo (including containers)	32.66	30.95
	163.85	147.03

4.3.5 The Committee examined at some length these traffic projections. It was realised that the traffic estimates projected by the Working Group and later by the Planning Commission were based on the data that was available in the year 1984-85 when the 7th Plan document was being drawn up. In order to update the assessment of the likely traffic during the 7th Plan period, the Committee held discussions with the representatives of the Minerals & Metals Trading Corporation, the Ministry of Agriculture (Fertilizers Division) and the Fertilizer Association of India. The Committee also obtained information through the Ministry of Surface Transport, from the Departments of Energy and Steel on the trends in the movement of thermal coal as well as coking coal. Based on the information made available by these sources, and also culled out from other professional journals and IPA's estimates etc. the Committee came to the conclusion that the earlier projections for the 7th Plan period should be revised to the extent indicated in the Table below:—

(Million Tonnes)

Commodity	Projected by the Working Group on Ports for 7th Plan	As revised by the Planning Commission	As assessed by the Committee on Dev. and Modernisation of Ports (MPRC)
(1)	(2)	(3)	(4)
P.O.L.	76.12	67.35	71.35
Iron Ore	36.05	26.00	38.00
Fertilizers	8.47	12.18	12.18
Coal	10.55	10.55	12.50
General Cargo (including Containers)	32.66	30.95	32.75
	163.85	147.03	166.78

4.3.6 The reasons for arriving at these figures (Col. 4) are explained below :—

P.O.L.

4.3.7 The Working Group for the 7th Plan had projected the POL traffic at 76.12 million tonnes for the year 1989-90 while the Planning Commission has revised it to 67.35 million tonnes. Presumably, the Planning Commission scaled down the estimate because it was not clear, at that stage, whether the Mangalore Refinery would go on stream during the 7th Five Year Plan period. This refinery project has since been sanctioned and the work is underway. It is expected that the refinery may go on stream towards the last year of the 7th Five Year Plan. Once the refinery is commissioned, the total crude handled would be around 8 million tonnes. Initially, however, in the last year of the 7th Five Year Plan, it is likely that the refinery may handle only around 4 million tonnes. The P.O.L. traffic estimate is thus being revised to 71.35 million tonnes by 1990.

IRON ORE

4.3.8 The Working Group's estimate of Iron Ore traffic for 1989-90 at 36.05 million tonnes was pruned by the Planning Commission and revised estimate of 26 million tonnes made. In their evidence before the Committee, the representatives of the MMTC stated that at one time the thinking was that it would be more advantageous to use iron ore for producing steel in the country and exporting the finished product to other countries. Recently however a decision had been taken to continue with the export of iron ore atleast for some years to come. Firstly, because the need to earn foreign exchange is pressing. Secondly, iron ore is not suffering from any demand recession in the international market. Thirdly, the production cost of steel being very high already, our products may run the risk of being out priced in the international market. For these reasons, the Committee was told, the MMTC had revised its estimates to 38 million tonnes by 1990. The MMTC indicated that their estimate of the export of the iron ore was around 38 million tonnes by 1990. The representative of the MMTC had also drawn attention to the Korean proposal for increasing its exports from Paradip Port and engaging bigger vessels of one lakh to 1½ lakh tonnes capacity. The proposal envisages assistance to Paradip Port in augmenting its capacity by deepending the channel and installation of suitable equipment and machinery for loading iron ore in these vessels. The MMTC representative had also cautioned the Committee that if this proposal does not materialise, South Korea may decide against lifting any iron ore from Paradip Port altogether because of draught limitations. The Committee was further given to understand that Korea had also offered to provide equipment and machinery for increasing the output of the mines and augmenting the railway infrastructure. The Committee hopes that government will take a decision on this offer quickly. Taking these factors into consideration and also the actual exports during 1985-86 the Committee's conclusion is that a more realisatic estimate of exports of iron ore for the year 1990 would be 38 million tonnes, the portwise break-up being somewhat as follows:—

Mormugao	..	18 million tonnes
Paradip	..	06 million tonnes
Visakhapatnam	..	06 million tonnes
Madras	..	06 million tonnes
New Mangalore	..	06 million tonnes
		42 million tonnes

The total shown above is 42 million tonnes. It bears mention that the figures of Mormugao and New Mangalore contain a slight cushion. It also includes extra 4 million tonnes which the Paradip Port may be able to handle if the proposed programme for expansion materializes. The alternative scenario would be that for 1990 the estimate would be 38 million tonnes.

FERTILIZERS

4.3.9 The Working Group for the 7th Plan had estimated that fertilizers and fertilizer raw materials traffic would be about 8.47 million tonnes by 1989-90. The Planning Commission had revised this figure to 12.18 million tonnes. The representatives of the Ministry of Agriculture and the Fertilizer Association of India were of the opinion that the import of fertilizers and raw materials by the end of 1990 would be 12.50 million tonnes. The Committee decided to adopt the Planning Commission's estimate.

COAL

4.3.10 The Working Group for the 7th Plan had projected the coal traffic at 10.55 million tonnes for the year 1989-90. This was accepted by the Planning Commission. When these estimates were prepared, import of substantial quantities of high quality coking coal was not visualized. The radical change in the coal scenario has come in the wake of the Planning Commission's reported decision recently announced, to permit the import of prime coking coal of 3.3 million tonnes during the year 1987-88 and also beyond. The spurt in demand for imported prime coking coal for blending with indigenously available washery grade coking coal, seems to have arisen because of:

(a) Insistence by SAIL for supply of prime coking coal with an ash content of 18% as against the minimum of 19.9% ash content offered by Coal India Limited for blending purpose. TISCO is also reportedly insistent on supply of imported prime coking coal with an ash content of 18%. These demands have been conceded by the Planning Commission.

(b) Last year SAIL rejected 2.5 million tonnes CIL coking coal (washery grade) supplied by Coal India because of high ash content.

(c) The supply of washery grade coal by Coal India Limited was 5.27 million tonnes in 1984-85. It went down to 4.47 million tonnes in 1985-86 and the target for 1986-87 is said to be 4.71 million tonnes.

Taking these factors into consideration, it seems advisable to provide for adequate import of high grade coking coal for the steel plants.

4.3.11 The Committee therefore, decided that the traffic projections for thermal as well as coking coal by 1989-90 should be as under:—

(Million Tonnes)

Port	Thermal Coal	Coking Coal	Total
Haldia	3.00	0.50	3.50
Paradip	0.60	0.50	1.10
Vizag	0.65	2.50	3.15
Calcutta	0.50		0.50
Tuticorin	4.25		4.25
	9.00	3.50	12.50

4.3.12 With regard to coastal coal, the loading ports are Haldia, Paradip, Vizag and Calcutta and the unloading port is Tuticorin. The difference between the quantities loaded and unloaded is due to the fact that about 50,000 tonnes of thermal coal is reportedly handled in minor ports for supply

to industries. The entire quantity of coking coal is imported. The figures given for thermal coal take into account the anticipated increase in demand at Tuticorin on account of the expansion of the Tuticorin Thermal Power Station.

BREAK BULK CARGO

4.3.13 The Working Group had projected this traffic including container traffic at 32.66 million tonnes, out of which 11.01 million tonnes was expected to move in containers. The Planning Commission had revised this projection to 30.95 million tonnes. There is not much difference in these two sets of estimates. The Committee decided that considering the present trend and in view of the renewed thrust on exports which has been backed up by a large package of incentives, announced recently, it would be desirable to retain the figure of 32.75 million tonnes which is close to the figure projected by the Working Group. In recent years there has been significant increase in containerisation of break bulk cargo. It is assumed that only 70% of the break bulk cargo is containerisable though in industrialized countries even 80% levels have been reached. Of the projected traffic of nearly 33 million tonnes about 20 million tonnes of general cargo has been assumed as a basis for determining the quantity that is likely to be containerised. At present, the proportion of containerised cargo to the total break bulk cargo is not high. With the insistence however by the importers in the Western countries on the use of containers both for imports and exports, the shippers in the country will have to take to containerisation The Committee felt that it would be realistic to work for a share of 50% of the containerisable cargo getting containerised by the end of the 7th Five Year Plan. Working on this basis and taking into account that there is an imbalance in trade as shown by the high proportion of empty containers moving from the ports to hinterland and back, the Committee decided that by taking an average load of 11 tonnes to a TEU, the total traffic of containers would be around one million by 1990. The break-up of this amongst the different ports is likely to be as follows:—

1989—90 (Lakh TEUs)

PORTS		
Bombay	..	3.00
Nhava Sheva	..	1.50
Calcutta/Haldia	..	1.50
Madras	..	2.00
Cochin	..	0.60
		8.60

The balance would be handled by the other ports viz. Kandla, Vizag, New Mangalore and Tuticorin. If the proposal for setting up of a full-fledged container terminal at Cochin with private capital materialises, the Cochin Port has the potential to increase its throughput from 60,000 to 1.25 lakhs TEUs.

4.3.14 Annexe D2 shows the traffic projections made by the Working Group on Ports for the 7th Plan, by the Planning Commission and by the Committee on Development and Modernisation (MPRC). The Committee wishes to state here that the estimate of 166.78 million tonnes for 1990 has a certain cushion built in it, to meet sudden fluctuations in demand. In working out capacity requirements therefore, only marginal additions on this account may be allowed so that demand supply equation does not show wide fluctuations and investments are judiciously made

PORT CAPACITIES

4.3.15 The Committee next proceeded to assess the requirements of capacity to handle the projected volume of traffic. It took note of the port capacities available at present, additional capacity likely to be generated by the development projects that are under way in the 7th Five Year Plan and the further developments needed, if any, to meet the shortfall in infrastructural capacity and equipment.

4.3.16 Annexe - D3 & D4 show the port capacities and the additions to port capacities during the 7th Five Year Plan as projected by the Planning Commission and by the Working Group on Ports for the 7th Plan. While Annexe D3 gives this information cargowise, Annexe D4 gives it

portwise. It would be seen from these annexe that the ports' capacity as on 31.3.1985 assessed by the Planning Commission was 132.73 million tonnes, while the assessment by the Working Group was 136.73 million tonnes. The difference in the two figures arises in P.O.L. where the assessment of capacity by the Planning Commission was 55.25 million tonnes in all the ports while the Working Group assessed it as 59.25 million tonnes. It would be seen from Annexe – D4 that this variation arose because of different assessment of capacities by the Planning Commission and the Working Group for the Vizag Port. Apparently, the Planning Commission had not taken into account the new oil facility provided at Vizag. The Committee, therefore, decided to go by the figure given by the Working Group viz. 136.73 million tonnes. The developments that are underway and the extent of augmentation that will be necessary for efficient handling of the projected traffic of 166.78 million tonnes are discussed in the paras below:—

P.O.L.

4.3.17 The facilities as existed at the various ports by the end of 1984-85 have been augmented by the provision of an Oil Berth at Madras. Sanction has also been accorded for a Second Oil Berth at Haldia and this is expected to be completed during the Plan period. With these additions, the facilities are considered adequate to handle the projected P.O.L. traffic expected at the various ports. If necessary some marginal increase in capacity can be obtained by increasing the diameter of the pumping lines to take advantage of the higher pumping rate where available in the tankers and by installing boosters where the pumping line is very long. However, the development of an oil berth to handle crude and products at New Mangalore Port would become inescapable if the proposed refinery comes up. Though the traffic projection under this head at New Mangalore Port for the last year of the Plan has been shown as 4.64 million tonnes, the facility will have to be designed to cater to the full requirements of the Mangalore Refinery viz. 8 million tonnes. This facility will have to be put up during the 7th Five Year Plan period. It is likely to attain full capacity utilisation during the 8th Plan period.

IRON ORE

4.3.18 The estimate of capacity as on 31.3.1990 assessed by the Working Group and the Planning Commission is the same viz. 41.50 million tonnes. Since the projected traffic in iron ore by 1990 has been placed at 38 million tonnes, the capacity available will be adequate to handle the expected traffic. However, note has to be taken here of the proposed development of the Paradip Port with Korean assistance into a deep water port capable of handling ships of sizes 1 to 1½ lakh DWT. If this proposal goes through, exports of iron ore from Paradip will go up from the present level of about 2 million tonnes to 6 million tonnes. This has already been taken note of in working out the traffic projections. Apart from the need for rectifying the problem of the ship loading conveyor belt and the wagon tipplers, the Vizag Port will also require installation of an additional reclaimer to attain the optimum loading capacity.

FERTILIZERS (INCLUDING RAW MATERIALS)

4.3.19 The present capacity and the capacity as on 31.3.1990 at the various ports as porjected by the Planning Commission and the Working Group is the same viz. 3.90 million tonnes and 8.00 million tonnes respectively. At present the major ports are handling a large volume of fertilizers. This has been possible because fertilizers are being unloaded on conventional general cargo berths. The traffic projection for fertilizers for 1990 made by the Committee is 12.18 million tonnes. This would generate the need for corresponding increase in facilities at the Major Ports. It is understood that the Ministry of Agriculture have a proposal to set up 2 Mechanical High Speed Unloading Plants for fertilizers and raw materials at Madras and Vizag. It is not clear at what stage these proposals are and whether the intention is to commission these plants during the 7th Five Year Plan. As mentioned earlier, in the absence of special facilities, the fertilizers will have to be handled conventionally at the general cargo berths. Intermediate/minor ports have also been handling nearly 3 to 3.5 million tonnes of fertilizers and raw materials each year. In case the major ports, are unable to cope efficiently with the increase in fertilizer traffic, congestion situation can be avoided by diverting some additional quantities to intermediate/minor ports.

4.3.20 Major Ports have been facing several difficulties in handling fertilizers, particularly Urea which gets caked during voyage or while loading and unloading, because of its hygroscopic character. Often

it becomes necessary to use pneumatic drills to break-up the cargo to facilitate unloading. This point was taken up with the representatives of the Ministry of Agriculture. No satisfactory reply was forthcoming. Apparently, out of anxiety to obtain cheaper freight, very old ships are being chartered to carry these materials. There are also reports that in the loading ports, Urea during loading is being compacted. All these lead to urea absorbing high moisture content and becoming rock hard. If the fertilizer is to be handled smoothly and fast, it is necessary to take steps to prevent the hardening of this material. The following steps are suggested:—

(a) Bulk carriers should be engaged to transport this cargo.

(b) A protective coating should be applied to the urea after loading, to reduce moisture absorption enroute or while off loading it.

(c) The hatch should be made water proof by providing protective polythene covering at the load ports.

(d) During rainy season this cargo should either be transported in HDPE bags or containerised.

The Committee hopes that the Ministry of Agriculture will decide quickly on the proposal to install mechanical high speed unloading plants at Madras and Vizag. It will be desirable for the Ports to provide Calf dozers or other suitable equipment for work in the hatches where, inspite of the precautions suggested above, caking may still take place.

COAL

4.3.21 The capacity as on 31.3.1990 assessed by the Planning Commission and the Working Group is the same viz. 8.45 million tonnes. As against this, the ports will be required to handle as discussed earlier, a total of 12.5 million tonnes of both thermal and coking coal by the year 1990. Additional facilities will be required and investible resources found. Two proposals have already been sanctioned — namely, converting the iron ore berth in Haldia to Coal loading and putting up a second coal unloading berth at Tuticorin. The conversion of the Iron Ore berth at Haldia to Coal loading berth has already been completed. However, the capacity of the railway system to bring coal to Haldia is not adequate to match the capacity of the two Coal Loading Berths. Some improvement in the Railway System is absolutely necessary to ensure optimal utilization of available capacities at Haldia. The construction of a Second Coal Berth at Tuticorin is under consideration. It is expected that a decision will be taken soon. This Coal Berth will have to be got ready in time to meet the increased need of the Tuticorin Thermal Power Plant when it is expanded. The capacity for loading and unloading of thermal coal at the other ports appears to be adequate and no further augmentation of existing facilities is recommended.

4.3.22 The spurt in the import of coking coal was not visualized earlier. While the quantities of coking coal that are to be handled at Haldia and Paradip are only 0.5 million tonnes each year, the amount of coking coal to be handled at Vizag would be 2.5 million tonnes per year. The quantities at Haldia and Paradip could be handled with the present equipment available, but at Vizag a new facility will have to be set up to handle coking coal, expected to be imported by the Vizag Steel Plant. This facility will require a special berth in the outer harbour with suitable high speed mechanical unloading equipment backed up by a stack yard with stackers, reclaimers and loaders. It is understood that this matter is already under discussion between the Ministry of Surface Transport and the Ministry of Steel.

BREAK BULK CARGO INCLUDING CONTAINERS

4.3.23 The capacity for break-built cargo assessed by the Planning Commission and the Working Group for the 7th Plan as on 31.3.1980 is 22.45 and 24.15 million tonnes respectively; while the capacity for containers assessed by the Planning Commission and the Working Group as on 31.3.1990 is the same viz. 9.30 million tonnes. The traffic projected for the year 1990 by the Committee is 32.75 million tonnes. The increase in the facilities that will be needed to handle this difference, would be mainly in containers. The Committee has projected a total tonnage of 11 million tonnes moving in containers by 1990. The capacity as on 31.3.1985 for container

handling in the different ports is 3.48 million tonnes. Additional cpacities will, therefore, have to be provided to handle the difference in the tonnage moving in containers. The facilities that are already proposed and under execution are a Second Container Berth at Madras and provision of additional gantry cranes at Bombay and Haldia. Another facility that is likely to come up during the 7th Plan period would be a Container Terminal at Cochin which is proposed to be put up with Dutch assistance. if these facilities come up, the container traffric projected through the Ports of Haldia, Madras and Bombay can be adequately handled. The setting up of a second container terminal at Haldia has also been under consideration. Eventhough Haldia was expected to be the main Container Port, the container throughput of Calcutta Port is also increasing progressively. The question of providing suitable equipment at Calcutta to handle containers will have to be considered. With regard to other ports viz. Vizag, New Mangalore, Kandla, Mormugao and Tuticorin, considering the low level of container traffic at present and the fact that no significant increase is expected during the 7th Plan period, provision for specialized container handling facilities at these ports is not necessary. However, it would be necessary to develop general cargo berths at least at Kandla, Vizag and New Mangalore initially with suitable back up space and hard standing to facilitate handling and stacking of containers and with in built provision in the lay out to facilitate gradual conversion into a container terminal as the traffic volumes increase. For the present, in these ports the containers may continue to be discharged by the ship's gear. The ports will have to provide the back up space and the hard standing as also shore handling equipment, cranes or top lift trucks etc.

4.3.24 The Committee has estimated that a total of one million TEUs will be required to be handled by the ports by 1990. The port handling facilities supplemented by the ships gear may be adequate to deal with the anticipated traffic volumes. It is important to note that unless containers are moved from the ports to the hinterland destinations in adequate numbers and quickly enough, congestion in ports on land ward side will surface. It will in turn reduce ship handiling productivity and also result in subopitmal utilisation of facilities. While back-up space may be available at some ports, it will be inadequate, however to permit stuffing and destuffing stacking etc. of a large number of containers within the port area. It is essential that container stuffing and destuffing operations of FCLs to begin with is moved outside the port areas. To facilitate this ICDs/CFSs are absolutely essential. This subject is exhaustively discussed in Section-VI.

DEVELOPMENTS UPTO 2000 AD

4.3.25 The Committee attempted a projection of likely traffic upto the year 2,000 AD and built up a perspective of the role the major ports will be required to play. Obviously, it is not possible to be even reasonably precise in making these estimates which will have to be based on a variety of assumptions. An estimate was made by I.P.A. recently. On the assumption that the port sector would maintain a growth rate of 7% per annum (as was observed during the recent past), the aggregate figure worked out came to 318 million tonnes by the year 2,000 AD. This estimate was further studied to find out whether the rate of growth as envisaged could with some changes be applied across the board, to the three main commodity groups of traffic viz—

(1) Liquid bulk,

(2) Dry bulk, and

(3) Break bulk.

Many countries are actively engaged in developing the use of alternative sources of energy in view of the fact that the fossil fuel sources is non-renewable. India is also engaged in this effort. Assuming these efforts bear fruit, it is possible to hold that the consumption of POL will not increase at a rate witnessed earlier. This has however to be considered against the fact that India's per capita consumption of energy is very low — about 300 kg. coal equivalent compared to about 9,500 kg. coal equivalent in U.S.A. The rate of increase in POL consumption level will also depend upon the international oil market and the price of oil and our capacity to pay for imports. There may also be new oil finds within the country. Taking all the positive and negative factors into account, the study scaled down the projection of POL to 107.3 million tonnes.

4.3.26 Similarly, on the assumption that the export of primary commodities is not likely to increase appreciably in future 7% growth rate as seen in the past would not be realistic. The estimate for dry bulk cargo was also thus scaled down to 101.9 million tonnes.

4.3.27 With regard to break-bulk cargo also, another scenario was given, assuming a lower growth rate than the originally assumed 7%. On this basis, the traffic of general cargo including container traffic, as projected in the study, was scaled down to 70.8 million tonnes.

4.3.28 On the basis of the above analysis the projected traffic by 2000 AD comes to 280 million tonnes.

4.3.29 The ports had also at the request of MPRC done an exercise on the likely traffic to be handled by each by the year 2,000 AD. These figures are not complete. However, on the basis of the figures given by the ports, the traffic projection works out to 249.49 million tonnes. The statement below shows the two projections made in the study mentioned earlier as also the estimates by the ports of likely traffic by 2,000 AD.

(Million Tonnes)

Commodity	Estimate I	Estimate II	Ports Estimate
Liquid bulk	121.18	107.3	102.97
Dry Bulk	115.7	101.9	92.13
General Cargo (Total)	80.5	70.8	54.39
(a) Break bulk	32.2	28.3	31.99
(b) Containers	48.3	42.5	22.40
	318.0	280.0	249.49

4.3.30 These figures were considered by the Committee to arrive at the likely pattern and quantity of traffic upto the year 2,000 AD. The Committee felt that with reaged to different commodities, instead of applying an average rate of increase of 7%, it would be desirable to apply the average growth rate for each group of commodities and work out the likely figure by 2,000 AD. Based on this, the estimate of the likely traffic in 1995 and 2000 AD in respect of the commodities viz. P.O.L., iron ore, coal, fertilizers, and raw materials, food grains and general cargo is as in Annexe - D5.

4.3.31 This estimate gives a much higher figure viz. 144.74 million tonnes for POL than what was indicated earlier. This has to be seen in the background of the following facts and national and international developments:—

(i) India has a lot of leeway to make in energy consumption. This is evidenced by the provision of Rs. 57,000 crores in the 7th Five Year Plan to the power sector.

(ii) The Western countries are gradually sheeding off high energy and material intensive products like steel to developing countries. USA and Japan according to IMF studies are progressively seen to be cutting down their steel production programme. USA economy no longer shows the growth of GNP and Energy to be in correspondence of 1:1.

4.3.32 The figure for dry bulk is also marginally higher than the second estimate given in the other study. Since this estimate is based on the average growth rate commoditywise the Committee felt that it was more realistic and decided to adopt it. The study has not revealed any major change in the estimate of general cargo.

4.3.33 For the above reasons the Committee decided to accept the projection of 327 million tonnes as detailed in Annexe - D5.

4.3.34 A separate exercise was done by the Indian Institute of Foreign Trade on the likely growth of general cargo (exports/imports) for the 8th and 9th Five Year Plans. The estimates made in that exercise are as follows:—

(Million Tonnes)

	1989-90	1999-2000
Minimum	28.47	86.6
Medium	42.06	107.4
Maximum	42.56	111.2

4.3.35 These estimates have been worked out by applying the growth rates in the quantum of exports and imports for each commodity for the three year periods 1970-71 to 1973-74, 1973-74 to 1976-77 and 1977-78 to 1980-81 and discounting the resulting figures by 25% to make them more realistic. Based on this, the study also worked out an estimate of the container throughput, assuming the average weight per TEU as 14 tonnes, and also assuming that 50% of the general cargo traffic would be containerised by 1989-90 and 65% by 2,000 AD. The estimate of container traffic thus worked out is shown below:—

(Million TEUs)

	1989-90	1999-2000
Minimum	1.0	4.00
Medium	1.5	4.95
Maximum	1.5	5.14

4.3.36 The figures indicated for general cargo according to this study are somewhat higher than the figures worked out by the Committee. The Committee preferred to adopt the figures worked out by it at 67.50 as against 86.6 as indicated in the IIFT study. On this basis, the quantum of container traffic would also vary. On the assumption made earlier that 20% of the general cargo traffic would not be containerisable and assuming 66-2/5% containerisation in 1995 and 75% in 2000 AD the container traffic would be about 1.8 million TEUs by 1995 and 2.9 Million TEUs by 2,000 AD.

4.3.37 Since the pattern and mix of traffic passing through the ports varies widely, depending upon so many factors like the international situation as also the state of the country's economy, the traffic projections made above should only be taken as broad indications and no degree of accuracy can be claimed.

LIKELY DEVELOPMENTS NEEDED IN THE PORTS TILL 2000 AD

4.3.38 Based on the broad indications obtained from the traffic projections as discussed above, likely developments that may be needed in the port sector till the year 2,000 AD are detailed below commoditywise.

POL

4.3.39 Quantity to be handled by the ports would depend upon a number of factors like the indigenous availability, of oil, international oil prices and the availability of foreign exchange to sustain the import of oil at the anticipated level. There is however, no doubt that the ports will be asked to handle more oil during the 8th and 9th Five Year Plans than in the 7th Five Year Plan. Since the capacity that will be available by 1990 would be just adequate to handle the expected volume of traffic by then, any further increase in POL traffic will generate the need for additional facilities at the ports. If larger imports are resorted to, it may be necessary to set up either additional refineries for processing the crude or go in for expansion of the existing Refineries. Where new refineries are planned at locations away from the existing ports, separate ports for handling POL or systems like SBMs will have to be considered. As mentioned earlier in the report, some marginal increase in the handling capacity in the existing facilities can be obtained by increasing the sizes of the pumping lines to take advantage of the higher pumping capacity where available in the tankers and supplementing this by establishing booster pumps where the pumping line has to travel a long distance.

IRON ORE

4.3.40 The likely increase projected in the iron ore export till the year 2000 A.D. is about 10 to 11 million tonnes. Depending upon the area and the port from which the additional exports are expected to move, additional facilities will have to be provided. Judging from the location of the iron ore deposits, it is possible that more exports would move through Paradip. If so, when a decision is taken on the Korean proposal to develop the Paradip Port into a deep water port, it may be desirable to keep in the port layout provision for additional berths to handle increased iron ore exports.

COAL

4.3.41 If more steel plants are set up and Coal India Ltd. is not able to meet the demand, as of now, for high quality coal, import of coking coal will increase. The Committee also noted that in the 7th and 8th Five Year Plan periods, construction of a number of thermal power stations is planned. The traffic in thermal coal is bound to increase in the coming years. There is already a proposal to put up a big thermal plant in close proximity to the existing one in Madras at Ennore. Indications are that this new plant would require about 8 million tonnes of thermal coal annually. Discussions are already underway on the advisability of having a satellite port for Madras at Ennore where the thermal coal can be handled. The Ministry of Surface Transport would do well to make a review of the programme for setting up of thermal power plants in the next ten years, their location etc. to help it draw up a perspective plan for coal movement and the extent of agumentation the ports would need to handle additional traffic efficiently.

FERTILIZERS

4.3.42 The installation of mechanical handling facilities at Madras and Vizag will increase substantially the fertilizer handling capacity at these ports. If the import of fertilizers and fertilizer raw-materials increases as projected in the estimate, installation of similar plants at some other ports will have to be considered. Since minor ports are already handling the overflow of fertilizers of major ports, some improvements in the handling facilities, draft, etc. in some selected minor ports would help.

FOOD GRAINS

4.3.43 During the 8th and 9th Five Year Plans, export of foodgrains is a distinct possibility. Since the main surplus of food grains in the country is likely to come from the Northern Zone, suitable equipment for facilitating exports in bulk from Nhava Sheva and/or at Kandla will have to be provided.

GENERAL CARGO

4.3.44 The increase in general cargo during the 8th and 9th Five Year Plans is likely to be in the area of containerisation. It will be necessary to put up fullfledged container berths in some more Ports. The identification of such ports will depend, among other things, upon the origin destination studies of traffic and its characteristics. This is discussed in the Section VI on Multimodal Network and Infrastructure of this report.

GENERAL

4.3.45 The additional facilities needed at the ports for handling the increased traffic upto 2,000 AD will have to be either by expansion of facilities in the existing ports or by construction of new ports. As at present, there is little possibility of any major expansion in the ports of Bombay and Madras though in both the ports there is ample scope for optimisation through various measures suggested elsewhere in this Report. In the other ports there is ample scope for construction of new berths, installation of additional equipment, etc. for handling the increased traffic. In the case of Madras, any expansion that may become necessary could be made in the satellite port at Ennore which is under consideration, if at the design stage, provision is made for addition of berths, as and when necessary, apart from the coal handling berth. In the case of Bombay possibly the new port of Nhava Sheva can be expanded to cater to increased traffic.

MONO COMMODITY BERTHS

4.3.46 In the past, in response to requests from the exporting or importing agencies, various ports have been providing mono commodity berths with suitable equipment to handle one single commodity. The experience of the ports in this regard has been sad. For example, the Iron Ore Berth at Madras, for nearly 3 to 4 years, was utilised below capacity leading to huge losses to the Port. The Iron Ore Berth at Haldia remained idle for a number of years and had finally to be converted into a coal berth. The Committee, therefore, feels that in the future programmes for port development, mono commodity berths should not be constructed. Even if any berth is to be used largely for one single commodity, the berth should be so designed, with sufficient open space adjoining the berth, to enable it to be used as a multi-purpose berth when the traffic for the single commodity falls below the anticipated levels. An example of this would be, the Kudremukh Iron Ore Berth at New Mangalore which, with some suitable design modifications, was made capable of handling general cargo when iron ore traffic passing through the berth declined. However, if any particular organisation desires that a berth should be earmarked for export and import, it would be appropriate to call upon that organisation to provide the handling equipment and managing the facility and paying berth hire charges, on the basis of optimum utilization to the port. The responsibility of the port would only be to provide the basic infrastructure viz. berth and the adjoining space. Otherwise, as in the instances mentioned earlier, facilities provided by ports will always run the risk of under-utilisation with serious consequences to their financial health.

CHAPTER—4

MODERNISATION

Modernization means renewal and replacement of the old and obsolete by what is more productive and cost efficient. The objective of rapid, smooth and orderly transfer of goods from the sea transport sub-system to the surface and waterways sub-systems and vice versa can be subserved by a sea port which is a pivotal point of inter-face, provided it has —

(a) matching infrastructural facilities for servicing vessels of different sizes, variabilities and technologies, draughts, jetties, breakwaters, moorings anchorages, wharves and also transit sheds, warehouses backup areas etc. for aggregation and storage of cargo;

(b) matching cargo handling systems and equipment which are capable of loading and discharging quickly cargoes from and into the vessels, reducing vessel turnround time to the minimum and also optimizing the use of port assets.

Even where the contemporary technologies and facilities are available but the practices, procedures and documentation out dated and cumbersome, as in most of the major ports at present, the underlying objective will be subserved only marginally. The aim should be to ensure the physical flow of cargoes into the port/vessels and from vessels/port to the hinterland is matched equally by the documentary flows. In many major ports these two flows do not move in tandem and thus the problems of landward and seaward congestion surface. The Ministry of Surface Transport recognising that the practices and procedures in vogue in ports which had evolved historically were seriously constraining the ports operational efficiency and managerial initiatives proposed an indepth study of the problem. Pursuant to this, a Directing Group comprising the then Member Customs (now chairman Central Board of Excise & Customs) Addl. Secretary (Ports) in the then Ministry of Shipping and Transport and Additional Secreatry, Department of Administrative Reforms, Joint Secretary, Ministry of Commerce and the Managing Director IPA was set up to study the working of major ports and suggest measures for building up —

(a) a uniform documentation system;

(b) simplified payment procedures; and

(c) rationalization of tariff structures.

The Committee submitted its Report to Government in August, 1984 which was examined by an Empowered Committee headed by the Secretary of the Ministry. The MPRC endorses fully the recommendations made by the Directing Group and hopes that before long the Ministry of Surface Transport would put them on the ground as it represents a major effort to break with the past and usher in a new work culture and ethos in the major ports.

4.4.2 While implementing the recommendations of the Directing Group, the Committee hopes some of its recommendations would however be so updated as to fall in line with the substantive changes since announced by Government in various areas of national policy. One of these policy pronouncements emphasises the need for public enterprises generating their own resources to finance their development needs. This aspect has been discussed in Section II of the Report.

4.4.3 About the infrastructural changes and development, the major ports need to improve their capabilities to regional and international levels. The Committee has elsewhere made certain suggestions while dealing with the question of port development, operations and management of the major ports. Given the present resource constraints in the national economy with little prospect of any massive inflow of funds by way of international aid or from the private sector the Committee suggests a selective approach in the investment of infrastructural facilities.

The ports should however draw up perspective plans for their growth and development for the next 15 years. In fact this has been done already by the ports of Tuticorin, New Mangalore and Madras. The Master Plan studies of the first two ports which have already been prepared and presented by the IPA impressed the Committee not only by their depth, range and quality but also the sensitivity the authors have shown to compulsions of the economy generally. There is well deserved emphasis in these studies on environmental safety, ecology etc.

4.4.4 There are some hopeful signs however that urgent programmes of infrastructural development of some of the major ports may come out of the drawing boards if the interest shown by the Asian Development Bank and Korea for financing the ports of Madras, Haldia and Paradip materializes.

4.4.5 The Committee however strongly feels that superstructural changes and developments considered imperative in the major ports, for improving their capabilities to regional and international levels should receive top priority. If new and appropriate cargo handling technologies are introduced without further delay in the Major Port system a major break through in the present situation is possible. The technological hiatus which divides the major ports from their counterparts in the industrialised countries, if it cannot be bridged in the short run at least must not be allowed to widen to the detriment of the growth of India's share of international sea borne trade. This Chapter deals largely with superstructural and equipment profile of major ports and seeks to identify the technological in-puts needed to upgrade the level of modernisation and improve overall efficiency and cargo handling productivity.

4.4.6 All the major ports were asked to furnish the following information about the equipment etc. available and operated by them, to help the Committee to make its own assessment of the present state of technologies in use and the level and extent of modernization required:

1) Total items of equipment.

2) Details with regard to age, type, capacity etc.

3) Total number of hours available for working.

4) Actual availability after deducting time-lost due to planned maintenance and shut down and breakdowns.

5) Percentage of availability of equipment.

6) No. of hours actually worked by the equipment.

7) Percentage utilization.

4.4.7 The Committee taking note of the fact that new technologies being highly capital intensive and sophisticated, would require massive input of financial resources and skilled manpower which is equally a serious constraint, decided that all things considered, in the context of modernisation priority should be accorded to upgrading the efficiency and productivity of cargo handling equipment. Accordingly it is called for specific information on the following:—

(1) Wharf cranes

(2) Mobile cranes

(3) Fork Lift Trucks

(4) Tug (Shipping and docks)

(5) Floating cranes

(6) Locos

(7) Container handling equipment — gantry cranes, rubber mounted transfer cranes, top lift trucks etc.

(8) Other equipment like front end loaders, tractors etc.

4.4.8 The detailed statements port-wise are at annexe D-6. From these statements models of equipment types were drawn and an additional factor representing utilisation as a percentage of availability worked out. This was considered necessary to make realistic estimates of the demand for equipment rather than going by the percentage of the total number of hours during which the equipment could have worked. The Statements I to VII Annexe D-7 have been examined in the succeeding paragraphs.

WHARF CRANES

4.4.9 From Statements I and I(a) (Annexe D-7) it would be seen that in general, the maintenance of wharf cranes has been satisfactory except in Calcutta where it is low. The demand for wharf cranes has generally been low in all the ports, particularly so in New Mangalore and Tuticorin. This is explained by the fact that in these ports, the wharf cranes are provided only where they are specifically required when unloading mostly done by the ships gear is not feasible. Even in other ports, the utilistion has not exceeded 50%. This shows that in almost all ports there is an over supply of wharf cranes. In many ports the wharf cranes are, however, very old and their capacity low with reference to average weight of unitized packages. In Bombay, the hydraulic cranes though more than 50 years old are still in service. Except in the ports of New Mangalore and Tuticorin where the cranes are relatively new, in all the other ports proposals to condemn the old and low capacity cranes require to be taken in hand quickly. The replacement programme should be preceded by a proper study of the changing pattern and mix of traffic and requirement of cranes worked out with reference to anticipated cargo throughput at peak utilization levels. While the Committee believes that the trend of unitization and palletization of packages is inevitable and irreversible, yet it would not be prudent to overlook the possibility of expansion of trade with developing countries as discussed in the Chapter on Foreign Trade Perspectives. The likelihood therefore of ports being asked to cater to small sized packages for export to these countries some of them lacking in modern facilities, should be borne in mind Elsewhere in the Report a suggestion has been made that while in the past a cluster of 4 cranes was provided in each wharf, in view of dramatic changes in production technologies, where the wharves are in line, this cluster of four cranes should be made to service two wharves. The cranes of higher capacity to be acquired may range from 6 to 10 tonnes. With 4 ropes these cranes can be utilised for grabs also.

4.4.10 Incidentally in New Mangalore, the Committee was somewhat surprised to find that in spite of traffic volumes being low, the traffic rails had prematurely worn out. This impedes the movement of the cranes from one berth to another. If these rails are repaired quickly the utilisation of cranes may improve.

MOBILE CRANES

4.4.11 Statement II Annexe D-7, reveals fair to inefficient maintenance of mobile cranes generally. Except in Mormugao and Tuticorin, the percentage of availability in other ports is below 80. Utilization, except in the case of Haldia, where the percentage is 94, is very low. The low utilization in the ports of New Mangalore and Tuticorin is presumably because cargo is discharged directly from the ships into the trucks. In Mormugao the general cargo traffic has not yet picked up sufficiently. In the case of other ports, the utilization varies between 40% and 75%.

Bombay and Calcutta are maintaining a large fleet of mobile cranes whereas the other ports fleets are small. Even so, there is need, as in the case of wharf cranes, for ports to reassess the requirements of mobile cranes, discard those which have outlived their economic life and go for

replacement by cranes of higher capacity with due regard to pattern and mix of traffic. The Committee endorses Bombay's proposal to replace 10 old cranes of 10 tonnes capacity by 4 new cranes of 25 to 30 tonnes capacity. Calcutta Port against its estimated requirement of 24 mobile cranes for meeting the peak demand proposes to keep a fleet of 45 cranes. Even if allowance is made for very wide and somewhat unscientific layout of the port, the Committee would recommend reassessment of the requirements. The ports proposal to go for new cranes of higher capacity so also to acquire a 30 tonnes tyre mounted multi-purpose crane for handling containers also is sound. Madras proposes to reduce the existing number by 3 and acquire a 20 tonnes hydraulic crane. In other ports like Cochin and Vizag, in the Committee's view there is scope for reducing the number of mobile cranes by weeding out over aged cranes and inducting a much smaller number of higher capacity units.

Both in New Mangalore and Tuticorin as well as in Vizag, crawler mounted cranes used for project work are still being held in the inventory. The Committee feels that very old and slow as these cranes are, they should be phased out or used elsewhere. If the traffic volumes warrant it, acquisition of tyre mounted high capacity cranes should be considered. Where specialised container equipment has not been installed, mobile cranes are and should be used. This the Committee is aware is not the most efficient and modern way of handling containers but so long as the container traffic is small say upto 30,000 TEUs annually, use of a tyre mounted heavy duty crane would not appear to be feasible. In the alternative the port may consider acquiring top lift trucks. Later on as traffic throughput increases warranting the use of specialized equipment these TLTs can still be used to supplement the system facility.

FORK LIFT TRUCKS

4.4.12 The Statement III Annexure D-7 shows that except in the ports of Tuticorin, New Mangalore and Madras the availability of FLTs is. low - below 75%. This reflects on workshop efficiency. There is a large percentage of FLTs which have long outlived their economic life. Utilization can be said to be satisfactory in Haldia and reasonably so in Calcutta. In all the other ports the utilisation appears to be low, though in Madras it is slightly above 50%. The Committee was told that in the case of Madras the demand for FLTs of less than 5 ton capacity is poor because unitized packages on the average exceed five tonnes. The port proposes to replace 6 of these FLTs of low capacity by 2 units of 10 tonnes capacity. Since the port is required to handle iron and steel cargo in sizeable quantities 25 tonne capacity FLT would be useful and result in higher productivity. The port also proposes to modify some of the FLTs by attaching 3 more paper roll clamps to make them suitable for handling news print.

4.4.13 In the port of Vizag, FLTs of over 8 to 10 years vintage are being scrapped. The replacement to the extent traffic warrants it should be by FLTs of higher capacity.

4.4.14 In Cochin also the fleet is quite large. Since the port provides staff for only 25 FLTs there is no justification for maintaining such a large inventory. The Committee is not impressed by the Port's proposal to replace 8 FLTs of 2 tonne capacity by 3 tonne capacity units. The port should make a fresh assessment of its requirements, particularly because it attracts lot of general cargo and the Committee believes that with unitized cargo packages and pallets becoming bigger and bigger, acquisition of five tonne capacity FLTs would be advisable.

4.4.15 In Calcutta the peak demand is said to be 28 FLTs per shift. The port proposes to reduce the fleet size to 44, phase out the old FLTs and add 10 FLTs and one side lift FLT of 2 to 3 tonne and 6.5 tonnes capacity respectively. Calcutta's problems are somewhat peculiar yet the Committee would strongly urge a de novo appraisal of the proposal to acquire units of 2—3 tonne capacity for reasons given in the preceding paragraph.

4.4.16 In Haldia, the utilisation is quite high, but the manpower availability requires review because there is good demand.

4.4.17 In Mormugao for a fleet of 17 FLTs the staff provided is only for 8. The demand which now averages 3 per shift may rise when the new general cargo berth becomes operational. With all that the port should reassess the requirements and adjust the fleet size to optimal requirement.

4.4.18 Both in New Mangalore and Tuticorin, the demand for FLTs is very low because the cargo delivery is direct from the ship to the trucks. In these ports, possibility of increasing the utilization may open up if traffic increases. In Paradip, in view of the fact that the volume of general cargo traffic the port is called upon to handle is not very high, a reassessment should be made of the requirement and surplus transferred to another port.

4.4.19 To sum up ports have an oversupply of FLTs which indicates that acquisition programme were based either on unrealistic traffic estimates or because assessment of workshop efficiency was assumed at sub-optimal levels. Furthermore no port appears to have drawn up and updated an acquisition/replacement programme; otherwise there is no reason why the inventories should show such a high percentage of old and low capacity units. The ports would do well to draw up five year acquisition/replacement programme for this equipment which though versatile has yet not witnessed much of technological sophistication. The necessity to have higher capacity machines to cater to the changing mix and pattern of traffic should be kept in mind.

TUGS

4.4.20 Statements IV, IV (a) and IV (b) Annexe D-7 show that while Kandla and Calcutta have returned a very low percentage of availability, the maintenance of tugs in other ports is satisfactory. The level of utilization depends apart from ports lay out on a number of variable factors like the number of vessel calls their variability and sizes etc. This is illustrated by reference to Vizag, which as a leading dry bulk port, shows relatively better utilization of shipping tugs.

4.4.21 In some ports, separate tugs are used for towing dumb barges. Since utilization of shipping tugs is generally low, in the Committee's opinion in the Buders which are shallow the feasibility of using shipping tugs for towing barges may be examined. While ordering shipping tugs in future, provision may be made for use of these tugs in shallow waters and twin screws provided to increase their manouverability.

4.4.22 In Goa, 4 tugs are needed in day time and two at night. The total fleet at present is five and this includes one tug which is 30 years old. It may be replaced by another tug of 30 tonnes bollard pull because Goa is handling very large ships. Cochin has fleet of 4 tugs of which 3 are operated at a time in the port and the other one utilized occasionally by the Cochin Ship Yard also. When the tug which is more than 26 years old is replaced, the Committee hopes it will be replaced by one with higher bollard pull.

4.4.23 New Mangalore has no tug at present and is depending on private owners. The port has two tugs on order. It would be necessary to provide one more tug to this port because for shipping movement the minimum requirement of tugs for each vessel is two.

4.4.24 Vizag has a total fleet of 8 tugs and has to provide 4 tugs at a time for shipping movement. The port has programmed for replacement of two older tugs by a new one of 30 tonnes bollard pull and later on another tug of 30 tonnes will be added and the oldest tug of smaller power scrapped.

4.4.25 In Kandla, the requirement is for 2 tugs at a time — one at Kandla and one at Vadinar. The total fleet of shipping tugs at Kandla is only three. It is necessary for the port to have one more tug.

FLOATING CRANES

4.4.26 The Statement-V, Annexe D-7 shows that the ports of Haldia, Mormugao, New Mangalore, Tuticorin, Kandla and Paradip do not have Floating Cranes. The availability of floating cranes in other ports is quite good except in Bombay and Calcutta where it is rather low. However for specialised equipment like a floating crane which can be used only for loading/discharging heavy lifts mostly project cargoes weighing above 30 tonnes the rate of utilization is not easy to determine. Transport of project cargoes is a specialized job and not all vessels go for it. These pieces of equipment are therefore kept as an insurance for occasional need.

4.4.27 Both in Bombay and Cochin the floating crane is used for only day shift. If the availability can be increased to two shifts with adequate provision made for safety of the crew etc. the utilization rate would improve dramatically and in turn enable the management to reduce the tariff per move/lift etc. This may also attract more users to indent it. In Calcutta, there are three cranes and the utilization is only 31.8%. It would be desirable to moth-ball one crane so that the utilization percentage could improve. In Haldia, since the potential for increase in break bulk (including machinery) traffic is there, one floating crane of 60 tonnes or high capacity may be required by the port. With the development of a new Naval Port at Karwar, the necessity to provide one heavy liftfloating crane at Goa or New Mangalore, to handle project cargoes also requires to be examined.

DIESEL LOCOS

4.4.28 The Statement-VI, Annexe D-7 shows that except in Mormugao and Tuticorin, the availability of Diesel Locos is average or even below average. The ports of Haldia, Mormugao and Bombay have shown satisfactory utilization levels. In Haldia, Madras, Vizag and Paradip some locos remain committed to feeding wagons to the tipplers. The utilisation level of others for hauling shunting goods wagons is influenced by several factors within and outside the managements control.

4.4.29 The Committee would like to make the following observations:

(i) In Vizag, large number of locos are old and apparently uneconomic to operate. There is no point in burdening the inventory with unserviceable locos. The port may reassess its requirements of locos for iron ore handling and for other traffic and draw up a phased programme of replacing old locos by a smaller number of high powered locos.

(ii) In Goa also though the utilisation is quite high, the locos are very old and a replacement programme is needed.

(iii) Madras proposes to condemn three Canadian locos of 1961 vintage and replace these by 2 high powered diesel locos.

(iv) In Haldia, two more locos would be needed to feed the tipplers.

4.4.30 The Committee elsewhere has made a proposal that except for the lines and locos etc. indispensable to the ports use which should be realistically assessed, the port Railways should be transferred in accordance with a phased programme to the Indian Railways. If this comes about the requirement of locos will also have to be reassessed and units surplus to requirements disposed of.

OTHER PIECES OF EQUIPMENTS — TRACTORS AND FRONT END LOADERS:

4.4.31 The Statement VI (a), Annexe D-7 shows that a large number of tractors are being maintained by Madras and Cochin. In Madras these are used for pulling container chassis; in Cochin the tractors are used for general purposes also to improve their utilization which is otherwise low. With the installation of specialised container equipment Cochin Port's inventory of tractors rather high at present may come in balance. Meanwhile the port would do well to use tractor trailers for intraport transport of container empties.

4.4.32 Statement VI (b), (Annexe D-7) shows that Front End Loaders are in use in Vizag, Tuticorin and Paradip. In Vizag, the availability and utilization are both low. The port may reexamine the need for this equipment. In New Mangalore both the two FLTs are unserviceable and have been condemned. Since the port has found this equipment and some users also handling chrome and manganese ore, supported it the port may either go in for these equipment on its own or leave it to the private hirers to provide. A similar exercise is necessary in the case of Tuticorin port also. In the case of Haldia the provision of front end loaders with long reach may optimize the productivity of the fertilizer and raw material handling systems. The Committee wishes to say that prima facie the need is there.

SPECIALIZED CONTAINER HANDLING EQUIPMENT

4.4.33 These equipment generally are ship-shore gantries (Portainers) yard cranes (Transtrainers) and top lift trucks. The Statements VII, VII(a) and VII(b) (Annexe D-7) give the portwise position, availability and utilisation of these three types of equipment.

WHARF SIDE GANTRIES (PORTAINERS)

4.4.34 These stand provided at Bombay, Haldia and Madras. The availability is good, but utilisation poor in the case of Bombay and Haldia. Bombay's difficulties largely arise out of paucity of space. Already the port and the users have suffered enormously on account of bad planning of Ballard Pier Container Terminal compounded by wrong acquisition policies. The Committee feels that when Bombay planned to set up the terminal its container throughput was already so high as not to cause any apprehension of underutilization of both the units which generally are installed in pairs to optimize discharge from and loading of cellular container vessels. That two cranes of the same type design and technology would have saved inventory costs and also resulted in economy in operating costs should have been apparent to any one but with all that two different makes of cranes are found installed on this terminal. The Committee would strongly urge that the requirement of equipment and availability should be monitored properly and remedial steps taken at the appropriate time. In Haldia the poor utilization would remain unless it takes to two shift operation.

GANTRY CRANE IN THE CONTAINER STACK YARD (TRANSTRAINERS)

4.4.35 The availability of these equipment is good in all the container terminals except Bombay where the low level of utilization is primarily because portainers are almost non-operational. It is expected that once the problems of the second gantry crane are sorted out the utilisation of these cranes would improve. The Committee would like to caution the port managements and Government against the temptation of idle time costs of these equipment being taken into account in computing tariff. These idle time cost must by now have added to a very substantial amount indeed in these ports.

TOP LIFT TRUCKS

4.4.36 While the availability and utilization of the Top Lift Trucks in Bombay is poor, in Madras it is good. Bombay is having a lot of problems with this type of equipment while the experience of Madras is not unhappy. The Committee after examining this issue came to the conclusion that even though the technology is the same adequate care was not taken while placing orders to ensure that the axle loads and the ground strength were wholly compatible. The manufacturers also haye not, the Committee regrets to note, given a very good account of their dealings.

4.4.37 The wharf side gantries and the gantry cranes in the stack yard are very costly pieces of equipment and their installation is normally justified on the basis of traffic incidence more so where investible resources are hard to find and ports unlike in Europe or any other industrialized country have not to contend with serious interport competition. Once installed the port must ensure that these equipment are optimally used. While ship arrivals cannot be predicted and the utilization rate of these cranes remains fluctuating to that extent but if related supportive equip-

ment to complete the system are not adequate or efficient, underutilization though under the Port's control, would still result.

4.4.38 Generally for each portainer crane, the norm is two transtainers and where incidence of import/export traffic is high even three units can be justified. In Haldia however for one wharf side gantry crane, only one stack yard gantry crane has been provided. There is a proposal to instal one more rail mounted wharf crane and one gantry stack yard crane at Haldia. If traffic increases above 1.2 lakh TEUs annually the cycle time of the portainer operating on the vessel and stackyard cranes for stacking or despatch of containers to the CFS will have to be slowed down to unacceptable levels. The Madras Port and the investment planners deserve praise for the courage and foresight they have shown in developing container terminal facilities there three years ago. Firstly it is not a terminal port. Secondly at the relevant point of time it was handling annually around 25000 TEUS-a a throughput not anywhere near the economic viability level of two portainers, two transtainers and supportive infrastructural facilities. Madras has gradually increased its throughput to around 100,000 TEUs.

4.4.39 In Madras, with the proposed commissioning of second container berth, two more gantry cranes are proposed to be erected with ADB assistance. The justification given is that even during 1986-87 about 1,00,000 containers are expected to be handled and by the time the additional two gantry cranes are provided, the throughput of containers is estimated to go up to 2,00,000 TEUs. For the Stack Yard, two more tyre mounted transfer cranes are due to be installed by April 1987. Four more such cranes are proposed to be erected with ADB assistance in 1988-89.

4.4.40 In Bombay only two portainers have been provided at the wharf at Ballardpier even though this terminal is programmed to handle around 1,80,000 TEUs annually in the next two years or so. Provision of one more portainer is fully justified. The number of transfer cranes three at present will also have to be augmented suitably. However because of serious constraint of space the erection of the third portainer at site will take a very long time and necessitate decommissioning of the terminal with serious loss to the port and the trade. The only way to avoid it is to go for import of this crane in knocked down condition and then erect it at site which is a matter of weeks.

4.4.41 The Committee has already recommended elsewhere that as is the practice in many other countries all equipment acquired for use within the port should be exempted from Customs and excise duty. Only such a waiver if allowed can make this proposition economically feasible. It will not be attractive otherwise because import of such a crane in CKD including transportation etc. would cost around Rs. 10 crores which almost double the cost of a portrainer erected at sight.

4.4.42 Having regard to the anticipated volume of container traffic the equipment provided for stacking of loaded containers and empties is inadequate by universally accepted norms. Bombay Port officials conceding this also said that plans were afoot to reclaim 20 acres of land at Wadala and use it as a container stackyard. This will take quite some time. As an interim measure the Bombay Port may consider setting apart 4 or 5 pieces of land at different locations in close proximity to the main docks for stacking empties. While installing additional transfer cranes at the stack yard the requirement of supportive equipment viz. TLTs and side loading FLTs to handle empties should also be assessed and procured to make for improved systems productivity.

4.4.43 In fact this view holds good for other ports also where specialized container handling facilities are being installed or are under contemplation.

4.4.44 Calcutta has no proposal for installing any portainer largely perhaps because the port is not capable of receiving special container cellular and gearless vessels. However, since the port has a good potential to serve as a feedering port and the container traffic is on the increase certain

amount of modernisation of the terminal is absolutely necessary. The port should have — 3 rubber tyred transfer cranes — 2 TLT one FLT for handling empties.

4.4.45 The Port of Cochin, Haldia, Bombay and Madras have been designated as the main container handling ports. Equipments have been installed or are being installed there. Their infrastructural and other equipment needs are being met as discussed in the preceding paragraphs. But the containers are also being handled in some of the ports like Vizag, New Mangalore, Tuticorin and Kandla. As already recommended in the preceding chapter on 'Port Development', these ports mentioned above also require to be equipped with some basic but less sophisticated handling equipment in the shape of mobile cranes or TLTs etc. These ports are planning to provide wharves with sufficient open space for handling containers. The installation of sophisticated equipment at this stage is not justified and therefore recommended. It will have to await a quantum leap in containerised throughput. Till then these wharves may be put to multipurpose use It is assumed that the layout and the structure of the stackyard and the berth back up areas would be such as to withstand the pressure of heavy duty equipment with 60-90 tonne axle weights.

4.4.46 It will be apparent from the above that the standard of maintenance of equipment in the major ports is generally speaking below satisfactory levels. The Committee's macro level diagnosis of this situation is that:

(a) Workshop management is weak and this is compounded by excessive manning and lack of skills, particularly evident in the case of sophisticated equipment. The Madras Port has brought about some innovative changes which other ports will do well to emulate. The Committee was particularly impressed by the programme drawn up by that port for condition monitoring of various types of equipment which is outlined in the attached note at Annexe D-8. Among other things it helps the managements to predict the areas in which the equipment are likely to fail and therefore relatively greater attention has to be paid to their preventive maintenance. The Committee was given to understand that Mormugao has already decided to adopt this programme.

(b) Haldia which is showing very positive signs of improving its cargo throughput can no longer be expected to look to Calcutta port for all its maintenance and repair facility needs and should therefore have a small workshop to attend to spot repairs in order among others to reduce the down time of these equipment.

(c) New Mangalore Port cannot be expected to perform satisfactorily without the provision of proper loading arms. The Committee is somewhat surprised that Oil India the major user of this facility has ignored this basic requirement which offers potential for increasing its productivity.

4.4.47 The Committee has also noted that the rapid changes in the technological scenario and also the radical changes in the pattern and mix of cargo brought by the vessels result in decline in the utilization levels of the conventional cargo handling equipment, since volumes lead to scale economies. This is why mechanised and sophisticated systems as for handling containers and dry bulk cargoes are being more intensively used. But if on the whole, their productivity compares unfavourably with similar systems in industrialised country ports, it is largely, as pointed out earlier also, because the work force employed for operating these systems if far in excess of its requirements as in the case of the coal handling plant at Visakhapatnam. Secondly for renewal/replacement of components of these systems, adhoc approach in the rule rather an exception. The Committee strongly recommends that well planned programmes of scheduled maintenance and overhaul of these systems should be drawn up by competent persons and strictly adhered to. The port managements should closely observe the performance of these systems and undertake in depth reviews at periodical intervals. The Committee does not wish to lay down any omnibus guidelines because of the wide ranging differences in operating practices of the various systems in ports.

4.4.48 Subject to the above observations the Committee would like to outline here some basic principles which may be considered for adoption mutatis mutandis by the individual ports:—

(1) In view of the substantial increase in the container traffic, the Indian Ports need a well thought out and bold programme for infrastructural development and acquisition of container handling equipment. The first priority should be given to ports which already have or are in the process of building up special containerized terminals. The ports which in the Committee's view should be gradually enabled to have full fledged container handling facilities should be taken up next. The technical and non-technical inputs into such a programme should be periodically updated based on experience gained by the use of a particular technology by any port or ports in India or abroad. In view of the rapid change in technologies taking place and having regard to the fact that the major ports of India are still far behind in the race for modernisation, the Committee would strongly recommend that the acquisition programme for container handling facilities and in fact other systems for dry bulk handling etc. should be reviewed together once in two years by the port managements at the level of IPA or Government.

(2) Conventional methods of handling dry bulk should either be phased out and cargo allowed to be handled in ports with mechanised handling facilities for coal, fertilizers, fertiliser raw-material, etc. If the throughput is expected to increase provision for setting up of systems facility should be made.

(3) Each Port will have to continuously make a review of the fleet strength of all cargo handling equipment and adjust the requirements from time to time either by disposal of obsolete and old equipment or by mothballing equipment when the demand is seen to be falling.

(4) The technology of cargo handling equipment is changing rapidly. Each Port should, therefore, continuously review the types and sizes of equipment needed keeping in mind the developments in ports in other countries and decide at the time of preparation of annual plans each year how the funds likely to become available can be put to optimal use.

4.4.49 The cumulative impact of the recommendations made in the preceding paragraphs, assuming these are accepted by Government, will be that the ports will be enabled to offer comparable cargo handling facilities and this will to an extent increase their capacity to attract direct shipments and vessel calls. But much will depend upon the Government and the port managements ability and ingenuity to resolve satisfactorily the host of problems which are an inevitable consequence of modernisation. The foremost amongst these is the problem of redundancy of work-force. Unless this is satisfactorily tackled and the manpower requirements rationalized the ports may well find the burden of capital and operating costs of the new equipment jeopardising their economic viability. This matter has also been discussed elsewhere in this Report.

CHAPTER — 5

ROLE OF INTERMEDIATE AND MINOR PORTS

Although the primary task entrusted to the Major Ports Reforms Committee is to study the working of the major ports and suggest measures to improve their managerial and operational efficiency, yet the role of intermediate and minor ports in handling domestic and international traffic cannot be disregarded. In the handling of sea-borne traffic, the intermediate and minor ports infact play a complementary role to the major ports. As such, attention has to be paid to the development and modernisation of these ports, more so when construction of new major ports would demand massive investments not easy to find.

4.5.2 The ports which are not declared as major ports under the Major Ports Act, are minor ports. The total number of intermediate and minor ports in the country today is 162. Quite a few of these handle overseas traffic. The total traffic handled by the Indian ports during 1984-85 was of the order of 116.6 million tonnes. Out of this, the minor ports handled 9.9 million tonnes during that year. One of the important features of the cargo handled in the intermediate/minor ports is the high proportion of overseas traffic as compared to the coastal traffic. The major items of overseas traffic handled by these ports are foodgrains, fertilizers imports etc. The principal items of exports are building materials, oil cakes, ores and salt.

4.5.3 In the paper on the "Approach to the Seventh Five Year Plan 1985-90" prepared by the Planning Commission, it is stated that intermediate and minor ports should be developed as an integral part of the overall port system in order to increase the port capacity in the country and to help in the acceleration of regional development. Identical views have been expressed by the Lok Sabha Estimates Committee and the National Harbour Board etc.

4.5.4 Notwithstanding these pronouncements the development of intermediate and minor ports — there are a few exceptions has not proceeded apace and their integration with the major ports subsystem has remained an ideal to be achieved. In the Seventh Five Year Plan, towards the achievement of the objective of developing these ports as an integral part of the overall port system, the central allocation provided was a meagre sum of Rs. 20 crores.

4.5.5 Apart from constraint of resources, the constitutional position has also contributed to their neglect. In the constitution, while major ports appear in the Union List, the minor ports are in the Concurrent List. The responsibility for development of intermediate and minor ports is discharged by the respective State Governments. Until the end of the Fourth Five Year Plan, the Central funds used to be specifically earmarked to State Governments for development of minor ports under the head of centrally sponsored schemes. In 1978, however, as a result of the near unanimous demand by the State Governments, the National Development Council decided to give up the centrally sponsored schemes and leave the states free to prepare plan priorities according to their needs. The States on whom therefore the responsibility for providing funds for the development of minor ports descended have not, because of competing demands on their meagre resources, found it possible to allocate adequate resources for port development. The financial position of these ports was further weakened by the decline in coastal Shipping, rapid development of other modes of transport and changing shipping and cargo handling technologies. In the early seventies about 118 of these ports handled traffic varying from a few hundred tonnes to a million tonne. Of the eight maritime States and 3 Union Territories (Andaman & Nicobar, Pondicherry and Goa, Daman & Diu), Maharashtra and Gujarat have the

maximum number of these ports — 48 & 39 respectively. There are as many as 11 intermediate ports in the state of Gujarat which handle nearly 40 percent of the total traffic handled by all the intermediate and minor ports in the country.

4.5.6 The Government of India had set up a number of Committees to go into the question of development of minor ports. A development of significance was the setting up of an Intermediate Ports Development Committee in 1958 by the Ministry to select suitable intermediate ports for intensive development in order of priority. The setting up of the major ports of Paradip, Mangalore and Tuticorin followed the recommendations of this Committee.

4.5.7 The last Committee was set up under the Chairmanship of the Development Adviser (Ports) in 1972 to examine the inter-related problems of traffic and facilities at the minor ports. This Committee redefined the role of Minor Ports and identified the following 21 ports as having technical potential for development:

1. Sikka/Salaya
2. Okha
3. Porbandar
4. Pipava
5. Dighi/Janjira
6. Ratnagiri
7. Bedi/Vengurla
8. Karwar
9. Coondapur
10. Mangalore
11. Azhikkal/Balliapatnam
12. Beypore
13. Neendakara
14. Turicorin
15. Cuddalore
16. Colachal
17. Pondicherry
18. Krishnapatnam
19. Kakinada
20. Gopalpur
21. Chandbali

The Committee recommended the development of small cargo vessels with a loaded draught not exceeding 18 feet for operation at these ports and also reservation of certain types of cargo for coastal trade. The recommendations of this Committee were to be implemented by the State Governments. In the Committee's knowledge no worthwhile progress has been made.

4.5.8 It is evident that the lack of development of intermediate/minor ports has been primarily due to paucity of funds and inadequate appreciation of their role and contribution-actual and potential to regional development.

4.5.9 If the approach indicated in the Seventh Plan document has to be followed and minor ports developed as an integral part of the overall port system, it will be necessary for the Government

of India to play a more positive and direct role in, first identifying the ports and then drawing up a imaginative programme for their development according to a phased manner within a given time frame. That these ports would help in the rapid development of their regional hinterland needs no emphasis. These ports would also help more positively than now, in relieving congestion in major ports and in saving outgo of foreign exchange by way of demurrages earned by chartered vessels an idea of which can be had by reference to Section V, Chapter 1, of this Report.

4.5.10 Obviously, the level of development and provision of infrastructural facilities in these ports will have to be modest. It certainly cannot be of the level, scale and sophistication of major ports. Conscious efforts will be necessary to create capacities at selected locations as part of the overall port planning strategy and to see that these are utilised to the optimal extent. The selected minor ports spread over the coast line can help in:

(i) serving the needs of the immediate hinterland for coastal traffic.

(ii) functioning as feeder and complemental ports to the adjoining major ports.

(iii) functioning as export/import ports for cargoes generated/consumed in the immediate hinterland which may not be able to bear the additional cost of inland transportation.

(iv) acting as transhipment points for inland container depots.

4.5.11 The Committee would have liked to identify certain specific intermediate/minor ports to be taken up for intensive development. In its opinion quantum of cargo handled by the port could be one important criterion for selection of intermediate/minor port for development. But the Committee felt that apart from this, there are other important criteria which need to be considered before such a selection is made. Information on these criteria was not readily available. As such the Committee would not like to identify which, among the intermediate and minor ports should be taken up for intensive development. The Committee would however, suggest that the Government may appoint a small group of study this matter in the background of its observations and select two intermediate/minor ports on each coast which may be taken up for intensive development.

4.5.12 In considering the selection of minor ports for development, a systematic study of the transportation economics in the entire coastal region and the related hinterland, should form the basis of cargo forecasts. The study should identify the changes in international shipping affecting India, changes in goods movement pattern and mix within the country (with particular reference to containerisation) and assess the connected infrastructural system of inland road transport (road, rail and inland water transport) in arriving at the future role of the selected ports.

4.5.13 The master plan prepared for these ports should also provide for the development of facilities for Ro-Ro, Coasters and other vessels, mechanised sailing vessels, fisheries, off-shore operations where necessary. These plans could be reviewed periodically and adjustments, as necessary, made. The implementation can be made in stages depending upon the needs emerging". It is understood that the Government of Netherlands have offered to undertake a study for a preliminary analysis and identification of ports based on which a more detailed study could be undertaken for preparation of development plans later. This would help in the identification of some minor ports which offer great potential for development.

4.5.14 The types of developments that could be thought of in minor ports will be as follows:

(a) dredging the channel and basin to take in barges requiring not more than 18' draught. Elsewhere, the Committee has recommended that with regard to the major ports, the responsibility for dredging the channel and the main basin should be that of the Government of India and that the costs thereof should be borne directly by the Central Government. If this recommendation is accepted, this principle should be applied to the selected intermediate/minor ports also.

(b) Provision of wharves for unloading with adequate equipment viz. cranes and with sufficient back-up space.

(c) Provision of adequate warehousing capacity to store the cargo handled by the minor ports.

(d) Encouraging the use of self-propelled barges. These barges should be sufficiently large to take advantage of the draught provided.

4.5.15 Another problem which has been highlighted by the States with regard to the minor ports is the lack of adequate trained personnel to man these ports. Since the state cadre relating to minor ports is very small one, there is also considerable stagnation which acts as a disincentive to the staff. With regard to training, it is possible for the major ports to help State Governments in giving training to the staff of the minor ports in the Training Institutes set up at Calcutta and Madras and also those that are likely to be set up in future. Further, if the State Governments agree, it should be possible for the Major ports to depute some of their officers for fixed periods of time to help organize and build up an efficient organizational nucleus in some selected ports. The problem of trained manpower in the minor ports could thus be overcome to some extent.

4.5.16 As discussed above, the intermediate/minor ports can play a very positive role in the overall port system. This will be possible only if the Government of India is prepared to provide adequate funds for the development of the selected minor ports. This obviously will need discussion with the concerned State Governments. Presumably, the State Governments will welcome this suggestion. They have been showing interest in the development of minor ports because of the potential these ports offer for hastening the process of hinterland of the intermediate/ minor ports, the concerned State Governments should be made responsible for providing the necessary hinterland connections and other basic infrastructure like power, water, land, etc. The State Governments should also help in taking positive steps to promote industrial development in the immediate hinterland of these ports.

CHAPTER – 6

COASTAL TRADE

India has a long coast line of 6,200 kms. Coastal shipping can play an important role in the integrated transport network of the country, particularly when the existing modes of rail and road are showing signs of considerable strain because expansion, commensurate with requirements, is not taking place.

4.6.2 The coastal shipping is energy efficient and a comparatively cheaper mode of transport where transport of freight over long hauls is involved and also when the origin and destination is along the coast. This mode of transport is at a disadvantage for short distances due to high terminal costs and cost of movement by land from/to ports.

4.6.3 The major movement along the coast is at present coal for Tamilnadu Electricity Board in Madras and Tuticorin from Haldia/Paradip/Visakhapatnam. (During 1985-86 about 25.18 lakh tons of coal was transported by sea). The other important movement along the Indian Coast is the oil cargo which was about 2.5 million tons of traffic in 1984-85. Over the years, dry cargo volume, mainly salt, has declined, while the wet cargo traffic has gone up.

4.6.4 Coastal shipping faces several constraints. Due to peculiar shape of the country the scope for development of coastal traffic is somewhat limited. If any cargo is to be moved from one coast to the other, the distance overland is generally very much shorter than by the sea-route. The overaged vessels, generally engaged in coastal trading, are fuel inefficient and involve high maintenance and operating costs. This leads to an increase in bunker costs, operating expenses, higher stevedoring charges. The uneconomic freight structure does not compare well with either rail or road. Furthermore, coastal shipping carried low rated bulk commodities like coal, cement, salt for which railway freight rates are lower with consequent consumer preference for rail transport. Inordinate delays at ports have also contributed to decline in coastal shipping. Ships spend, on an average, 70% of their time at the ports. Apart from cumbersome ports and customs procedures, other restrictions like inadequate draught have precluded optimal utilisation of capacity.

4.6.5 The 7th Five Year Plan has highlighted the need for and outlined measures of relieving the constraints affecting coastal shipping. Overaged vessels are to be replaced with modern fuel efficient vessels. Port procedures would require to be streamlined to provide priority berthing, the customs clearance procedures will also have to be simplified. Licensing System for coastal vessels should permit freedom of operation to enable switch over to overseas trade. The procedure for revision of freight rates should be simplified so that uneconomic rates do not impinge on the viability of this sector. An integrated approach to the development of coastal shipping, ports and hinterland is what is required. Since major ports face bottlenecks in accommodating coastal vessels, a few minor ports should be identified and developed to handle coastal cargo.

4.6.6 Induction of a fleet of smaller size vessels of about 1200 DWT has already taken place to transport clinkers from the minor port of Jaffrabad to the minor port of Magdala (Near Surat, S. Gujarat) and to Ratnagiri (N. Konkan). The minor port of Jaffrabad has been handling almost 1.0 million tonnes a year. This has been achieved by providing a jetty equipped with a mechanised conveyor system for loading and for discharging at both ends

4.6.7 The minor ports which can be improved are:

(1) Koteshwar Port (N. Kutch)	For transporting lignite coal to North Saurashtra industrial belt:
(2) Cutch & Mandvi Port (S. Kutch)	
(3) Veraval-Kodinar Port (S. Saurashtra)	for the Cement and chemical industries.
(4) Hajira Port (S. Gujarat)	for movement of Iron ore requirement of sponge Iron Plant (Gas-Fired) proposed to be set up at Hajira.
(5) Mandvi Port (off Bombay Harbour)	
(6) Reddi (S. Konkan)	
(7) Dabhol (N. Konkan)	The only port with an 'Alongside' berth (between Bombay and Ratnagiri) which can be availed of for operation of small steamers. This factor alone should be an attractive feature for setting up of new industries like chemicals etc. near the port.
(8) Karwar Port (N. Karnataka)	This could be developed for Paper. Timber & Chemical Industries in the close-by hinter- land
(9) Beypore Port (N. Kerala)	This could be developed as an outlet for all Malabar products, because of its being a natural harbour with deep waters within the basin. The blasting of the entrance bar would provide say a 5-mtrs draught.
(10) Kakinada Port (S. Andhra)	It is an existing port with a good out-turn handling mostly overseas exports. This can handle ships bringing timber from Andamans for the proposed paper plant at Kakinada.
(11) Chilka Lake (S. Orissa)	Being an enclosed Sea, it could offer safe sites for development into an alongside' berth port.
(12) Digha (W. Bengal)	It is the only port for West Bengal which, if developed, can supplement the Calcutta Port.

4.6.8 It need not be emphasised that in situations of emergency, it is only the small-size vessels which can provide immediate, effective, useful, ready service for transport of material via the minor ports. Therefore, small-scale utility development of the ports is of urgent necessity not only from the view point of economics but also because minor ports can play an effective role as a vital arm of logistics in our transport system through Coastal Trade.

4.6.9 It is estimated that about 7 million tons of cargo will move by coastal shipping by the end of the 7th Plan, the increase in traffic being accounted for by coal. To carry this traffic, 0.31 million GRT, including replacement of 0.12 million GRT, would be required.

4.6.10 The total need based outlay for the 7th Plan for shipping was estimated at Rs. 2,507.90 crores. It inter-alia envisaged acquisition of additional tonnage of 5 million GRT, including 0.19 million GRT under Coastal Sector. The Planning Commission however allocated only Rs. 624 crores in the 7th Plan for the Shipping Sector as a whole. This outlay is inadequate and the prospects for acquiring additional tonnage under Coastal Sector during the 7th Plan period are thus not quite bright to give a fillip to coastal trade.

4 6.11 The ships engaged on coastal trade are generally very old ships and their maintenance and operating costs are high. It is understood that in Japan, a very large volume of trade moves through coasters. The vessels used for coastal trade in Japan are said to be driven by wind power with auxiliary motors controlled by computers. When the wind force drops, the computers activate the motors and control the speed to make up for the short fall in wind speed. These vessels being highly automated have very low manning scales. Since the main propulsion is by wind force and the auxiliary engine is used only to compensate the fall in wind force, the vessels are very economical to run and the freight rates are correspondingly low. If similar type and technology vessels are run on Indian Coastal Trade, things may improve. Another alternative is to use the same types of vessels in coastal trade as are used in the Inland Waterways System when this is developed in due course. Operation of barges of 8,000 to 10,000 DWT may be possible in such a system. These could be automated to the extent possible, reducing the need for a large crew on board.

4.6.12 The Committee has given its considered thought to the problem of decline in coastal shipping and trade even though this mode has several economic and ecological advantages to commend itself. The Committee s conclusion is that the development of coastal shipping has suffered largely because of the interplay of a host of adverse factors, not least among these being the virtual closure of the Gulf Trade route because of the uncertain situation in the Middle East.

4.6.13 The Committee, in view of the foregoing, strongly urges consideration of the following measures to revive coastal shipping and trade:—

(a) Acquiring modern vessels of the types referred to earlier which should be suitable and economical for coastal trading.

(b) Ensuring quick turn round of these vessels at the ports.

(c) Identification of cargo particularly bulk cargo which could be earmarked for coastal trade.

(d) Removing serious imbalance in traffic in the movement of coal by coastal vessels by providing adequate return cargo.

(e) Freeing the coastal vessels and cargoes from Customs regulations and formalities, if necessary, by providing separate areas in the ports for berthing of coastal vessels.

(f) The procedure for revision of freight rates should be simplified so that uneconomic rates do not impinge on the viability of this sector.

CHAPTER — 7

TRAINING

Modernisation and development of ports involves induction of new and sophisticated technologies in the port sector. Apart from investible resources these technologies require another important input viz. skilled manpower. It is well known that in the port sector skilled manpower, though an important asset, is scarce and thinly spread at that. In the context of the anxiety expressed all over to upgrade the efficiency of the major ports and increase user satisfaction, there is an imperative need to launch a massive programme of training for port personnel at both managerial and worker levels. Adequate attention has not been paid to this aspect in the past. This deficiency in the major port sector and infact in the port industry as a whole, reflects itself in various ways, like low productivity of men and machines, improper equipment maintenance, high downtime, indiscipline and lack of motivation. To cap it, there is frequent breakdown of equipment and obsessive attachment to traditional practices and procedures. Efforts have no doubt been made in the past to train port personnel, but adhocism has characterised these endeavours. With the help of the Ministry, a number of middle and senior level officers have been exposed to some sort of training in various activity areas both within the country and abroad, but their number compared to the total managerial manpower engaged in the ports is so very small that these officers have rarely, if ever, ventured to translate the new techniques and skills learnt into action. The Committee has seen a paper prepared by I.P.A. titled "Identification of training needs and requirements of employees in Major Ports" (Annexe D-9) which focusses attention on this problem.

4.7.2 Briefly, the appraoch outlined in the paper is that while the workers should be trained, as far as possible, in the ports where they are employed by the attached Training Institute or in the contemplated 4 National Labour Institutes, the supervisory and managerial personnel may be trained by the two National Institutes. viz. the National Institute of Port Management, Madras and the Indian Institute of Port Management, Calcutta. The paper visualizes that the two institutes would prepare the programmes, training materials and also undertake training of the trainers. The local institutes attached to the ports would with the assistance of one of the National Institutes, arrange delivery and also training of the personnel of the port concerned on the basis of these jobs related or general awareness courses. In these tasks, these two National Institutes would be enabled to seek assistance from international agencies including UNCTAD, ESCAP, UWIST etc. with whom collaborative arrangements had already been made and benefits have already started flowing. Following this, under the IPA's auspices through the two Institutes of Madras and Calcutta, a rapid survey was made of the training needs and requirements of all port personnel in different disciplines. The priority areas needing immediate attention were also identified. If the proposed programme is implemented, the results would start flowing in the next two to three years. This is not a very happy prospect because it will tantamount to acquiscence with an arrangement which stops short of full exploitation of new and sophisticated technologies already inducted into the port system. There is an urgent need therefore for setting up of another national level institute. Bombay would be a suitable location because it already has built up a good deal of infrastructure to serve its local needs and requirements.

4.7.3 Apart from this, the four national level labour institutes should also be set up to meet the training requirements of labour. The work force in ports has, by and large, remained neglected so far. Given the low level of formal education of the labour force generally, it will be necessary to depend more on audio visual systems and on stimulator models for practical training.

4.7.4 The Committee would also recommend that as the target population of the workforce is very large and the proposed four labour institutes would not be able to cater to the requirements of training and retraining of

the labour-force adequately, each port should set-up a worker's training institute. Such institutes, should, among other things, lay special emphasis on giving to the workers field orientation training and imparting knowledge in the techniques of safe handling of cargoes including hazardous and dangerous.

4.7.5 While the arrangements proposed above would take care of the training needs of the managers and the workforce, separate training programmes would be needed for pilots employed by the ports. The tendency in the shipping industry is to go for more and more sophisticated and larger ships. Efficient handling of these vessels in ports demands specially trained pilots. Risk of damage to these vessels, is relatively high because the pilots lack the necessary orientation generally to handle these vessels. For repairing even minor damage the vessel owners have to incur prohibitive costs. The training of pilots and the berthing staff in handling larger vessels in the narrow confines of the port limits is, therefore, an urgent necessity. An experienced/qualified and well trained pilotage service with adequate support like tugs, mooring launches, etc., with trained personnel to men them, will also upgrade the level of safety to the ships crew, etc. and the port equipment and installations. It will also contribute to speedy turnround of ships and optimal utilisation of the port facilities. Till now the training of Pilots/berthing and dredging staff has been done in a traditional way. It is a time consuming process and not necessarily suited to present day needs. It bears mention that special training for handling V.L.C.Cs, large bulk carriers, etc. has not even been attempted yet in any major port.

4.7.6 In the Industrialised country ports, Pilots are trained with the help of simulators. Simulator training can be made complementary to the existing system of practical training to improve the proficiency of the Pilots and to familiarise them with the problems of handling larger vessels.

4.7.7 According to a survey undertaken by the IPA in 1985, there were 712 marine officers in the major ports of India. Assuming that half of these are marine engineers, hydrographic surveyors and senior marine officers doing only administrative work, it could be assumed that about 400 marine officers are actively engaged in ship handling and allied activities. They can take to simulator training. On an average, about 50 officers can be trained on a simulator each year. This would equip Pilots to handle V.L.C.Cs etc., with greater confidence. Another important advantage of this training is that it would facilitate selection of proper types and number of tugs for a given port operation working into consideration berth layouts, currents, winds etc., and selection of proper berth alignments (model for testings) for port development. This would bring the inventory in alignment with actual requirements and thus bring saving in costs. Once established, the simulator could also be made available to shipping companies like S.C.I. for giving training to their Masters on the handling of large vessels and for refresher courses.

4.7.8 The Committee accordingly suggests that initially one simulator may be acquired and located suitably. Based on the experience gained, the acquisition of one more simulator could be considered to cater adequately to the requirements of ports on either coast.

CHAPTER-8

INLAND WATER TRANSPORT SYSTEM

The Inland Water Transport is the cheapest mode of transport for certain categories of traffic provided the origin and destination of goods do not involve any long haul-land transportation. The longer the haul on water, the better is the economics of operation. The inland water transport system is also highly energy efficient. Where a navigable water way exists, accessibility is ensured. While it needs no investment in line haul capacities as in other modes of transport, the requirement for funds it generates for improvement and maintenance of navigable channels, terminal facilities and also vessels, is relatively small. From environmental considerations, the advantages of this system transcends the weaknesses of the other systems because in its operation the problems of pollution etc. it raises are minimal. Another distinct advantage this system has, is its availability during periods when other systems get disrupted due to floods, land slides etc. According to a study carried out by NATPAC for the the National Transport Policy Committee, it generates more employment per rupee of investment. Otherwise also a good navigable waterway can open inaccessible areas and help in its economic advancement and prosperity.

4.8.2 If with all these positive features the development of inland water, transport in our country has been insignificant, it is because in most ports this system remains inoperable for greater part of the year when the level of the navigable rivers falls steeply. Since there is no regular programme of maintenance dredging the operations perforce have to remain seasonal. Lack of night navigational facilities, etc. also contribute to fall in the patronage of this system of transport. As against this, the development of other transport systems because of their reliability and operational flexibility has been much faster. The Committee wishes to say that the Inland Water way systems potential to serve the transport sector, has remained largely untapped.

4.8.3 A study on the development of Inland Water Transport carried out in 1985 by Shri S.K. Ghosal, the then Chairman, CIWTC shows that because of inadequate infrastructure and other facilities, the operating cost for I.W.T., has been somewhat high. From the analysis of the cost-trends in CIWTC Ltd., it was found that the operators costs are largely influenced by (a) non-availability of sufficient draft, (b) insufficient facilities for navigability throughout the year, (c) non-availability of facilities for night navigation, (d) excessive manning scales, and (e) non-availability of marine cargo handling equipments and warehousing systems. The study concludes that with some improvement in the navigability of the water ways and provision of navigational aids to facilitate round the clock operations, the costs could be considerably reduced.

4.8.4 Navigable waterways are confined to only a few States in India and are location specific. The Inland Water Transport however continues to be functionally important in regions where it enjoys natural advantages as on the Brahmaputra and the Ganga in Eastern and North Eastern Regions of India, Kerala and Goa.

4.8.5 The country's navigable inland water-ways extend nearly to14,544 kms. comprising a variety of river systems, canals, backwaters, creeks and tidal inlets. State-wise break-up of navigable waterways is given in Annexe D-10.

4.8.6 Navigable waterways of Assam comprise entirely of rivers. In Kerala there is a split between river and canal (backwaters) systems. Goa compared to its area has the largest network of waterways. At present it moves the largest quantity of iron ore, amongst all the waterways, in the country.

4.8.7 It has been estimated that of the total navigable waterways of 14,544 kms. only 5,200 kms. of rivers and 485 kms. of canals are suitable for plying mechanised crafts. Apart from the need for increasing drafts, there are many other factors which inhibit the operations of crafts like inadequate clearance vertical and horizontal-of structures running across the waterways, absence of navigational aids and non-existent terminal facilities.

4.8.8 Notwithstanding these inadequacies IWT should be enabled to make significant contribution to the development of the total transport system. It is true that the inadequacy of resources has contributed

significantly in the past to the neglect of river conservancy requirements which is reflected in the waterways systems falling into disuse. The acceptance recently by Govt. of the recommendation to declare certain important waterways as National Waterways is a positive step forward and an earnest of its concern to recapture the advantages this system offers. The first stretch of National waterways already declared is Ganga from Allahabad to Haldia. Through navigation will become possible once the Farakka navigation lock becomes operational. Traffic operations have already commenced in the stretch falling between Haldia Farakka. Terminals have been identified in the Farakka-Patna Sector for development of infrastructural facilities. A pilot project has been initiated to carryout surveys to identify the conservancy facilities necessary to provide adequate draft during the lean periods in the stretch from Farakka to Allahabad. The modalities for implementing some of the measures in specified areas have also been spelt out.

4.8.9 The other nine waterways identified for consideration as National Waterways are:

1. The Brahmaputra
2. The Sunderbans
3. The Narmada
4. The Mahanadi
5. The Tapti
6. The Godavari
7. The Krishna
8. The Mandovi and Zuari rivers in Goa.
9. The West coast canal system in Kerala.

4.8.10 Declaration of any stretch as a National Waterway has to be preceded by an extensive hydrographic and traffic studies. Such studies have been initiated on the Brahmaputra and are also being undertaken on the Narmada with the technical assistance from the Netherlands Govt. The award of the Narmada Tribunal on the sharing of water between the concerned States, has opend up the possibility of making this river navigable round the year. This will greatly help the land locked states like Madhya Pradesh to gain access to the Sea. It will also open up the possibility of transporting coal from the Central India Coal fields down the river and also along the coast at economic costs.

4.8.11 Another welcome step is the decision of the Government to set up an Inland Waterways Authority of India for development and management of the National Waterways. The Inland Waterways Authority of India Act has been passed and the Authority set up under the statute has started functioning. The setting up of the Authority will give a fillip to the IWT Sector in the country. The Commercial operations on the waterways will however have to be left to the private and public sectors. In order to encourage IWT entrepreneurs to acquire crafts for movement of cargo on the waterways, the Govt. has formulated a scheme for grant of loans at concessional rate of interest of 5-1/2% per annum through scheduled banks for acquisition of barges. The difference between the commercial rate of interest and the concessional rate of interest charged to the entrepreneurs, is to be borne by the government.

4.8.12 Calcutt-Haldia is expected to emerge as one of the most important IWT terminals in the Eastern Sector. This terminal will serve not only the States through which the river Ganga runs, but also the North Eastern States. The Master Plan for the development of Calcutta Port should be closely linked to the development of the Inland Water Transport System in that region. The setting up of the IWT terminals will bring about a change in the system of handling of cargoes at Calcutta Port. Possibility exists of the cargoes including containers being unloaded directly from the ships into the barges and going inland through the waterway.

4.8.13 The Inland Waterways in Goa move almost the entire iron ore exports through Mormugao Port. This is about 13 to 14 million tonnes per annum. The improvement of the connecting canals, dredging of rivers, installation of night navigational aids in the upper reaches will help to increase the size of the barges and bring about economy in overall costs.

4.8.14 Cochin is yet another port which has a good hinterland connections through inland water-ways. FACT's raw material movement for their fertilizer plants takes place through two waterways, connected to the Port. Proposals are under consideration for improvement of these water ways. The inter linking of the back waters system and the development of the west coast canal would help further the penetration of cargo through these systems into the interior parts of the Kerala State.

4.8.15 Inland Waterway links to the major and minor ports wherever they exist, if properly developed, would considerably help in opening up the hinterland of these ports and offer a viable mode for cargo movement into the interior. When the development of the selected minor ports is taken up as part of the integrated plan for port development in the country, the possibility of reactivating inland waterway links also may be examined.

4.8.16 In the Indian situation, the demand for irrigation and drinking water supply facilities will naturally have the first priority. Within these limitations, it should be possible to have a proper coordinated policy for river basin management. The Inland Waterway Authority of India, it is hoped, will be able to achieve this coordination among the various agencies for an integrated development of the waterways. Some basic factors that have to be kept in view are:

(i) providing for possible future navigation in the waterways when irrigation structures and canals are planned;

(ii) providing for adequate lateral and vertical clearances in bridges and power transmission lines etc. to facilitate inland waterways navigation;

(iii) adopting preventive measures for soil erosion in the upper reaches of the waterway so as to reduce the heavy flow of silt down stream.

CHAPTER – 9

INDUCTION OF PRIVATE CAPITAL FOR PORT DEVELOPMENT

So far, the funds needed for the development and modernisation of ports have always been provided by Government. Recently the Government of India has announced that even in some core sectors of the economy fully reserved for public sector development like Telecommunications, Energy, etc. participation of private capital would be welcome. The Government have also shown some inclination to allow induction of private capital in port development. The reasons for privatisation – by which term, the induction of private capital for development can be called – can be two-fold. The first can be the anxiety to promote competition between the private entrepreneurs and the public body viz. the Port, to improve efficiency. The second can be to find additional sources for accelerated development of the port sector.

4.9.2 In the Indian context, the policy of privatisation to the extent one can understand it by putting together policy pronouncements and media comments, revolves round the need to attract private capital investment in important core sector projects which the central exchequer because of serious constraint on resources, is unable to finance on its own. It is well known that because of resource constraints, the allocations conservatively assessed and demanded for the development of the port sector in the 7th Plan, have been pruned drastically. The need for modernisation of port facilities and induction of new cargo handling technologies is urgent. Firstly, because conventional ways of handling cargoes lead to avoidable increase in costs which ultimately reduce the competitiveness of our products in international markets. Secondly, failure to provide facilities in our ports comparable to other ports in the region poses a serious threat to their future viability by restricting them to handle only feeder vessels to the exclusion of motherships by passing them. Thirdly, if modernisation programmes considered essential are postponed the full and complete exploitation of the capital intensive and sophisticated technologies which have already been inducted in the port systems and may be adopted in future would not be possible.

4.9.3 Privatisation can be of three types:

(A) Complete privatisation which would mean provision by the private entrepreneur of all the facilities at the ports; in effect, creating a new port together with all the equipment needed and its operation and management left entirely to the entrepreneur.

(B) In the second type, the entrepreneur would be left free to develop a berth in an existing port and provide the equipment for use therein.

(c) In this type, the civil works viz. berths and back-up space would be provided by the port and other infrastructure like handling equipment etc. would be provided by the private parties.

4.9.4 Since construction of a new port requires massive investment it is highly unlikely that any private entrepreneur would be prepared to come forward more so because of the risk of investment not yielding the anticipated returns within a reasonable period of time. The model of privatisation (Type-A) does not therefore seem to be feasible in India at least for the present.

4.9.5 Privatisation of Type-B could be possible. In fact, in Haldia, an attempt is being made to induce private capital for developing the second container terminal. What response it will from the private sector remains to be seen. Here again, considering the high capital costs involved, it is doubtful whether any entrepreneur would come forward singly or jointly unless the terms offered are attractive enough and he is reasonably sure of obtaining a reasonable rate of return on his

investment. In this type of privatisation it will also be necessary for the port to have a similar facility for common use to ensure that the owner of the private facility does not create any monopoly or otherwise resort to discrimination against any particular party or group of users. The operation of a berth for common use by the port would also promote competition, help reduce costs and improve user satisfaction.

4.9.6 The Privatisation of Type-C may also be possible. The Committee tried unsuccessfully however to obtain information on the terms on which this type of arrangement is working in the ports in Western countries. In the country itself, there are however, some examples where this type of privatisation has been tried. One such example is that of Mormugao port where bulk of exports of iron ore is by private parties. Similarly, in Cochin, a berth has been made available to FACT where that organisation has provided the equipment. In this berth, while priority is given to the ships bringing FACT Cargo, otherwise the port is free to allot the berths to other vessels. In Paradip also, there is an arrangement between the Port and TISCO by which coking coal imported by TISCO is handled at one of the berth with the handling equipments provided by TISCO. In Vizag also a fertilizer berth, two oil refinery berths and another berth is managed under a similar arrangement. These examples have been cited merely to make the point that this type of organisation is possible and can be attempted.

4.9.7 It bears emphasis that the private entrepreneur would be interested in investing capital in the port services only if he could be assured of an adequate return. Therefore, any scheme aimed at involving private capital in port development should make provision for the investor getting a reasonable rate of return on his investment. It follows therefore that the lease period given to the private investor will have to be of sufficiently long duration. However, the port cannot absolve itself of the overall responsibility of operations under these arrangements. The terms and conditions to be laid down will naturally have to vary from port to port as the circumstances in the different ports are not the same. Depending upon the situation in each port, these terms will have to be suitably drafted. But, the terms should include a provision against discrimination by the private entrepreneur against any particular shipping line or organisation. The port should also have the power to fix a ceiling on the charges to be levied by the private parties for services rendered. It would be desirable to encourage privatisation mainly in those areas where the need for installing new and capital intensive systems like containerisation is extremely pressing. However, in setting out the terms and conditions, the port should have the power to determine what type of technology should be inducted by the private sector and also the types of equipments to be installed at the berth to be operated by the private party.

4.9.8 In view of the widely held belief that inefficiency of port personnel and labour generally characterises port operations and leads to low productivity, any private entrepreneur who comes forward to invest in port, is likely to demand freedom to maintain and operate the equipment with his own staff. This is likely to lead to problems with trade unions which will not be easy to resolve. But if privatisation of this type is to be attempted, it will be necessary for the port managements to enter into dialogue with the Unions and then proceed forward. It is possible to work out an arrangement under which such an entrepreneur may agree to hire unskilled labour from the pool available at the port. It may also possible to enter into an arrangement to depute suitable port personnel and members of the work force to work in the private facility to gain experience.

4.9.9 In order to attract private entrepreneurs to invest in port development, tax inducements and fiscal concessions would also be necessary. It has been suggested elsewhere in the report that for the equipment imported for use in the port, customs duty should be waived and for equipment obtained from within the country there should be waiver of excise duty. Similar concessions will have to be extended to the private entrepreneurs also.

4.9.10 Government have reportedly taken a decision to provide one more Container Berth at Haldia to be operated by a private entrepreneur by putting up equipment at this berth and operating in competition with a similar berth being operated by the Port. The terms and conditions under which the private entrepreneur would be permitted to take over this Berth and operate it are

being finalized. There is also a proposal to set up a full-fledged Container Terminal at Cochin to be operated by a private entrepreneur.

4.9.11 Another method to get over the problem of finding funds for capital investment in the ports is that instead of incurring expenditure for the purchase of equipment, the port may take the equipment on lease from private parties, and operate it under lease conditions. The Committee has a feeling that some of the foreign shipping lines and companies may be prepared to provide sophisticated equipment on hire to the port in order to facilitate smooth discharge and quick turn round of ships. Similarly, from the leasing companies that have started recently, the ports may be able to take on lease some types of equipment which are indigenous. However, unless the port personnel and labour are trained to maintain and handle these equipment properly and unless the productivity overall increases, the beneficial impact of this reform may remain illusive.


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SECTION – VI

MULTIMODAL NETWORK

&

INFRASTRUCTURE

SECTION – V

PORT OPERATIONS

SECTION - V

PORT OPERATIONS

CHAPTER 1

INTRODUCTION

India is a penisular sub-continent with 6200 KMs of coast line encompassing 10 major and 162 Intermediate and Minor ports which geostrategically dominate the ocean routes through the warm Indian Ocean linking the Pacific and the Atlantic seaways. The efficient and quick turn round of ships and cargo flow from the ports depends on the dynamism, competence and motivation of port personnel, industrial relations, labour, skills, equipment efficiency, productivity etc. These aspects have been dealt with in other sections of this Report.

5.1.2 This section focuses attention on and suggests long and short term measures for streamlining port operations. A port is a modal point of exchange for commodities between land (road and rail) and sea transport sub-systems, with waterways playing a marginal role at present.

5.1.3 Foreign trade plays a major role in the growth and development of the country's economy. It bears mention that the daily idle time cost of a modern ship in port ranges anywhere between US$ 5,000 to 20,000. This ultimately gets reflected in ocean freight. Uneconomic utilisation of berths and other facilities not only reduces the return on port investments but also burdens the economy by avoidable outgo of foreign exchange in the shape of demurrage earned by vessels. The data collected by the MPRC which is reflected in Annexe E-1 makes interesting reading.

5.1.4 Ports are pnmarily service agencies and their efficiency is mirrored by their ability to service ships of various types, beams, lengths and draughts on the one hand and the facilities they provide for handling, storage, clearance, receival and shipment of cargo on the other.

5.1.5 In a fiercely competitive port environment prevailing in Europe, North America etc. the vessel owners and shippers between themselves decide the destination ports. Even though our major ports are in a sheltered market there is a real danger however, that unless the facilities, Indian ports offer are regionally competitive both in quality and price, the mother vessels may bypass India altogether and relegate our ports to feeders.

5.1.6 The Committee visited all major ports and held discussions with port authorities, chambers of commerce, users, labour leaders, stevedores, road transporters, steamer agents, representatives of railways, Customs and security organisations to obtain first and knowledge of and insight into the port problems. This will also ensure that the remedial measures, the Committee offers are prgamatic and carry a degree of assurance of users involvement in their implementation and at the same time take due note of contemporary international developments.

5.1.7 This topic has been covered in four Chapters viz:—

(i) **Marine** — dredging, night navigation and lighting, pilotage and tugs, control room, bunkering, crew facilities, fishing harbours, intermediate and minor ports and inland waterways.

(ii) **Traffic** — marketing, information systems, barge operations, infrastructural facilities, stevedoring, etc.

(iii) **Technical** — repair and maintenance facilities, dry docking, civil and mechanical engineering support system and inventory control.

(iv) **Security, Safety and Services** — Security, fire fighting, diving & slop removal, fendering, wreck removal, salvage, anchorages and pollution.

5.1.8 The Committee wishes to state that notwithstanding its best efforts to break-up the wide ranging port activities into segments to facilitate appreciation of the views of the users, officials and its own reactions, it is aware that it has succeeded only partially in this attempt, because the port activities so closely intertwined cannot be compartmentalized. This explains why some points find mention at more than one place in this Report.

5.1.9 The Committee's attention was drawn to the need to give teeth to the legal and administrative measures to combat marine and environmental pollution and to evolve a regime for handling hazardous cargoes like asbestos etc. The Committee while examining this matter found that the relevant statute has been amended recently. The procedural lacunae to which the Port Chairman had collectively drawn the Ministry's attention subsequently, have also been rectified and the Dy. Conservators of ports empowered suitably to enforce the relevant provisions of the Merchant Shipping Act. The impact of these measures may be watched for some time and if these provisions are found inadequate, more stringent measures may have to be considered.

5.1.10 Regarding handling of asbestos, the Committee is happy to note that ports have decided to handle this commodity only if it is brought conformity with the IMDG code specifications. Regarding transport, handling, storage etc. of containers with hazardous cargo, the IPA had, carried out an indepth study and forwarded a comprehensive proposal including draught regulations to the Ministry. The Committee hopes that these regulations would be finalised soon.

CHAPTER - 2
MARINE

Dredging

The past decade has seen an unusual increase in the siltation of port channels. Several factors viz. reduced flow, lack of planned programme for widening and deepening of channels, environmental exploitation, use of water for other purposes etc. have contributed to it. This has put extra burden on the ports for maintaining the designed draughts. In almost all major ports the present average draught approximates between 25 to 30 feet. Today, even handy size ships draw 32 to 35 feet. These ships have to be lightened outside the ports by lighters as at Tuticorin where due to inadequate dredging of the channel full utilisation of the capacity is not possible. This increases costs.

Maintenance dredging extends to 3 distinct waterfront segments:

(a) the approach channel;

(b) turning basin;

(c) alongside berths.

The Committee has recommended in Section-II, Chapter-2 of this Report that capital and maintenance dredging of the approach channel and the turning basin should be financed by the Central Exchequer. In the Committee's view cutter and hopper suction dredgers are suitable for this purpose. For dredging alongside berths bucket and grab dredgers should be used by the port managements. The Committee recommends the need for standardisation of dredgers and inventory of spares being maintained centrally on both coasts to improve their utilisation.

5.2.2 **Night Navigation**

For regulating the ships through the entrance channel and into and out of berths and moorings, pilotage is necessary. Any damage to ships, today, howsoever small, is very expensive. In a port where facilities of night lights, dopplers, fenders etc. do not exist, night operations are avoided. This in turn increases the waiting time of ships in ports and adds to their operating costs.

The Committee recommends that in the interest of optimal utilisation of port facilities and reduction of turn round time of ships in ports, night navigation, subject to following conditions, being met, may be permitted in all ports:

(i) Navigation channel should be properly defined and marked by lighted buoys fitted with radar reflectors; lighted transit beacons should be provided ashore.

(ii) The jetties should give a lighting effect of 20 lux.

(iii) As a standard measure of safety, minimum of 2 tugs with search light and communication sets should be used at night.

(iv) Atleast two mooring launches should be provided during night movements.

(v) While regulating heavier ships such as ore carriers above 80,000 DWT into berths, dopplers should be used to indicate the rate of approach to avoid buckling of plates or damage to port equipment.

(vi) Pneumatic fenders with high energy absorption capacity extending over large areas should be provided to avoid buckling of ship's plates.

(vii) Personnel incharge of moorings at night should by provided with battery operated equipment and VHF walkie talkie sets.

5.2.3 **Night Lighting**

Increase in traffic requires increase in capacity. Since creation of additional capacity demands massive investments not easy to find the existing facilities should be optimally utilized. All ports should introduce three shift operation as and when justified. The intensity of lighting in the ports as laid down under the Dock Workers Safety Scheme 1961 is 5 lux where workers have to pass through and 20 lux where labour works on ships or on jetty. The lighting standards for sheds and warehouses have also been upgraded. It is suggested that hoist towers for night lighting to international standards should be provided in all major ports.

5.2.4 **Pilotage and Tugs**

Requirement of training for pilots for seaports and riverine ports differs substantially. Even after considering special conditions obtaining at Calcutta, the training period for river pilots is unduly long. Pilot training should be standardized. As far as possible the probationary period may be limited to one year; for riverine ports, it could be slightly longer. In Calcutta, the pilotage could be broken up from Sandheads to Haldia and from Haldia to Calcutta. Pilot vessels also need to be modernised.

While examining the suggestion made by some users for privatisation of pilotage, the Committee noted that it could be a viable proposition, only if, launches, mooring boats etc. are also included in it. Since this would not be easily possible, the suggestion, the Committee feels, may not be pursued.

5.2.5 **Port Signal Stations**

All signal stations should be operated round the clock by certified personnel under the overall charge of a master pilot. Each Pilot station should have a marine or non-marine VHF set with multi-channels and separate local communications for both ashore and afloat purposes.

5.2.6 **Control Room**

All major ports should have control rooms with two computer terminals to improve the operational efficiency and the level of user service.

5.2.7 **Bunkering**

By the very nature of their operations ports require close coordination with other agencies like customs, police, municipal authorities etc. One of the reasons why Madras is attracting more traffic today is because it is relatively more responsive to the the needs of users and the industry.

Supply of provisions and bunkering are, among many services, a port is expected to provide to ships calling at ports. If these facilities can also be provided to ships in transit, the port earnings will increase. The port administrations cannot by themselves however provide bunkers and provisions, except fresh water. They could help in organizing these facilities and overseeing the performance of those entrusted with this task.

5.2.8 **Facilities for Crew**

It is pertinent to state that the crews of conventional ships spend about 50% of their time in ports and hence facilities for rest and recreations as well as security of personnel will go a long way in improving the image of a port. These facilities should include medical, toilets, clubs, public telephones, garbage collection, hygenic eating places etc. as also the provision of adequate number of fast launches and taxi system which does not exploit the visiting crews.

5.2.9 **Intermediate/Minor Ports**

As has been pointed out in Section IV Chapter 5 of the Report, though these ports play an important role in meeting the transportation needs of the economy, their development and modernisation has received very little attention in the past. The Committee suggests that the facilities available at these ports, particularly those in close proximity to major ports, may be assessed in consultation with the concerned State Governments, and a comprehensive scheme to tap their potential for serving the country's needs drawn up.

5.2.10 **Fishing Harbours**

It was observed that while some fishing harbours are located within the boundaries of the major ports, whereas in other cases they are outside. This gives rise to administrative and other problems. The Committee recommends that there should be a separate organisation under the Ministry of Agriculture to run all fishing harbours. This organisation should have its own reefer, cold storage and other facilities and remain accountable to the controlling Ministry.

5.2.11 **Inland Water Transport**

This subject has been dealt within Section IV Chapter - 8 of the Report.

CHAPTER - 3

TRAFFIC

Marketing

Marketing is a very important activity for the ports both for attracting large number of vessels as well as for enlarging its hinterland for cargo collection and dispersal. The traditional definition of the hinterland of a port being 50 miles radius is no longer valid. Hardly any port in India except Madras has a marketing division. The ports should have regular meetings with the concerned Chambers of Commerce and Industry and other organisations in the States. The Committee recommends that all major ports should have a marketing division with market research and publicity departments. The information about sailings, shipping schedules and space available, draughts, destinations, etc. should be advertised widely.

5.3.2 **Barge Operations**

These fall under two categories:—

(i) Barge operations within the port;

(ii) Barge operation from the ship directly to the inland water way transport terminals.

Barge operations within the port help in optimising the use of port facilities. The other advantage it offers is saving of time for transporting bulk cargo to factory premises. The Committee recommends that consideration be given to the manning of barges on a more cost effective basis as the present numbers do not offer cost efficiency. The discharge operations should, to the extent possible, be mechanised.

5.3.3 **Infrastructural Facilities**

The major ports service generally the following types of vessels:—

(a) Break Bulk

(b) Dry bulk

(c) Container

(d) Liquid bulk

(e) Roll on/Roll off

(f) Passenger/Luxury liners.

The Committee observed that the area, holding capacity and riding quality of the transit space available in most ports today was generally inadequate to receive, stack, delivery or facilitate shipment of cargo, efficiently. The existing concept of handling import and export cargo under one roof which has evolved historically requires review. Earlier, the railway tracks were provided adjacent to transit shed so that loading of cargo from the sheds directly into the wagons and vice versa could be accomplished. This is no longer feasible because the increase in the size of ships has correspondingly increased their capacity to transport larger tonnage of traffic. This has generated the need for larger covered areas and adjacent back up space for stacking open air cargo like steel etc. In the programmes for modernisation of major ports, the Committee hopes, this aspect will receive due attention.

The Committee is further more of the opinion that in the major ports cargo handling productivity is low among other things also because of over supply of manpower compounded by mis-match of equipment. For example, small 2-3 tonne cranes, with the advent of palletisation and unitization, have lost much of their utility. This aspect has been discussed in Section IV, Chapter-4 of this Report.

For POL handling, it is necessary to have an adequate number of buoys with night navigation facilities, sufficient number of pipelines of suitable sizes, adequate storage facilities, shore line capacity and powerful

tugs and pilots for movement round the clock to turn round the highly capital intensive modern tankers, expeditiously. The Committee during the course of its visits to various ports observed that many pipelines had sprung leaks in expansion bellows and required replacement. Many shore pipelines especially for black oil also require replacement.

The Committee recommends that for improving tanker turn round, the feasibility of installing marine loading arms or chicksen arms may be urgently considered. This will also decrease the incidence of marine pollution. All pipelines should be upgraded for a minimum pressure of 150 psi at the entry point. The international norms for loading of tankers at the rate of 2000 MTs per hour may be borne in mind. The size of the pipelines and the inland nozzles of the ship tankers should be capable of achieving a discharge rate of 5000 MT per hour of crude and 2000 MTs per hour of products.

The Committee also observed that very little attention had been paid in some ports to sailing vessels which handle considerable amount of coastal and even international traffic. The Committee noted that facilities for passenger traffic particularly in Cochin were far from satisfactory. A separate berth with facilities for drinking water canteen, toilet and passenger amenities should be provided.

In our ports, slop receiving facilities in accordance with MARPOL 74-78 Convention have not been provided. There are also no lay up repair berths and ships requiring urgent rectification especially at moorings, create problems for transportation of workshop personnel, material as also inspecting authorities.

The Tranchart's involvement in port operations should be much closer than it is at present. This would enable it to service Govt. Departments and agencies importing/exporting cargoes under its auspices, more satisfactorily.

5.3.4 **Stevedoring**

Stevedoring is normally a contract between a shipping line or Vessel Owner/steamer agent and the stevedore. The ships calling at the ports generally belong to three categories viz.

(a) container vessels;

(b) break bulk vessels

(c) dry bulkers and liquid cargo vessels.

The task of a stevedore is to arrange loading/unloading of the cargo from the vessels. He normally uses his own gear and handling equipment on board the ship and inside the hatches. The labour is to be indented from the Dock Labour Board or from the listed pool. The stevedore engages his own supervisors generally and also undertakes some odd jobs on behalf of the line/vessels owner within and outside the port. Though the pattern and mix of international cargo and the type and characteristics of vessels has undergone dramatic changes over the years, the steverdoring system has however changed very little. There is a feeling that stevedoring is a closed shop business. The Committee was told that stevedores charge the ship owners what they like and that their associations in ports do not permit change of stevedores by a vessel owner to insulate themselves against any competition building up in the business of stevedoring. Bombay's example was cited where it was said that only one stevedoring license has been issued during the last 33 years. The Committee examined this issue closely. This is a useful institution of service to shipowners but in need of urgent reform to improve its quality of service and make the stevedores more accountable and cost effective than they are at present. The quality of supervision over labour engaged in evacuating/loading cargo from or into the ships is very poor. Incompatibility and inadequacy of handling gear and equipment is matched by the stevedore's disinclination generally to invest in new equipment nor have the stevedores demonstrated any anxiety to improve cargo handling productivity.

The Committee accordingly suggests that the work of stevedores should be streamlined and regulatory measures tightened. Apart from this, supervisors also require proper training. The three alternatives which the Committee considered were:

(i) Port Trusts should undertake stevedoring. (This was strongly disfavoured by several users and some port managements).

(ii) Principal users like FCI, STC, MMTC, SCI and Indian and foreign lines should be allowed to do their own stevedoring. Barring vessel agents and shipping lines, the proposal invited strong objections, firstly because stevedoring work, it was said, needs expertise which they lack. Secondly, it would involve them, they feared, in additional investment on gears equipment and staff without little

possibility of getting a reasonable return on investments. Lastly, they contended that they would not be able to make any meaningful dent in the situation to improve efficiency and productivity because port labour is highly unionized.

(iii) The present system to continue with proper guidelines and improvements in the system.

The Committee after careful considerations of all aspects recommends that —

(a) the vessel owners/agents may be given freedom to do their own stevedoring provided they fulfil certain eligibility conditions to be outlined;

(b) the Port Trust Boards should be empowered to fix the maximum number of stevedores to be licenced in a year with regard to past traffic trends and future projections keeping in view the need for scale economies;

(c) The ports management should have access to the accounts of all licenced stevedores to satisfy itself that rates charged are competitive and that the terms and conditions of the licences are being faithfully observed.

A draft set of model Regulations based on the above is at Annexe - E-2.

5.3.5 Communications

The importance of good communications, a vital input in efficient port operations, cannot be over emphasized. The Committee noticed that managements have to contend with formidable problems in the area. Complaints were voiced by many users generally and ship Owners/vessels agents particularly about the lack of adequate ship to shore communication facilities even in important ports like Bombay.

The Communication facilities required at the ports are of two types, viz:

(a) An exchange network linked to national telex, teleprinter network and intercom facilities;

(b) Ship-shore communication facilities for port officials and crew for use by shipping agents.

The Committee was informed that the existing telephone facilities even inside the port premises were poor and development of the communication system was not keeping pace with the growth of traffic and that additional facilities were required to be created urgently in the interest of improving port efficiency.

The Committee was told that inspite of several complaints to the concerned authorities regarding malfunctioning of the telecommunication network at Calcutta port, the situation had not improved at all and in fact the system was deteriorating. In Madras Port, a request for the supply of additional board of 100 extension lines was reportedly pending with the Madras Telephones since 1981. Similarly, the telephone services at Mormugao Port was reported to be unsatisfactory in that it was extremely difficult to contact any outside station from Mormugao Port.

Lack of efficient communication facilities between ship and shore invariably gives rise to serious problems of coordination between shipper/lines or vessel agents and crew members. They feel greatly exercised over this deficiency. The Marine Departments of the ports need VHF communication, in addition to walkie-talkie sets for communicating between ships as also between tugs and ships. The Committee had detailed discussions in the matter with the wireless Adviser, Government of India who, while conceding that the level of efficiency of the communication network was not good at present, offered however to consider sanctioning dedicated VHF frequencies for exclusive use of the ports. The Committee was told that the idea of linking these facilities through the satellite system is somewhat premature.

Considering the importance of good communications in port operations, the Committee strongly recommends that the Ministry may take up the matter at its level and see that some improvement and reliability is brought about in the Communication system before it breaks down completely in some ports. Requests from agencies like CISF for VHF communications linking control rooms to critical points in the harbour, deserve priority. The Committee further recommends that the ports may engage consultants to study how the working of the inhouse communication network can be improved in the short run.

5.3.6 **Port Railways**

The Major ports must give service at economic rates and also improve user satisfaction. It is noteworthy that those ports which operate their own railway systems have been incurring losses year after year. Subject to what is stated in Section II Chapter 2 of this Report, the Committee would suggest that —

(i) for effective control over port railway operations and to reduce operating expenses, the railway yards should be rationalised by removing the unwanted lines and upgrading the residual network, and modernising the communication system.

(ii) Silos with automatic loading and discharge systems for bulk commodities e.g. food grains, fertilisers, cement, edible oils, chemicals etc. may be installed within the port rail terminals.

(iii) A detailed review may be undertaken by each port to reorganise its railway yards, cabins, and shunting engines.

(iv) The running lines inside the port should be electrified wherever required to avoid change of traction and detention to stock.

(v) The system of end to end running of trains without changing the main line locomotive at the interchange yard may be examined and introduced wherever feasible. This will rationalise operation and improve turn round considerably.

(vi) The proposal to hand over port railways to national railways should be pursued and transfer of assets made on the basis of present day value and not on book value. It would be desirable to engage a Consultant to prepare a feasibility proposal.

5.3.7 **Ports — Road Net work**

The Ports are connected to the hinterland by road net work and other modes. There is an urgent need to improve the layout, capacity and efficiency of the road transport system. The Committee, therefore, recommends that a study be commissioned with the following objectives:--

(i) identification of bottlenecks in the present network and remedial measures therefor;

(ii) peaking characteristics of movements within the port areas to determine the design capacity of the road network;

(iii) rationalisation of parking areas and their expansion at gravitational points to avoid congestion.

(iv) institution of proper traffic management system within port areas;

(v) removal of unauthorised structures and road side encroachments within the port areas;

(vi) redesigning of inter-section layouts to ensure unidirectional flow of traffic;

(vii) planning of truck terminals outside ports to provide parking, repair and running room facilities, dormitory accommodation for crew with canteens, public address system etc.

(viii) provision of entrance and exit to major ports through service roads wherever feasible.

Workshops

Since ports have a number of floating and other crafts and launches which need periodic repairs, maintenance and dry docking, a workshop in each port is necessary. Calcutta has a large workshop with over 9000 workers. Its productivity however is far below the acceptable norms.

The Committee recommends that there should be biannual refit meetings for planned maintenance and dry docking as also for stock taking and inventory planning which must be computer based. It was seen that except for Madras no other port has an electronic section in the workshop. The Committee recommends the development of a Modern workshop in each port.

5.4.2 **Dry Docking**

Besides 670 vessels and floating crafts of user organisations, the ocean going fleet of India consists of 387 vessels of various sizes. All these crafts require periodical dry docking and survey. In addition about 50 foreign flag vessels annually call at Indian ports for running repairs. The total expenditure incurred on repairs and dry docking to Indian ships abroad for want of facilities in India, in foreign exchange was worth Rs. 20 crores in 1978-79. It increased to Rs. 70 crores in 1982-83 and is steadily going up further. The total estimated dry docking days required by vessels in India is about 4500 days. The existing dry docking capacity is only 2850 days. Approximately 1000 more days are required for smaller crafts utilizing commercial dry docking. The gap between the requirement and existing dry docking capacity is 1650 days. The facilities are therefore grossly inadequate both in terms of availability of dry docking days as also wet berth repair days for commercial repair of vessels. To this extent the drain on foreign exchange will continue till additional capacities are developed.

The bulk of existing repair facilities are located in Calcutta and Bombay. The facilities are mostly obsolete. The Committee recommends that —

(a) A separate department for development of dry docking and ship repairs be set up at the concerned ports to augment capacity urgently;

(b) Programme for modernisation of dry docks in Calcutta, Bombay and other major ports should be drawn up and implemented.

(c) The requirement of floating docks, shipways and synchro lifts be assessed to enable ports to become self-sufficient in repair and dry docking facilities.

5.4.3 **Civil and Mechanical Engineering Support Systems**

On Civil engineering side, the modernisation of equipment, basins, locks, buildings, roads, sanitary arrangements, hydraulic, equipment lighting is over due. The Committee recommends that the working of the technical departments be rationalised. The present civil and mechanical infrastructural facilities are grossly inadequate. For example there is shortage of compressed air, fresh water, cranage, electrical terminal boxes and garbage and slop removal facilities. In view of this, the occupancy in some dry docks, particularly in Calcutta is on the decline. The machinery and equipment have outlived their useful life and there is no system of preventive maintenance. This needs attention.

CHAPTER · 5

SECURITY, SAFETY AND SERVICES

Security

The last decade has seen revolutionary changes in the pattern of cargo handling. Conventional general cargo ships are being fast replaced by highly specialized container and roll-on/roll-off ships. This in turn has brought in sophisticated methods of thefts and marine frauds. The Central Industrial Security Force is responsible for security of all major ports except Bombay. Even then the incidence of theft and pilferage is sizeable. Ship owners are held liable for unaccounted cargo shown loaded in the manifest but not landed or landed but missing at the discharge port. It has been suggested that the incidence of theft and pilferage can to a large extent be contained if there is effective patrolling of the water fronts. This has two aspects:—

(i) patrolling the inner water channels where ships are berthed or moored;

(ii) patrolling the outer roads when the ships are anchored off the fairway buoy awaiting berthing or clearance to sail.

The present security arrangements, whether by local police or ports own security set ups, or the CISF, do not provide for patrolling of the water fronts. The Coast Guards Organisation representatives told the Committee that they are not in a position to patrol the outer anchorages. The Customs, local police, or CISF tackle this problem by mounting patrols occasionally. These adhoc arrangements are not satisfactory. With a view to enhancing the security of ships, stores, personnel and cargo the Committee recommends that in consultation with customs, Coast Guards and local police:—

(a) all critical and vulnerable areas in a port including the water front should be declared as prohibited places and entry regulated; intensive patrolling of the shore-side and water front carried out regularly;

(b) an effective vigilance wing should be established in all ports for coordination with concerned agencies;

(c) the security personnel should be highly mobile equipped with vehicles and high speed launches, and sophisticated communication system;

(d) no private agencies should be allowed to be engaged for security of cargo within the port premises;

(e) the consignees must clear the goods within a stipulated period after unloading;

(f) no unauthorised person should be allowed to remove or in any other manner tamper with the seals or identification marks on any container, package, parcel or bundle.

5.5.2 **Fire Fighting**

The Committee observed that fire fighting facilities at most of the major ports are inadequate. Furthermore while the responsibility for fire fighting in one port is with the marine department, it is with the traffic department in the other. The inadequacy of the fire fighting service was high-lighted when M.T. Lajpatrai suffered a major fire disaster at Butcher Island in which 6 precious lives were lost. In view of the ever increasing requirements of the economy for import of oils, chemicals and acids, all ports must be adequately provided with efficient and modern fire fighting system and the personnel trained for operating such system on and offshore. Dock Safety Boards should play more effective role in ensuring compliance of safety standards.

There are two broad types of fire fighting requirements ashore and afloat. Lack of training of personnel and inefficiency of equipment contribute to poor or delayed response to emergencies. The Committee recommends that —

(i) two well equipped tugs with fire fighting appliances, including foam generating equipment, should be available in each port;

(ii) all oil terminals should be provided with complete fire fighting equipment including foam generating systems;

(iii) the fire brigade personnel should be trained for handling on and offshore fires and equipped with fire resistant equipments, suits, safety torches, helmets, etc.;

(iv) provision for under water services should be made; and

(v) the Explosive Act 1944 should be updated.

5.5.3 **Diving**

The Committee observed that the diving organisations in ports for the examination and repair of lock-gates, underwater fittings ship's propellers, salvage of cargoes, etc. is weak. In many cases, mandatory safety back up such as pressure chambers, oxygen, medical facilities, etc. are not followed. This requires urgent attention.

5.5.4 **Slop Removal and Spillage**

The ten major ports handle about 46 million tonnes of crude and finished products under the Marpol 1974-78 convention, it is obligatory to provide slop receiving facilities at all berths including tanker terminals.

5.5.5 **Fenders**

The Committee observed that fendering in almost all major ports including the locks leading to basins were in an unsatisfactory state. The age old system of using old tyres for fendering is in vogue in most of the major ports. This has some times restricted the berthing of ships to only day light hours. In view of the high cost of ships, it is necessary that all major ports have pneumatic fenders with energy absorption capacity.

5.5.6 **Wreck Removal**

Section 14 of the Indian Ports Act authorises a Conservator to remove any vessel wrecked, stranded or sunk in port which impedes or is likely to impede navigation. After such removal, an obligation is cast on the port conservator to sell the wreck and if the proceeds are not adequate to meet fully the accrued liabilities, the owner of the wreck has to make good the deficit including 20% on account of wreck removal expenses. It is seen that ship owners and P&I Clubs refuse to have any thing to do with the wrecks and the ports are saddled with the responsibility of finding resources for wreck removal and file claims in Courts later for recovery from vessels owners. The Committee has examined this problem with the help of a reputed expert in Maritime Law and Practices. It strongly feels that the present arrangement evolved long back has totally lost its relevance and that the statute needs immediate amendment. The Committee recommends that Section 14 of the Indian Ports Act be substituted by the following:—

(i) If any vessel is wrecked, stranded or sunk, the Conservators shall call upon the owner of the vessel to raise, remove or destroy the wreck. On receipt of a notice, the owner of the ship is liable to take immediate steps to raise, remove or destroy the wreck within a period of 90 days provided that in case of reasonable difficulties the Conservator shall, on application, allow extension of time not exceeding 90 days depending on the circumstances of each case.

(ii) In order to raise, remove or destroy the wreck the Conservator shall specify an alternative to the Owner to deposit with the Conservator a specified sum towards wreck removal cost and 20% thereon if the Owner does not wish to raise, remove or destroy the wreck. The deposit of such amount by the Owner within 30 days of the recepit of the notice will relieve the owner of all obligations in relation to the said wreck and immediately on deposit, the property in the wreck shall vest in the port. In the event of such deposit being made, the port shall refund the amount of deposit or such part thereof to the owner if the port is either unable to raise, remove or destroy the wreck or where the cost incurred by the port is less than the amount deposited.

(iii) The Owner in relation to this Section shall include registered owner of the vessel and the master of the vessel.

5.5.7 The second aspect is the role of the Protection and Indemnity Clubs (P&I Clubs). These are the Clubs of ship owners. As and when called upon to do so by the ship owner members, they provide guarantees etc. against release of the ship from distraint or detention etc. and otherwise also defend the interests of the ship owners against third party claims.

5.5.8 **Setting up of Tribunals to settle disputes between Ports & Ship owners:**

It is seen that disputes often arise between ports and shipowners on account of non-performance of the contractual obligations by the vessel owners or because of the legal lacunae in the Major Port Trust Act, more so where recovery of unliquidated damages is concerned. The Committee has seen the comprehensive proposal prepared by IPA and submitted to the Ministry of Surface Transport. It supports the views and conclusions outlined in the proposal. The Committee wishes to touch upon one more aspect and that is the protracted delays which take place in common courts to settle these disputes. After careful thought, the Committee recommends the constitution of an All India Ports Tribunal consisting of judicial and technical members one each for the East and West Coasts to settle all disputes arising between ports and shipowners such as damages to port property, wreck removal etc. These tribunals should have qualified professional and technical personnel with a fixed term of office.

The two tribunals may have separate benches where the work load justifies it, with each bench consisting of at least one judicial and one technical member. The Central Government should constitute an All India Ports Appellate Tribunal to hear appeals against the orders of these Tribunals. These Tribunals and the Appellate Tribunal should have all the powers of civil courts to grant injunctions, make interim and ad-interim orders for costs and exercise all such powers of a civil court including punishing a person or persons for contempt of the Tribunal or the Appellate Tribunal. The Tribunals and Appellate Tribunal should permit parties to represent themselves through advocates.

5.5.9 **Salvage**

The Committee observes that there is very little equipment in any of the Indian Ports for salvage. Todate whenever there is a distress at sea, it is either the Navy or else tugs stationed overseas at Singapore which have to be rushed to the Indian Ocean for assistance at high cost. The Committee recommends that a separate salvage organisation be setup in India so that ships in distress particularly in the vicinity of the country's Exclusive Economic Zones could get timely assistance in case of need.

5.5.10 **Examination Anchorages:**

Each port must provide an examination anchorage, essential for contraband control during Conflict or pre-conflict situations. Ships will enter a designated anchorage for examination before being allowed to proceed into the port.

5.5.11 **Pollution**

India has a long coast line about 6200 Kms. and an Exclusive Economic Zone of 320 Kms. Till date there was little awareness about marine pollution and its harmful effects on marine life etc.

In a port pollution is generally caused by:—

(i) deliberate pumping of oil by sea going vessels in the port area;

(ii) accidental spillage by sea going vessels;

(iii) trawlers and other crafts; and

(iv) refuse, sewage, garbage, hazardous wastes.

The Coast Guard has been given the responsibility for monitoring pollution outside the ports area, the Committee recommends that the ports should:—

(i) acquire trained manpower and necessary equipment for combating pollution inside the port area;

(ii) acquire facilities for slops and collection of engine room bilge water, garbage sweepings etc;

(iii) given representation in the Central and State Pollution Control Boards;

(iv) evolve an effective monitoring system with the Coast Guard & other agencies;

(v) prescribe standards for harbour water quality.

SECTION – VI

MULTIMODAL NETWORK

&

INFRASTRUCTURE

SECTION—VI

MULTIMODAL NETWORK AND INFRASTRUCTURE

CHAPTER—1

INTRODUCTION

Multimodal transportation has now become an established feature of the liner trade of developed countries. Its progress in the developing countries, has been slow and halting on account of serious constraint of resources for development of infrastructure facilities and cellular vessels etc. Shippers from industrially advanced countries have benefited immensely in India, however, apart from financial constraints, lack of Coordination among various agencies involved in the intermodal system has impeded its growth.

6.1.2 Historically it has been observed that apparently simple-looking propositions have ushered in subtle revolutionary changes. Introduction of the box or container in liner shipping has spread the magic web out of which neither shipowners nor shippers can extricate themselves. Unitisation of cargo, mechanised handling and inter modal services have emerged as the hallmark of container technology. Mechanisation of operations and computerisation of activities has largely displaced manual labour. What has emerged is a systems approach demanding high level of conformity of inputs and outputs by not only shipowners and carriers but also shippers. Besides, containerisation has increased competition in international marketing by substantial reduction in transit costs. Transportation, which had a subservient status to trade so far, is now emerging as a co-partner.

6.1.3 The demand for Indian products in international market is not on "as is where is" basis. These have to be transported without any damage and deterioration in quality and delivered at places required by the buyers and at landed costs acceptable to them.

6.1.4 In developed countries, the multimodal system has assumed the task of physical movement of goods right from the exporter's premises to the importers warehouses. This has considerably reduced the hassels involved in the shipment of cargo, coordination with various modes of transport and dependence on a multiplicity of intermediaries. However, physical distribution system, inventory control and production planning have now to increasingly conform to the standard unit loads of TEUs or FEUs. Its progress in the developed countries is not surprising, because their production, distribution and local transport systems were already advanced in modern technology and systems approach.

6.1.5 The situation in the developing countries in general, and India in particular, represents a visible contrast. In the first place, induction of containerisation in the trades of developing countries has been presenting problems on account of lack of financial resources; inevitable displacement of labour, and rigidity of the legal and administrative regimes. Secondly, the domestic production and marketing activities, physical distribution systems and inventory and storage methods are, byand large, conventional. In such a situation, the development of container technology in these countries poses serious difficulties. Nonetheless, the aggressive push of the technology cannot be prevented, because buyers, especially in developed market economies, prefer receiving goods in containers on account of compelling demands of the system.

Chronology of Developments in India

6.1.6 The rapid development of the container fleet in developed maritime countries has brought in the technology in the trades of developing countries also. They find themselves virtually overwhelmed by the situation, leaving hardly any scope for gradualism or selectivity in the induction of the technology. The

Indian response has been that of a hurried improvisation to cope up with the challenge. A brief chronology of events in the process of development is:

- Container vessels of foreign lines appear at Indian Ports with their own handling gear and ground equipment.
- Shippers welcome the development but port labour adversely reacts for fear of loss of work and employment.
- Pressure on port authorities to develop container berths with shore equipment viz. gantry cranes, transtrainers, heavy duty fork lifts, etc.
- Indian shipping lines under pressure to go in for container ships, acquire combi vessels.
- Development of container berth at Haldia Port.
- Demarcation of separate berths for handling cellular ships at Bombay
- Handling of containers by conventional means at ports of Bombay, Calcutta, Cochin and Madras.
- Establishment of inland container depots (ICDs) at Bangalore followed by Guntur, Anaparti and Coimbatore as pilot projects.
- Development of a modern container terminal at Madras Port.
- Establishment of a pilot ICD at Delhi.
- Installation of gantry cranes and transtrainers at Bombay Port.
- Commissioning of first container freight station (CFS) at Patparaganj at Delhi for LCL cargo.
- Shipping Corporation of India commences fully containerised service from Madras with feeder vessels.
- Commissioning of ICDs at Amingaon (near Guwahati and Ludhiana).

Imperfections in Improvised Multimodal System

6.1 These developments, over a decade, are not impressive by any standard, considering the frogleap momentum witnessed in highly industrialized countries. It is important to examine its implications from the view point of users in India. A few examples in this regard are:

(a) Only shippers of Full Container Load (FCL) cargo, can avail of the facility of stuffing/destuffing and customs clearance in their premises within a limited distance range around Seaports of ICDs. Those with Less than Container Load (LCL) have to send their cargo to the seaports where groupage of consolidation facilities are provided by the shipping lines/steamer agents or freight forwarders. However, the CFS established at Patparganj Delhi, is the first inland location, where LCL cargoes are accepted for shipment via ICD, Delhi.

(b) The movement of containers between ICDs and the gateway ports is at present, permitted only by rail. These movements are dependent on the availability of railway flat wagons. The rail freight between ICDs and ports is also high.

(c) The Combined Transport Document (CTD) issued at the ICDs is not yet fully acceptable to the foreign buyers. In most cases, the banks still insist on letters of credit being backed by on heard bills of lading.

(d) The sea freight charged by shipping companies is mostly based on conventional commodity tariffs with additional charges for stuffing, lease, handling and transportation. In case of certain selected commodities only, all inclusive box rate is offered. The tariff rates in most cases have lost their sanctity and generally the liner rates are negotiated by shippers with conference or nonconference operators.

(e) On account of lack of infrastructure at container berths and inadequacy of space at most ports (except Madras) as well as similar deficiencies at the ICDs, the overall cost of transportation etc. of containers is comparatively higher than in the industrialized countries.

(f) The intermodal system has yet to expand to the third stage viz. door-to-door service. The system operates in a truncated fashion, involving several problems in documentation and procedures.

6.1.8. Most of these problems are transient in nature and likely to be resolved in course of time by the collective endeavours of various official/non-official agencies and the shippers. The approach suggested is outlined at length in the succeeding chapters.

CHAPTER - 2

CONTAINER TRAFFIC PROJECTIONS

PRESENT LEVEL

The container traffic handled at the major ports during the last three years is indicated in the table below:

(In '000 TEUs)

Port	1983-84	1984-85	1985-86
Bombay	141	174	214
Calcutta	26	29	46
Madras	28	45	69
Cochin	33	35	39
Others	11	22	28
Total:	239	305	396

It is clear that containerisation of general cargo is on the increase. This trend is likely to continue since at present hardly 35 to 40% of total containerisable cargo moves in containers, although 70 to 80 per cent of such cargo is containerisable. A substantial increase in the container traffic is likely to emanate from the ICDs already established and those likely to be set up in future. The projections of the container traffic made by the RPT* Economic Study Group commissioned by the Commonwealth Secretariat at the instance of the Government of India were as in the table below:

Ports	1980-81	1985-86	1990-91
Bombay	70,000	2,87,000	3,20,000
Cochin	7,000	24,000	42,000
Madras	3,000	20,000	47,000
Calcutta	500	2,000	4,000
Haldia	8,500	77,000	1,49,000
Total:	89,000	3,60,000	5,62,000

Considering the progress of containerisation witnessed during the last few years, the above projections do not appear to be realistic. The Indian Ports have already handled nearly four lakh TEUs during 1985-86 and the tempo it appears will not only be maintained but accelerated if we are able to expand the port and inland infrastructure facilities.

Estimates of O-D flows for 1989-90

6.2.2 Recently a study was carried out by RITES to determine the O-D (Origin-Destination) flows of general cargo traffic (exports and imports) to and from the gateway ports. Based on physical characteristics of the commodities and their loadability in containers and commoditywise details of O-D flows for the year 1985-86 the study has come up with container traffic projections for the year 1989-90.

Exports

6.2.3 The exports are projected to rise at the rate of 7% approximately during the Seventh Plan period. Industrial products are a major group in addition to engineering goods, chemicals and allied products. Readymade

* Randall, Palment and Tritten.

garments are to likely account for a significant share of the exports. The targets set for exports for the 5 year period (1985-90) are:—

	Percentage Increase over 1984-85 (last year of the Sixth Plan)
Engineering goods	114%
Chemicals & Allied products	61%
Cotton textile including readymade garments	41.5%
Tobacco (unmanufactured)	21.7%
Plantation commodities tea, coffee, cashew, spices etc.	15.3%
Processed food	29.3%
Jute manufacturers	7.5%
Leather and leather goods	8.3%
Others including handicrafts	42.85 %

Imports

6.2.4 Imports have been projected by the Planning Commission on the assumption of import elasticity of 1.2 with respect to Gross Domestic Product (GDP) which implies an average growth of 6% in real terms.

6.2.5 Based on this O-D analysis of the containerisable cargo projections for 1989-90, 21 inland locations have been identified as follows:—

CONTAINERISABLE EXPORT AND IMPORT TRAFFIC FOR THE INLAND CONTAINER DEPOTS FOR 1985-86 AND 1989-90

Sl. No.	Inland Container Depot	Total Containerisable Traffic (Import & Export)			
1.	2.	3.	4.	5.	6.
		Tonnes	Total No. of TEUs (incl. empties)	Tonnes	Total No. of TEUs (incl. empties)
Phase I					
1.	Delhi	5,54,480	50,385	6,94,973	60,231
2.	Bangalore	1,39,925	11,846	1,86,001	15,748
3.	Coimbatore	43,393	3,615	86,583	7,273
4.	Guwahati	1,82,222	18,148	2,05,552	20,473
5.	Ludhiana	1,41,569	12,269	1,79,905	15,592
6.	Guntur	18,509	2,777	47,958	7,290
7.	Anaparti	13,020	2,082	21,053	3,368
8.	New Jalpaiguri	21,245	3,398	23,654	3,784
Phase II					
9.	Quilon	62,635	6,513	96,923	10,085
10.	Moradabad	55,491	5,548	71,270	7,127
11.	Varanasi	67,710	8,666	90,358	11,566
12.	Hyderabad	63,337	8,409	84,848	11,267

1	2	3	4	5	6
13.	Ahmedabad	85,045	6,519	1,12,306	8,610
14.	Surat	15,548	2,239	13,857	2,396
15.	Vadodara	9,285	1,263	8,386	1,443
16.	Kanpur	27,225	2,904	35,105	3,744
17.	Narayanpur Anant	1,23,011	10.660	1,61,580	14,003
Phase III					
18.	Giridih	28,367	2,404	37,728	4,036
19.	Pune	54,063	6,487	59,763	7,174
20.	Ranchi/ Jamshedpur	17,208	2,294	23,193	3,091
21.	Tiruchirapalli	49,041	4,903	57,524	5,751

Source: RITES study on Container Corporation (1986)

Future Projections

6.2.6 The estimated number of TEUs likely to be handled in the major ports by 1989-90 as mentioned in Section IV is one million TUEs. This is likely to increase to 1.8 million by 1994-95 and 2.9 million by 1999-2000 AD. The number of TEUs moving inland from and to the ICDs by 1989-90 is estimated at 2,30,000 which is approximately 23% of the total anticipated throughput of containers. The present pattern of physical distribution of containerised cargo indicates that 70 to 75% of such cargo is dispersed in the port towns without getting reflected in O-D flows. However, a significant proportion of this traffic moves into the hinterland in break bulk form. It is reasonable to assume that in future, with the development of inland infrastructure, volume of containerised cargo moving inland will progressively increase to about 40 to 50% by the 2000 AD. The balance is likely to move by road basically to be consumed in and around port towns and industrial centres located within a distance of 300 to 400 kms. However no detailed analysis of the likely pattern of traffic and the intermodal mix is possible at this stage.

CHAPTER—3

DEVELOPMENT OF INFRASTRUCTURE

The RITES study shows that 21 ICDs are to be set up by the year 1991-92. Phase-I envisages development of 8 ICDs at —

1. Delhi
2. Bangalore
3. Coimbatore
4. Gauhati
5. Ludhiana
6. Guntur
7. Anaparti
8. New Jalpaiguri

The IInd phase will extend to 9 more ICDs at—

1. Quilon
2. Moradabad
3. Varanasi
4. Hyderabad
5. Ahmedabad
6. Surat
7. Baroda
8. Kanpur
9. Narayanpur Anant

The phase-III programme includes another 4 ICDs at—

1. Giridih
2. Pune
3. Ranchi/Jamshedpur
4. Madurai/Trichy

6.3.2 The first phase is likely to be completed by 1988-89, phase-II by 1990-91 and phase-III by 1991-92. It is expected that a number of satellite container freight stations will also come up in the influence zones of these ICDs and serve as inland feeder terminals. Likewise a number of satellite CFSs are likely to grow around container ports and serve as feedering terminals to the respective ports.

6.3.3 The development of infrastructure of handling containers at port-end terminals is to be undertaken by the respective ports. The development of line haul infrastructure viz. the rolling stock, line capacity works etc. from gateway ports to the hinterland terminals is to be undertaken by

the Indian Railways. The infrastructure at the inland rail terminals for handling containers may be developed either by the railways themselves or through its agencies. The responsibility for development of infrastructure at the ICDs may be given either to a public sector or a joint sector company. The development of infrastructure at satellite CFSs located near the ICDs or the ports may appropriately be left to the private sector as in most of the developed countries.

6.3.4 The development of the ICD net work at suitable inland locations will mark the completion of the second phase of containerization and help usher in the third stage of containerization viz. door to door service. Massive hardware and software inputs in the shape of road equipment, viz. tractors, trailors, trained manpower and customs facilities etc. will be required including the development of road bridging links from the ICDs/CFSs to the shippers godowns.

Establishment of Inter-Modal Authority

6.3.5 Development of this infrastructure is vital for quick and efficient dispersal of containers from the ports to inland locations. Since large percentage of containers is likely to be absorbed in the vicinity of the ports requiring movement by road, the development of suitable road transport facilities for container movement will have to be ensured if the ports have to be kept free from congestion. In the committee's view, an umbrella authority to oversee the development of the multi-modal system as an integral part of the transport chain is absolutely necessary. Since the development of infrastructure will closely involve ports, railways and customs, this organisation will have to be vested with ample powers not only to Coordinate the developmental activities but also ensure speedy and effective implementation of the various programmes. Involvement of the Ministry of Finance (Departments of Customs and Banking) and Ministry of Commerce with the proposed body would be equally necessary.

6.3.6 Since ports and road transport will be required to play a dominant role in the promotion of the multimodal system, and even otherwise also the development of inland inter-modal infrastructure is crucial to efficient port operations. It would be appropriate to set up the proposed authority under the Ministry of Surface Transport. The Committee feels that the Ministry of Surface Transport can give the necessary direction and impetus to the growth of multi modalism in India.

CHAPTER - 4

OWNERSHIP AND MANAGEMENT OF ICDs & CFSs

The management of liner train services and inland rail-terminals may be undertaken by the Railways while the development and management of ICDs may be left to either a public sector or a joint sector company. It bears mention that the ICDs are the depots where both FCL and LCL operations are undertaken whereas CFSs are satellite terminals located at a distance from the nodal ICDs or ports, primarily to service the LCL cargo by providing consolidation and groupage facilities.

6.4.2 ICD management is a highly professionalised job. Different patterns have evolved over the years in different countries for the management of the ICDs/ CFSs depending upon the prevailing local conditions. In the Indian context, the ICDs may be managed by a unified organisation either in public or joint sector by bringing together people from both the sectors having the requisite expertise and skills. The satellite CFSs, primarily intended to serve the LCL cargoes, can best be managed by private sector under a licence to be issued by the concerned port or the ICD to which it is linked.

6.4.3 The development of in land transport infrastructure in the six major corridors viz. (i) Bombay Delhi, (ii) Calcutta - Delhi, (iii) Madras - Delhi, (iv) Madras - Cochin, (v) Madras Bombay, (vi) and Bombay - Calcutta has to be ensured for the balanced growth of inter modal network. The master Plan for the development of infrastructure by the ports, railways, road transport and customs department should be so planned as to fructify simultaneously.

6.4.4 The department of Customs has to rationalize its documentation and procedures for promoting the development of land bridges, and transhipment cargo so that such traffic can be handled speedily and without incurring extra costs or delays. The example of Colombo Port where such facilities have been developed in the past few years can be cited with advantage. Simplified procedures are necessary to promote the concept of land bridge traffic for which there is significant potential on three corridors viz. Bombay - Madras, Bombay - Calcutta, and Cochin - Madras serving West to East coast.

CHAPTER - 5

CONTAINER MANAGEMENT INFORMATION SYSTEM

The basic objectives of a management information system are—

(i) Improvement of efficiency and minimization of costs;

(ii) Improvement in the quality of service to the user by permitting him access to the information system.

System Design

6.5.2 The information system is designed to record and continuously update changes in the status of all containers by reporting their distinctive identity and their locational changes. The location and current status of any container can be determined by an enquiry into the system in a few seconds. The data base shoud cover all container facilities in ports, interface terminals, liner trains, ICDs and CFSs.

6.5.3 The system net work will require a central computer installation with adequate CPU (Central Processing Unit) capacity for future expansion and inter connection to various terminals by dedicated communication lines as well as access to the national telephone, telex and facsimile networks.

6.5.4 The system should be so designed as to enable messages being automatically generated from each transaction/reporting stations to the above centres and vice versa.

Data Base

6.5.5 The data base should cover:

- Vessel loading reports.
- Vessel unloading reports.
- Train loading reports.
- Train unloading reports.
- Ship to rail transfer.
- Rail to ship transfer.
- Ship to road transfer.
- Road to ship transfer.
- Rail to road transfer.
- Road to rail transfer.
- Inter depot transaction.
- Defective container reports.
- Container repair reports.

- Outward gate reports.
- Inward gate reports
- ICD transactions.
- CFS transactions.

This can be expanded from time to time, depending upon the requirements of the information system for which spare capacity should be planned adequately while designing the system. The above transactions will be 'on-line' basis. The 'off-line' analysis of the data will produce various reports required by the management like:

- Periodical status reports for ports inland terminals, ICDs/CFSs.
- Linewise loading/unloading reports.
- Defective container reports.
- Containers awaiting inspection reports.
- Billing statements, various statistical reports and analysis.

Infrastructure

6.5.6 Variety of computer hardware and equipment is available and its selection will depend on various operational factors. One important requirement to the kept in view is expandable CPU capacity capable of add-on memory. The ready made software packages with proven application may be adopted in the beginning which could be modified suitably by the system staff in due course.

Apart from the basic M.I.S. reports, further system enhancements can be made to include such reports as may be necessary for developing container control systems, depot performance, cost analysis, financial accountancy, vehicle maintenance etc. The system should be capable of being interlined with all ports, railways, and the international maritime information net work.

CHAPTER - 6

INSTITUTIONAL INFRASTRUCTURE

CABOTAGING

By its very nature the import/export trade of a country cannot remain in balance. The empty haulage of containers can not therefore be wholly eliminated but the cost of such movement starts hurting the shippers and the national economy when the imbalance is wide. This can be mitigated to a large extent if cabotaging which envisages carriage of domestic cargo in ISO containers in the empty direction is permitted. The advantages of this concept are manifold. Firstly the repositioning charges of the empties are not passed on to the shippers and to that extent his exports remain competitive in the international market. Secondly, this makes for optimum utilization of the rolling stock and handling equipments at the ports and inland terminals.

Land Bridge Concept

6.6.2 The establishment of land bridges across the Indian subcontinent can service a large number of through containers from the West Coast to East Coast ports and Vice Versa. The containers coming from Middle East, Europe and Continent and going to Far East destinations could terminate at Nhava Sheva/Bombay, land bridged to Madras and connected to the shipping lines serving the Far Eastern routes. Likewise the containers originating in Far East and destined for Middle East, Europe, and continent could be dropped at Madras, land bridged to Sheva/ Bombay and picked up by lines servicing the European Continertal routes. This is a very potential segment of traffic for India. It can bring significant gains to the Indian ports, Railways and the national economy in the shape of foreign exchange earnings.

Rote of Freight Forwarders

6.6.3 The role of freight forwarders has so far been conventional and has largely remained confined to break bulk cargo. Consolidation was alien to this concept. The advent of containerization has brought about a sea change in the situation. The shippers of LCL cargoes have however benefited very little by cargo rationalization which symbolises containerization. If anything, he has to pay a surcharge on freight unlike the shippers of FCL cargo. The LCL shipper needs an organisation of freight forwarders to enable him to partake of the benefits of this revolutionary technology. The conventional role of a freight forwarder has to change to be able to render cost efficient service to this class of shippers in the Indian context their number is large by assuming the role of an MTO/CTO (Multi model Transport Operator/Combined Transport Operator) who can issue the house bills of lading. Before assuming much responsibility he has to prove his technical competence, demonstrate his capacity for undertaking this new and challenging role and also show that he is financially sound. Above all he has to adequately cover himself against risks and liabilities involving through transportation.

Development of NVOCC

6.6.4 The institution of the NVOCC (Non vessel Owning Common Carriers) came in the wake of containerisation and has attained phenomenal success in the industrialised countries. NVOCCs are now controlling large volumes of containerised movements in Europe and USA. He acts as a principal operator for and on behalf of various modes of carriers and assumes combined liability to the shipper. The growth of freight forwarders as envisaged in the earlier paragraph will

ultimately lead to the emergency of NVOCCs to subserve the objectives of CTO and scale economy gains in through transportation.

The Committee trusts that the Ministry of Commerce which, it understands, is already engaged in this exercise would come up with a practical scheme to permit freight forwarders to issue house bill of lading to remove this deficiency soon and thus give content & meaning to the concept of NVOCC and multi modalism.

Development of Indian Container Leasing Activity

6.6.5 Presently there is no container leasing company in India, even though seven container manufacturing companies have been licenced to manufacture ISO containers. Sometime back the Ministry of Petroleum had set up a task force for promoting a joint sector company to undertake the business of leasing ISO containers. The MPRC is not aware of the progress. It wishes to emphasise that with the exponential growth of containers seen since the late seventies, it would be unfortunate if indeed India is not able to acquire a reasonable share in container leasing business when the country is manufacturing ISO containers.

Combined Transport Document

6.6.6 Combined Transport Document to multi modal transport is, what motive power is to an automobile. It is intended to facilitate through movement of cargo by more than one sub system of the transport chain. An internationally accepted document has been evolved by the International Chambers of Commerce (ICC) and its acceptance world wide is governed by the regulations of this Chamber. This has not yet taken roots in India. The documents in use in our country today viz. FEDAI Brochures 081 and 082 suffer from a serious infirmity in that they are not universally bankable. This defeats the very purpose of multi-modalism. The Committee urges the Ministry of Commerce and the Reserve Bank of India to remedy this situation and evolve an internationally acceptable and bankable document without further delay to help Indian exports.

Through Transport Liability Covers

6.6.7 The development of liability covers for various carriers, operators etc. is important for the growth of multi-modal traffic. A suitable cover is to be developed for road transport operators. This industry is totally unorganised in private hands. Unless and until the road transporter acquires such a cover he cannot inspire confidence amongst the users and the customs authorities. Since road movement linkage is vital in the multimodal chain, as discussed earlier without it, the concept of door to door delivery will remain elusive.

The inland terminals viz. ICDs and CFSs operators will handle cost of cargo. The terminal operators will have to ensure themselves against various risks involved in operating and handling cargo at the terminal and personnel. General Insurance Corporation of India is the most appropriate agency in the Indian context to develop and provide such facilities. The Committee hopes that the service provided will stand comparison internationally.


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SECTION – VII

SATUTORY CHANGES REQUIRED TO

GIVE EFFECT TO

THE MPRC'S RECOMMENDATIONS

SECTION – VII

STATUTORY CHANGES REQUIRED TO GIVE EFFECT TO THE MPRC'S RECOMMENDATIONS

CHAPTER – 1

INTRODUCTION

The Committee has in Section I Chapter 4 of this Report observed that the philosophy and scheme of the Major Port Trusts Act, as at present, is oriented towards control and regulations and not towards service to the users. This has influenced attitudes which get reflected in the day-to-day actions and decisions of the administrative Ministry and the port managements.

7.1.2 The Committee is of the view that in a utility, like sea port, the exercise of authority by the port management should demonstrate its commitment for and anxiety to the need for upgrading the quality of service to the port users. It follows that the provisions which come in the way of achieving this objective should be reviewed. Secondly, the Committee believes that the ports will become commercially oriented if their managements are given a greater degree of operational autonomy and are enabled to shed the traditional approach in favour of modernism. Basic to the commercial approach is the need for the port trust managements to develop such strategies as will ensure that the ports seek the users rather than the other way round. This may be suitably reflected in the Preamble of the Major Port Trusts Act.

CHAPTER – 2

LEGAL FRAMEWORK

The Committee's recommendations in its Interim as well as Final Reports have, among other things, advocated greater measure of opertional autonomy to port managements. Acceptance of the Committee's recommendations would result in substantive changes in the Major Port Trust Act.

7.2.2 In putting forward the detailed proposals in Annexe F for legislative changes, the Committee would like to highlight a few important issues to facilitate their examination.

7.2.3 For the first time in the history of the major ports perhaps, the principle being advocated is that even as a service industry, the major ports should be run on commercial lines and generate enogh resources to finance their development and modernisation programmes.

7.2.4 The Committee has recommended the setting up of a unified cargo handling agency in each port and abolition of the Dock Labour Boards. This is because, in its considered view, low levels of productivity and cost inefficiency of services are to a large measure, attributable to absence of interchangeability of workforce and surplusage of manpower. If this recommendation finds acceptance the Dock Workers (Regulation of Employmet) Act will have to be repealed.

7.2.5 The Committee's finding also is that there is lack of professionalism in the ports at present. It has, therefore, suggested the setting up of a Board of Management manned by professionals in each port.

7.2.6 The creation of a unified authority to manage all the major ports is neither possible nor practicable. It is also not possible in a Parliamentary system of Government to confer absolute autonomy on any public enterprise. The Committee's caonclusion is that the present relationship between the port managements and the administrative Ministry can and should be made more purposeful. The creation of a high powered port development board in the Ministry of Surface Transport with clearly delineated powers and authority has been recommended.

7.2.7 Sectt. should have four senior port professionals representing the disciplines of traffic, marine, engineering and finance.

7.2.8 An attempt has also been made to align the proposed changes with the existing provisions in special enactments governing some other public enterprises.

SECTION — VIII

SUMMARY OF IMPORTANT RECOMMENDATIONS

SECTION — VIII

SUMMARY OF IMPORTANT RECOMMENDATIONS

1. The Departments in the Ports should be rationalised and reorganised on functional basis. The normal pattern should be ten Departments in each port including planning and research, personnel and industrial relations, real estates, trade promotion etc.

(1.2.3)

2. Except Bombay and Calcutta, in all other Ports the Deputy Chairman should be the Chief Vigilance Officer.

(1.2.11)

3. Financial advice, and accounts wings should function under the Financial adviser & Chief Accounts Officer and the internal audit section under the Chairman.

(1.2.16)

4. As in other ports, dredging in Madras should be under the Marine Department.

(1.2.17)

5. There should be maximum three levels for decision making in any department. Wherever practicable the number of levels may be reduced to two only.

(1.2.28)

6. A study should be undertaken to restructure the pay scales of port employees on a scientific basis with due regard to the nature of responsibility.

(1.2.29)

7. During the next pay revision exercise, further rationalization of pay scales should be attempted and the total number of scales reduced.

(1.2.30 & 1.2.31)

8. Besides laying down overall policy, the Port Chairman should directly handle the following subjects:—

(1) Planning & Research;
(2) Management Information System;
(3) Trade Development;
(4) Vigilance;
(5) Internal Audit,

The Deputy Chairman should be responsible for —

(1) Inter departmental coordination of operational matters;
(2) Dock Safety; and
(3) Security.

(1.2.37 & 1.2.38)

9. Daily Operations Group on the pattern of Bombay should be set up in all major ports. The Group should meet the Chairman once a week.

(1.2.39)

10. For promoting excellence, each port should have a programme of career planning to enable employees to identify career related goals, etc.

(1.3.6)

11. The training scheme prepared by IPA for base line Class I Officers should be implemented to facilitate the constitution of the Central Ports Service later on.

(1.3.7, 8, 9 & 10)

12. Manpower and training requirements of all ports should be reviewed by a Central agency. All Class-I Officers should undergo four weeks refresher course once every two or three years. There should also be regular inservice training programmes for all officers.

(1.3.11)

13. All vacancies of heads of departments should be thrown open for selection from amongst eligible officers of all ports and appointments made regardless of their parent ports.

(1.3.14)

14. The constitution of the Central Ports Service should be preceded by a comprehensive study which should lay down the policy and modalities in detail.

(1.3.19)

15. A unified set up for the ports would not be the answer to the problems faced by the major ports in view of the location specific nature of services they are required to render to the users, non-cosmopolitan nature of the staff and inflexibility of assets and unique socio-economic environment.

(1.4.33)

16. The Ports wing in the Ministry should be reconstituted and augmented by inducting four senior and experienced port officers of different disciplines to facilitate professional examination of port proposals etc.

(1.4.40)

17. A Major Ports Development Board should be set up under the Ministry and made responsible for overall development and management of the Port Development Fund and technical evaluation of port projects etc.

(1.4.42)

18. In view of the expertise built up by the IPA it should function as technical consultant to the proposed Major Port's Development Board.

(1.5.9)

19. Ports must function on commercial lines, generate surpluses for their development and provide service at acceptable levels of efficiency and productivity. Depreciation should be provided for on replacement cost basis instead of historical costs as at present.

(2.2.1)

20. Directing Groups/Empowered Committees recommendations for waiver of Customs and Excise Duties on equipment acquired for use in ports, should be implemented.

(2.2.2)

21. Ports should undertake works/projects which are commercially viable. Dedicated projects or schemes should be financed entirely by the agency concerned who should also recoup the operating losses arising out of under-utilization of the facility.

Any new port to be established in future should be financed by Central Exchequer.

(2.2.3 & 2.2.4)

22 Port Development Fund (PDF) for meeting the capital requirements of all ports should be set up with contributions from Government and the surplus ports carrying interest at 10%. Loans given to the ports from PDF should be guaranteed by the Government and carry interest at a rate not exceeding 11%. (2.2.4)

23. There is considerable scope for generating additional revenues from the real estates of the ports. Separate departments should manage the Estates. Special Committees including outside experts, should be set up for Estate Management and Development.

(2.2.5)

24. Port railway tariffs should be revised and a mechanism set up to review the rates periodically with the Indian Railways. The proposal for transfer of port railways to Indian railways should be pursued.

(2.2.6)

25. Dredging expenditure, both capital and maintenance, for the channel and the turning basin in all major ports, should be treated as a national obligation and financed by the Central exchequer.

(2.2.7)

26. The level of welfare facilities provided by the Port Trust should be, neither extravagant nor lavish. Subsidising welfare activities should be discouraged as far as possible.

(2.2.8)

27. Ports operate in a highly competitive international environment. While fixing rates and tariffs, generation of surplus must be ensured. Levels of efficiency and productivity should be comparable to the ports in the region. All efforts should be made to reduce costs.

(2.3.1)

28. The package of services rendered by major ports and the principles of pricing therefore should generally be uniform. Where it is not possible to provide the standardised package of services, adjustments may be made by way of surcharge or rebates.

(2.3.2)

29. Procedures and systems should be simplified. Towards greater delegation of authority, the existing limits of capital expenditure for the Port Trusts should be revised upwards. Greater autonomy should be given to port managements in the pricing of various services.

(2.4.2)

30. Surplus labour in each port should be identified categorywise. Such workers should be induced to retire voluntarily and liberal retirement benefits offered.

Dock Labour Boards wherever existing should be abolished and cargo handling on board and ashore unified.

(3.2.2 & 3.2.4)

31. Arrangements for proper training and retraining of work force should be made; and surplus labour redeployed in port based and allied industries. The technology mix should be carefully decided to avoid large scale retrenchment of workers. Concept of multi-functional training and staffing should be introduced.

(3.2.5 & 3.2.6)

32. The entire range of port operations should be studied to identify areas where unified operations are feasible.

(3.2.8)

33. While wages and major allowances could be negotiated and settled at all India level, other matters should be left to the ports themselves to decide. Negotiations should be held only with the recognised bargaining agent selected in accordance with the outlined procedure.

(3.2.10 & 3.2.12)

34. Where the management and the union are not able to agree on any matter, such matter may be referred to a mutually acceptable arbitrator.

(3.2.14)

35. Participative management in the port system should be encouraged and representation given to workers on the basis of election, constituencywise. These participative bodies should deal with work related issues only.

(3.2.15)

36. Adequate training programmes for various categories of workers should be developed to enable the workforce to improve their skills and productivity.

(3.2.16)

37. The datum lines for cargo handling norms fixed earlier have lost their relevance with large scale mechanisation and should be updated pari passu with the extent technological situation.

(3.3.4)

38. Measures outlined in the Report for improving productivity should be implemented.

(3.3.5)

39. An assessment of the number of workers required categorywise, for peak requirements, should be made and the number fixed taking into account the revised cargo handling norms and technological inputs, for efficiency and productivity.

(3.3.11)

40. A liberal incentive payment scheme for performance over normative levels of productivity should be introduced.

(3.3.12)

41. With increasing mechanisation and improved cargo handling methods, efforts should be made to retain more skilled and semi-skilled workers. Among the unskilled, relatively younger work force with capacity to benefit by training, may be retained.

(3.3.13)

42. A composite index for measurement of improvement in productivity should be established with appropriate weightage for each factor. Gains of increased productivity should be shared by all employees.

(3.3.16)

43. The Vizag Port should achieve optimum loading capacity by augmenting its facilities viz. tipplers, reclaimers etc.

(4.3.18)

44. General cargo berths should be developed at Kandla, Vizag and New Mangalore, initially with adequate back up space and hard standing to facilitate handling and stacking of containers with inbuilt provision for its conversion into container terminals later on.

(4.3.23)

45. Future programmes for port development should not provide for construction of mono commodity berths.

(4.3.46)

46. Because of scarcity of resources, the development and modernization of port super-structure should receive top priority in the matter of investment.

(4.4.5)

47. The replacement programme of wharf cranes should be preceded by a thorough study of the changing pattern and mix of cargo and requirements worked out with reference to anticipated cargo throughput at peak levels.

(4.4.9)

48. Scheduled maintenance and overhauling programmes for mechanised and sophisticated cargo handling systems for containers and bulk cargoes should be carefully developed and enforced, to improve the utilization and life cycle of such equipment.

(4.4.47)

49. Government of India should play more positive and direct role in identifying intermediate/minor ports for their intensive development under a phased programme.

(4.5.9)

50. Government may appoint a study group to lay down the criteria for selecting two intermediate/minor ports on each coast for future development.

(4.5.11)

51. While Government of India may provide funds for future development of the additional intermediate/minor ports, the concerned State Governments should provide hinterland connections and other basic infrastructure like power, water, land etc.

(4.5.16)

52. To revive coastal shipping and trade, Government should encourage acquisition of modern vessels, identification of cargo for coastal movement, simplification of customs procedures and fixation of freight rates.

(4.6.13)

53. Workers training institutes should be setup at each Port and audio visual methods used for training.

(4.7.3 & 4.7.4)

54. A simulator may be acquired and located suitably for training of pilots in handling larger vessels.

(4.7.6 & 4.7.8)

55. The possibility of reactivating inland waterway links should be examined along with development of intermediate/minor ports.

(4.8.15)

56. Privatisation of port facilities and equipment may be considered in the areas where the development of new, high tech. and capital intensive systems like containerisation etc. is extremely pressing.

(4.9.7)

57. To attract private entrepreneurs to invest in port development, suitable tax inducements and fiscal concessions should be considered.

(4.9.9)

58. There is need for standardisation of dredgers. Spares inventory should be maintained centrally on each coast to improve utilization and reduce capital and operating costs.

(5.2.1)

59. In the interest of optimum utilization of port facilities and reducing vessel turn round time, night navigation may be permitted, subject to requirements of safety etc.

(5.2.2)

60. Since creation of additional capacity in ports requires massive investments, the use of existing facilities should be optimised by resorting to three shift operations.

(5.2.3)

61. All ports signal stations should be manned round the clock and have a marine or non-marine VHF set with multi-channel and separate local communications both ashore and afloat purposes.

(5.2.5)

62. There should be a separate organisation accountable to the concerned Ministry to run the fishing harbours in ports.

(5.2.10)

63. For improving tanker turn round, the feasibility of installing marine loading arms or chicksan arms should be examined. Pipe lines should be upgraded for a minimum pressure of 150 psi at the entry points.

(5.3.3)

64. The work of stevedoring should be streamlined and regulatory mesures tightended. The vessel owners/agents may be given freedom to do their own stevedoring provided they fulfil eligibility conditions, as outlined. Port Trusts should be empowered to fix the maximum number of stevedores to be licensed in a year with reference to past trends and anticipated volume of traffic.

(5.3.4)

65. Considering the importance of communications on port operation, MOST (Ministry of Surface Transport) should seek improvements in the system before it breaks down in some ports.

(5.3.5)

66. The proposal to hand over the port railways to national railways should be pursued and assets transferred at market value.

(5.3.6)

67. A separate organisation for dry docking and ship repairs should be set up wherever possible and programme for modernisation of dry docks drawn up and implemented.

(5.4.2)

68. The present security arrangements do not provide for patrolling of water fronts. The docks and water fronts should be intensively patrolled.

(5.5.1)

69. At least two well equipped tugs with fire fighting appliances should be available in each port. Fire fighting equipment in oil terminals should include foam generating sets.

(5.5.2)

70. The diving organisations in ports for examination and repair of lock gates, under water fittings, ship propellers and salvage of cargoes should be strengthened.

(5.5.3)

71. All major ports should have pneumatic fenders with high energy absorption capacity.

(5.5.5)

72. Section 14 of the Indian ports Act should be amended on the lines indicated to enable port managements to deal effectively with the problem of wrecks and their removal etc.

(5.5.6)

73. Two port tribunals one each on east and west coasts, consisting of judicial and technical members should be set up to settle disputes between ports and shipowners. There should be one Appellate Tribunal for hearing appeals against the orders of the tribunals. The tribunals should have powers of civil court.

(5.5.8)

74. A separate salvage organisation should be set up in India so that ships in distress could get timely assistance.

(5.5.9)

75. The examination anchorage facility should be developed in each port. (5.5.10)

76. For combating pollution, the ports should develop trained manpower, specialized equipment and other facilities for collection of engine room bilge water, garbage sweepings etc. The ports should be given representation on Central and State Pollution Control Boards.

(5.5.11)

77. The infrastructure for handling containers at port terminals should be provided by the respective ports; line haul infrastructure from gateway ports to hinterland terminals by the Indian Railways; at inland-rail terminals by the railways, at the ICDs either by a public sector or a joint sector company; and at satellite CFSs by private sector. (6.3.3)

78. Road transport infrastructure within the port terminals should be provided by ports and in the inland terminals by the Railways.

(6.3.4)

79. A high powered authority to coordinate and monitor the development of multimodal infrastructure by the ports, railways and customs etc. should be established under the Ministry of Surface Transport.

(6.3.5 & 6.3.6)

80. The management of liner train services and inland rail terminals may be undertaken by the Indian railways and the development and management of ICDs, which is a highly professionalised job entrusted to a public sector or a joint sector company.

(6.4.1)

81. A master plan should be prepared and provide for simultaneous development of infrastructure by the concerned departments/agencies.

(6.4.3)

82. The department of customs should rationalise documentation and procedures to promote development of land bridges and transhipment cargo.

(6.4.4)

83. A real time, on-line, computerised container management information system should be installed linking all container facilities in ports, inland terminals, liner trains, ICDs and CFSs. The system should be capable of linkage to the national telephone, telex and facsimile net works and also to the international maritime information system.

(6.5.2 & 6.5.3)

84. Cabotaging to optimise utilisation of assests and keep down transportation costs, should be permitted.

(6.6.1)

85. Three potential land bridges should be established linking Bombay Madras, Bombay Calcutta & Cochin -Madras.

(6.6.2)

86. The institution of Freight Forwarders should be recognised and suitable legislation enacted to enable it to assume the role of Multi Modal Transport Operators/Combined Transport Operators and issue house bills of lading.

(6.6.3)

87. The institution of NVOCC (Non Vessel Owning Common Carriers) should be developed to give content and meaning to the concept of door-to-door service.

(6.6.4)

88. Container leasing activity should be developed and an Indian leasing company set up early.

(6.6.5)

89. The Ministry of Commerce should evolve an internationally acceptable and bankable combined transport document urgently to promote Indian exports.

(6.6.6)

90. Through transport liability covers for road transporters and container terminal operators should be developed by GIC. The range of service and costs should be internationally comparable.

(6.6.7)

91. M.P.T. Act is at present oriented towards control and regulation. The philosophy and the scheme of the Act should be changed to highlight the service character of the port industry.

(7.1.1)

92. The Committee's recommendations relating to, operations, financial management, development and modernisation, autonomy etc. would require amendment of the relevant sections of the Major Port Trusts Act and the Indian Ports Act as outlined in Annexe — F.

(7.2.1)


सत्यमेव जयते

ACKNOWLEDGEMENTS

The Major Ports Reforms Committee has great pleasure in presenting this unanimous Report on the Major Ports of India.

The Committee wishes to place on record its most grateful appreciation of the guidance and cooperation it received from the Ministry of Surface Transport, other Government Organisations Public enterprises, the Chairmen of the Major Ports, their staff, various voluntary and professional bodies of port users, professionals and experts including the former Additional Director of the Railway Board, Shri H.S. Agrawal.

The Committee also wishes to thank the IPA for its unstinted cooperation, help and hospitality.

The Committee's secretariat also deserves thanks for their dedicated work. The Committee hopes that the role played by them in the preparation and presentation of this Report will be taken note of by the Ministry of Surface Transport for appropriately recognising their contribution to the Committee's work.

(D.D. SATHE)
CHAIRMAN

(R. BALASUBRAMANIAN)
MEMBER

(M.R. SHROFF)
MEMBER

(M.K. ROY)
MEMBER

(T.C. DUTT)
MEMBER

(R. PARAMESWAR)
MEMBER

(T.S. SANKARAN)
MEMBER

(T.S. SWAMINATHAN)
MEMBER

(D.K. JAIN)
MEMBER

(YOGENDRA NARAIN)
MEMBER

(N.C. CHATTERJEE)
MEMBER

(DR. H.B. DESAI)
MEMBER

(M.K. KAR GUPTA)
MEMBER

(S. RAMAMOORTHI)
MEMBER

(PRAVEEN SINGH)
MEMBER

(H.N. FOTEDAR)
MEMBER SECRETARY


सत्यमेव जयते

LIST OF ANNEXE

(viii) Specialised Container handling equipment-Statements [VII, VII(a), VII(b)].

D-8	Note on condition monitoring and vibration Analysis	4.4.46
D-9	Identification of the training needs and requirements of employees in Major Ports.	4.7.1
D-10	Statement showing the navigable waterways in India	4.8.5
E-1	Portwise information relating to Demurrage/Despatch received	5.1.3
E-2	Stevedoring-Model Regulations	5.3.4
F.	Details of recommendations involving substantive changes together with their implications on Major Port, Trusts Act.	7.2.2

ANNEXE – A (contd.)

(i)

MEETINGS OF THE MAJOR PORTS REFORMS COMMITTEE

No. of Meeting	Date of Meeting	Place of Meeting
1.	17.12.84	New Delhi
2.	28.1.85	,,
3.	25.2.85	,,
4.	25.3.85	,,
5.	29.4.85	,,
6.	27.5.85	,,
7.	24.6.85	,,
8.	29.7.85	,,
9.	23 & 24.8.85	,,
10.	11 & 12.9.85	,,
11.	28 & 29.10.85	,,
12.	25.11.85	,,
13.	27.12.85	,,
14.	28.1.86	,,
15.	24 & 25.2.86	,,
16.	31.3 & 1.4.86	,,
17.	15 & 16.4.86	,,
18.	8 & 9.5.86	,,
19.	29 & 30.5.86	,,
20.	17.6.86	Bhubaneswar
21.	16.7.86	New Delhi
22.	9.8.86	,,
23.	13.9.86	,,
24.	14 & 15.10.86	,,
25.	5 & 6.11.86	,,
26.	19 & 20.11.86	,,

WORKING GROUP ON RESTRUCTURING OF PORT ORGANISATION AND ADMINISTRATION

No. of Meeting	Date of Meeting	Place of Meeting
1.	29.1.85	New Delhi
2.	16.2.85	Bombay
3.	5.3.85	Bombay
4.	10.4.85	Madras
5.	27.5.85	New Delhi
6.	21.6.85	Bombay
7.	17.7.85	Mormugao
8.	30.7.85	New Delhi
9.	20.11.85	Calcutta
10.	16.6.86	Bhubaneswar
11.	15.7.86	New Delhi

WORKING GROUP ON FINANCIAL MANAGEMENT AND COSTING AND PRICING OF PORT SERVICES

No. of Meeting.	Date of Meeting	Place of Meeting
1.	6.3.85	Bombay
2.	9.4.85	Madras
3.	23.5.85	Cochin
4.	19.6.85	Bombay
5.	16.7.85	Mormugao
6.	1.10.85	Madras
7.	17.10.85	New Delhi
8.	2.11.85	Bombay
9.	16.12.85	Bombay
10.	6.2.86	Bombay
11.	25.2.86	New Delhi

WORKING GROUP ON PRODUCTIVITY AND INDUSTRIAL RELATIONS

No. of Meeting	Date of Meeting	Place of Meeting
1.	17.4.85	New Delhi
2.	7.6.85	Visakhapatnam
3.	16 & 17.8.85	Bombay
4.	30.9.85	Madras
5.	12.12.85	New Delhi
6.	7.1.86	New Delhi
7.	6.2.86	Bombay

WORKING GROUP ON DEVELOPMENT AND MODERNISATION OF PORTS

No. of Meeting	Date of Meeting	Place of Meeting
1.	6.2.85	Calcutta
2.	4.3.85	Bombay
3.	8.4.85	Madras
4.	23.5.85	Cochin
5.	21.6.85	Bombay
6.	18.7.85	Mormugao
7.	30.9.85	Madras
8.	20.11.85	Calcutta
9.	18.2.86	Kandla
10.	2.4.86	New Delhi
11.	16.4.86	New Delhi
12.	9 & 10.5.86	New Delhi
13.	30.5.86	New Delhi
14.	4.7.86	Madras
15.	17.7.86	New Delhi
16.	8.8.86	New Delhi
17.	12.9.86	New Delhi
18.	1 & 2.10.86	Bombay
19.	13.10.86	New Delhi

WORKING GROUP ON PORT OPERATIONS

Annexe 'A', (Contd.)

No. of Meeting	Date of Meeting	Place of Meeting
1.	5.3.85	Bombay
2.	8.4.85	Madras
3.	22.5.85	Cochin
4.	18.6.85	Bombay
5.	18.7.85	Mormugao
6.	1.10.85	Madras
7.	19.11.85	Calcutta
8.	18.2.86	Kandla
9.	5.7.86	Madras
10.	12.9.86	New Delhi

MEETING WITH USER INTERESTS

No. of Meeting	Date of Meeting	Place of Meeting
1.	15.2.85	Bombay
2.	5.3.85	Bombay
3.	9.4.85	Madras
4.	23.5.85	Cochin
5.	7.6.85	Visakhapatnam
6.	17.7.85	Mormugao
7.	17.8.85	Bombay
8.	1.10.85	Madras
9.	19.11.85	Calcutta
10.	18.2.86	Kandla
11.	16.6.86	Bhubaneswar

SUGGESTIONS/COMMENTS RECEIVED FROM THE VARIOUS DEPTT. OF THE CENTRAL GOVERNMENT AND PUBLIC SECTOR UNDERTAKINGS

A. CENTRAL GOVERNMENT DEPARTMENTS

S.No.	Name of the Department
1.	Electronics Commission.
2.	Deptt. of Fertilizers, Ministry of Agriculture.
3.	Deptt. of Steel, Ministry of Steel & Mines.
4.	Ministry of Petroleum, New Delhi.
5.	Deptt. of Agriculture & Cooperation, Ministry of Agriculture & Rural Development.
6.	Commandant, Central Industrial Security Force, Ministry of Home Affairs, Cochin.
7.	Deptt. of Food, Ministry of Food & Civil Supplies.
8.	Director General of Factory Advice, Service and Labour Institutes, Ministry of Labour
9.	Salt Commissioner, Ministry of Industry.
10.	Deptt. of Ocean Development, New Delhi.
11.	Deptt. of Industrial Development, Ministry of Industry and Company Affairs.
12.	Deptt. of Power, Ministry of Irrigation & Power.

B. PUBLIC SECTOR UNDERTAKINGS

S.No.	Name of the Public Sector Undertakings
1.	State Trading Corporation of India, New Delhi.
2.	Minerals & Metals Trading Corporation, New Delhi.
3.	Indian Oil Corporation, New Delhi.
4.	Shipping Corporation of India, Bombay.
5.	Dredging Corporation of India, Visakhapatnam.
6.	Hindustan Photo Films Manufacturing Co. Ltd., Ootacamund.
7.	Deptt. of Defence Production: (a) Hindustan Aeronautics Ltd. (b) Bharat Electronics Ltd.
8.	Trade Fair Authority of India, New Delhi.
9.	Instrumentation Ltd., Kota.
10.	Tungabhadra Steel Products Ltd., Tungabhadra, Karnataka.
11.	The Indian Manufacturing Co. Ltd., Dandli, Karnataka.
12.	Steel Authority of India Ltd., New Delhi.
13.	Metal Scrap Trading Corporation of India Ltd.
14.	National Mineral Development Corporation of India.
15.	Kudremukh Iron Ore Company Ltd.
16.	Cotton Corporation of India.
17.	National News Print and Paper Mills, Nepanagar.
18.	Fertilizers and Chemicals, Travancore.

(v) ANNEXE A Contd.

SUGGESTIONS/MEMORANDUM RECEIVED FROM VARIOUS CHAMBERS/ASSOCIATIONS/INDIVIDUALS

S.No.	Name of the Chamber/Association
1.	Indian National Port & Dock Workers Federation (INTUC).
2.	Port Dock & Water Front Workers Federation of India.
3.	The Bombay Customs House Agents Association, Bombay.
4.	The Bombay Dock Labour Board, Bombay.
5.	Goa Mineral Ore Exporters Association, Mormugao.
6.	The Bengal Chamber of Commerce & Industry, Calcutta.
7.	All India Shippers Council, New Delhi.
8.	The Bombay Stevedores Association Ltd., Bombay
9.	Calcutta Clearing Agents Association, Calcutta.
10.	Fertiliser Association of India, New Delhi.
11.	Western India Shippers Association, Bombay.
12.	Indian Sugar Mills Association, New Delhi.
13.	Tuticorin Steamer Agents Association, Tuticorin
14.	Consultative Committee of Stevedores Association, Calcutta.
15.	Cochin Steamer Agents Association, Cochin.
16.	Madras Steamer Agents Association, Madras.
17.	International Clearing Shipping Agency, Madras.
18.	Federation of Association of Stevedores, Madras.
19.	Federation of Karnataka Chambers of Commerce & Industry, Bangalore.
20.	Kantilal & Co. (Bombay), Abad Bank House, 325, Narsi Natha Street, Bombay.
21.	Paradip Port Stevedores Association, Paradip.
22.	Prof. J. Chacko, Centre for Operations Research and Management Development Services, Kadavanthara, Cochin.
23.	Cochin Chamber of Commerce & Industry, Cochin.
24.	Cochin Custom House Agents Association, Cochin-9.
25.	Ernakulam Chamber of Commerce, Ernakulam.
26.	Trailer Owners Association, Madras.
27.	Hindustan Chamber of Commerce, Madras.
28.	Southern Indian Chamber of Commerce, Madras.
29.	International Clearing & Shipping Agency, Madras.
30.	Southern India Shippers' Association, Esplanade, Madras.
31.	Ranadip Shipping and Transport Co. Pvt. Ltd., Bombay.
32.	Madras Stevedores Association, Madras - 600 001.
33.	Western Indian Chamber of Commerce Ltd., Bombay.
34.	Federation of Association of Stevedores, Bombay.
35.	Shri Satkartar Batra, Kandla Commercial (Weekly), Kandla.

SUGGESTIONS/COMMENTS/INFORMATION RECEIVED FROM THE STATE GOVERNMENTS/UNION TERRITORIES

S. No.	Name of the State Government/Undertakings
1.	Secretary, Ports, Transport & Fisheries Deptt., Government of Gujarat.
2.	Secretary, Industries & Labour, Government of Goa, Daman & Diu.
3.	Secretary, PWCAD & Electricity Deptt, Government of Karnataka.
4.	Secretary, C&T (Ports) Deptt., Government of Orissa
5.	Secretary, TR&B Deptt., Government of Andhra Pradesh.
6.	Secretary, Fisheries & Ports Deptt., Government of Kerala.
7.	Commissioner & Secretary, Housing & Urban Deptt., Government of Tamil Nadu.

REPORTS OF THE VARIOUS COMMITTEES STUDIED

S.No.	Name of the Report
1.	The Study team of the International Association of Ports and Harbour.
2.	The Major Ports Reforms Commission, 1970.
3.	The National Transport Policy Committee, 1980.
4.	The Port of London Authority.
5.	The Port of Singapore.
6.	The Two-Man Committee on Port Railways.
7.	The Estimates Committee Reports—(Lok Sabha)— 1981-82, 1982-83 and 1985-86.
8.	National Shipping Board, 1983-85.
9.	Three Man Study Group on DLBs.
10.	Operational norms for evaluation and monitoring Port performance by Shri R. Srinivasan.
11.	Decasualisation of cargo handling workers of Paradip, Tuticorin, New Mangalore and Haldia Ports.
12.	Committee on Assignment of Registered Laden weight and heavy road transport vehicles.
13.	Simplification & Rationalisation of Port Procedures Documentation and Tariffs.
14.	A Study of the problems of congestion in Bombay port and diversion of cargo to other ports.
15.	National Harbour Board.

BASIC PAPERS/NOTES RECEIVED AND PREPARED BY THE SECTT.

Restructuring of Port Organisation and Administration

1. Capital structure of State Electricity Boards, Deptt. of ARPG.
2. Identification of the training needs and requirements of employees in major ports - IPA
3. Corporate objectives of major ports—Visakhapatnam Port Trust.
4. Professionalism and specialisation in port Management— Institutional arrangements and inputs by Dr. A.C. Ray.
5. Report of the Committee constituted for enhanced delegation of powers to Port Trust Boards.
6. Central Selection of Management Trainees for major ports.
7. Comparative analysis of pay scales of Deputy Chairmen and heads of departments of major ports.
8. Two tier Board of Management-- A note.

FINANCIAL MANAGEMENT, COSTING AND PRICING OF PORT SERVICES

1. Unit Cost of cargo handling in Ports for bulk commodities—A study.
2. Cost applicable to containers originating from I.C.D. New Delhi to Inland destinations at U.K. Cont./Fary East Ports by seahorse Shipping.
3. Financial Profile of Major Ports.
4. Legal position regarding lands owned by major ports.
5. Study of working of the major ports of India— Shri K.T.V. Raghavan.
6. Method of Recovery of Port Charges—IPA.
7. Introduction — Financial Management.
8. Financial Administration of Ports — A Note by Shri N.C. Chatterjee.
9. Report of the Committee on the cost of handling containers at major ports.
10. A note on Financial Indicators — by Shri S.N. Ghosh.
11. Operating surplus position at ports excluding rental income and penal demurrage — A note.
12. Recommendations of the Sub Group on Financial Management, Costing & Pricing of Port Services.
13. Ratio analysis based on annual reports of the Ports of Singapore, Sri Lanka and Bombay.

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DEVELOPMENT AND MODERNISATION

1. Role of minor and intermediate ports in the carriage of country's overseas and coastal trade.
2. The need for modernisation of equipment and procedures at the major ports.
3. Role and importance of the Inland Water Transport System in the National economy with particular reference to the interaction between IWT and ports.
4. Projections of General Cargo for the year 1989-90 and 1990-2000.
5. Role and importance of Inland Water Transport System in the national economy.
6. Development of Container facilities at major ports.
7. Selective Development of minor ports.
8. Port Capacities — IPA.
9. Impact of Technological changes on Ports and Shipping — IPA.
10. Growth of Coastal Shipping in India.
11. Inland Water Transport.
12. Indentification of Intermediate and minor ports for intensive examination and development.
13. A comparative study of the developed and developing country ports — Shri P.B. Rajagopalan.
14. Container handling and development of infrastructural facilities.
15. Note on projection of various types of vessels.

Port Operations

1. Intermodal Container Development Corporation.
2. Setting up of Tribunals to settle disputes between ports and vessel owners.
3. Deficiencies in Communication facilities at ports — A note.
4. Structuring of marine departments.
5. Faster and deeper ports for larger ships.
6. Pilots and Pilotage.
7. Container handling rates at Hamburg.
8. Development of integrated multimodal transport system for ports.
9. System of stevedoring.
10. Regulations for grant of stevedoring license.
11. Provision of night navigation facilities at ports.
12. Dry docking and Repair facilities in Indian Ports.
13. Facilities required by ships in ports.
14. Transportation costs for cargoes containers vis-a-vis break bulk from the ICDs/factory premises to the gateway ports.
15. Telecommunication system at Calcutta.
16. Wreck removal.
17. Projections of types of vessels.

18. Integrated operation for handling iron ore exports.

19. Notes on heavy lift charges levied to the owners, operation of sailing vessels, decentralisation of powers, port responsiblities to users, labour, equipments, barges, amendment of Act, Stevedores etc. — A note.

PRODUCTIVITY AND INDUSTRIAL RELATIONS

1. Adjustments & Technological changes — Extracts.
2. Evolution of Datum under the piece rate/incentive schemes in major ports.
3. Productivity — A back ground note — IPA.
4. Industrial Relations in Ports — collective bargaining agents — stray thoughts — IPA
5. Recognition of Unions — A note by IPA.
6. Industrial Relations, Technological changes and lack of preparedness of ports to meet the emergency challenges.
7. Productivity and Industrial Relations in major ports — An approach.
8. Sharing gains of Productivity — Extracts from the Report of the National Commission on Labour.
9. Operating ratios of Cargo handling at various ports by types of vessels.
10. Proposal for a consolidated per ton cargo levy by Port Trusts and Dock Labour Boards instead of the present System.

GENERAL

1. Proposals for amending the Major Port Trust Act, 1963.
2. Suggestions for amendments of the Major Port Trusts Act 1963 and the India Ports Act, 1908.

COMPANIES, ORGANISATIONS, USERS, EXPERTS ETC. WHO GAVE BENEFIT OF THEIR VIEWS ON VARIOUS ASPECTS OF MARINE TRANSPORT INDUSTRY

I. Associations/Chambers

1. Fertilisers Association of India, New Delhi.
2. Bombay Steamer Agents' Association, Bombay.
3. Orissa Stevedore Ltd., Paradip.
4. Orissa Mining Corporation, Paradip.
5. South India Corporation (Agencies), Paradip.
6. Kandla Port Steamship Agents' Association, Kandla.
7. Cargo Clearing Agency, Kandla.
8. Calcutta Master Stevedores' Association, Calcutta.
9. Calcutta Clearing Agents' Association, Calcutta.
10. Association of Shipping Interests in Calcutta.
11. Shipping Sub Committee of Bengal Chamber of Commerce.
12. Bengal Chamber of Commerce, Calcutta.
13. Merchant Chamber of Commerce, Calcutta.

14. Mormugao Navegedora Vasco-Da-Gama, Mormugao. (x)
15. Visakhapatnam Stevedores Association, Visakhapatnam.
16. Cochin Chamber of Commerce & Industry, Cochin.
17. Centre for Operations Research & Management Development Service, Cochin-20.
18. Sea Food Exports Association of India, Cochin.
19. Ernakulam Chamber of Commerce, Ernakulam.
20. Custom House Agents' Association, Bombay.
21. Bombay Stevedores' Association, Bombay.
22. Andhra Chamber of Commerce, Madras.
23. National Chamber of Commerce, Madras.
24. Hindustan Chamber of Commerce, Madras.
25. South Indian Chamber of Commerce, Madras.
26. Madras Customs Clearing and Shipping Agents Association.
27. South India Chamber of Commerce, Madras.
28. Southern India Shippers Association Madras.
29. Council for leather Exports, Madras.
30. Chemicals Export Promotion Council, Madras.
31. Trailer Owners Association, Madras.
32. International Clearing & Forwarding Agency, Madras.
33. Madras Steamers Agents' Association, Madras.
34. The United Stevedores Rep. MSA, Madras.
35. South Indian Corporation (Agencies) Private Ltd., Madras.
36. Madras City Lory Owners Association, Madras.
37. Bombay Port Pilots Association, Bombay.

II. Shipping Agents/Ship Owners

1. India Steamship Company, Bombay.
2. Transaction Shipping Agency Pvt. Ltd., Bombay.
3. Oceanic Shipping Agency Pvt. Ltd. Bombay.
4. Shri J.H. Khan, Scindia Steam Nav. Co. Ltd., (INSA), Bombay
5. The Oceanic Shipping Agency Paradip, Pvt. Ltd.
6. Parekh Marine Agencies (P) Ltd., Kandla.
7. Shri Ambica Commercial Co., Clearing & Forwarding Agents, Kandla.
8. Capt. J.S. Kalra C/o J.M. Baxi & Co., Kandla.
9. Indian Steamship Company, Calcutta.

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10. Calcutta Clearing Agents Association, Calcutta.
11. Eastern India Shippers Association, Calcutta.
12. Association of Shipping Interests in Calcutta.
13. Manager, the Scindia Steam Navigation Co. Ltd., Calcutta.
14. Shipping Corporation of India, Bombay.
15. Scindia Steam Navigation Co. Ltd., Bombay.
16. Indian Register of Shipping, Bombay.
17. Capt. A.J. Couto C/o Pavalk, Bombay.
18. Maersk Line, Bombay.
19. Narottam Morarjee Institute, Bombay.
20. Shri W.E. Plymalk C/o A.P.L. Bombay.
21. Shri P.V. Nilkund C/o INSA, Bombay.
22. Ship Owner's Association, Mormugao.
23. M/s. Sesa Goa, Mormugao.
24. Visakhapatnam Steamship Agents Association, Visakhapatnam.
25. Shri K. Ramakrishna Rao C/o V.S.A.A., Visakhapatnam.
26. Cochin Steamer Agents Association, Cochin.
27. Chairman, Karmahom Conference, Bombay.
28. Scindia Steam Nav. Co. Ltd., (INSA), Bombay.
29. Bombay Steamship Agents Association, Bombay.
30. India Steamship Co. Ltd., Bombay.
31. Oceanic Shipping Agency (Hony. Secy. BSAA), Bombay.
32. J.M. Baxi, Executive Committee Member (BSAA), Bombay.
33. Indian National Shipowners Association, Bombay.
34. Transocean Shipping Agency Pvt. Ltd., Bombay.
35. Seahorse Shipping, Bombay.
36. Ranadip Shipping Transport Corp. Ltd., Bombay.
37. Contship Container Lines, Bombay.
38. Southern India Shippers Association, Madras.
39. Shaikh Mohammad Rowther & Shipping Agency, Madras.

III. **Officials of the Various Ministries**

1. Shri Prakash Narain, Chairman, Railway Board, (Ex-Secretary, Ministry of Shipping & Transport).
2. Shri P.P. Nayyar, Secretary, Ministry of Surface Transport.
3. Shri P.M. Abraham, Addl. Secretary (Ports), Ministry of Surface Transp
4. Shri Praveen Singh, D.F. Shipping, Bombay.
5. Shri Y.S. Venkataraman, Jt. Secretary (Shipping), Ministry of Shipping & Transport.
6. Shri Govind Jee Misra, Jt. Secretary (Transport), Ministry of Shipping & Transport.
7. Dr. M.K. Rao, Wireless Adviser, Govt. of India.
8. Shri G.V.G. Krishnamoorthi, Jt. Secretary, Ministry of Law.

9. Shri S. Anandaram, DG, CISF.
10. Shri A.N. Saksena, Director (Finance), Ministry of Surface Transport.
11. Shri V. Sankaralingam, Director (EL), Ministry of Surface Transport.
12. Smt. Heera Badhakrishnan, Dy. Collector, Customs, Cochin.
13. Shri K.C.A. Narayanan, Chief Marketing Superintendent, Southern Railways.
14. Shri N. Dhanabalan, Dy. Commissioner, Deptt. of Fertilizers.
15. Capt. A.K. Prasad, Dy. Nautical Adviser, DG Shipping.
16. Shri C.G. Varkey, Asstt. Commissioner, (Custom).
17. Shri P.V.N.S. Rao, Jt. Director (O.C.), Ministry of Petroleum.
18. Shri K.R. Das, Asstt. Collector, Customs, Cochin.

IV. **Public Sector Undertaking**

1. Shri K.R. Sachar, General Manager, C&PS, Shipping Corporation of India.
2. Shri T.R. Khurana, Chief Marketing Manager, STC of India.
3. Shri V.K. Bhise, Manager (Imports & Exports), Food Corporation of India.
4. Shri S.C. Gupta, Marketing Manager, State Trading Corporation of India.
5. Shri K.V. Ramachandran, General Manager (MMTC).
6. Shri A.K. Bhargava, Jt. Divisional Manager (MMTC)
7. Shri Y.P. Verma, General Manager, Dredging Corporation of India.
8. Shri B. Basu, Resident Manager, Dredging Corporation of India.
9. Shri J.D. Mehta, Shipping Corporation of India, Bombay.
10. Shri Z.A. Haki, Shipping Corporation of India, Bombay.
11. Mineral & Metal Trading Corporation of India, New Delhi.
12. Shri K.P. Rao, C/O MMTC, Visakhapatnam.
13. Shri K. Subba Rao, C/O FCI, Visakhapatnam.
14. State Trading Corporation, Cochin.
15. Marketing Manager, Markfed, Cochin.
16. Marine Products Export Development Authority, Cochin.
17. Shri J.R. Chico Port Coordinator (Representing Oil Industry), Bombay.
18. The State Trading Corporation of India Ltd., Madras.
19. Bharat Heavy Electricals Limited, Madras.
20. Jt. Divisional Manager, MMTC, Madras.
21. Fertilizers & Chemicals, Travancore Ltd., (FACT), Udyogmandal, Cochin.

ANNEXE 'A' (Contd.)

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V. **Non-Officials**

1. Shri R. Voegel, 155:TAD
2. Shri Bala K. Subramaniam, UNCTAD
3. Shri K.T.V. Raghavan, Management & Technical Consultant.
4. Capt. Avinash Batra, Seahorse Shipping, Bombay.
5. Shri Dilip De, Ranadip Shipping Transport Corportion Ltd., Bombay.
6. Shri J.R. Chico, Port Coordinator (Representing Oil Industry).
7. Shri L.B. Searso, Contship & Containerlines.
8. Shri A.S. Rao, C/o OSCTX Ltd., Paradip.
9. Roy & Chatterjee Pvt. Ltd., Paradip.
10. M/s. E.C. Basu & Co. Pvt. Ltd., Paradip.
11. Shri S.C. Saxena, C/o M/s. TISCO, Paradip.
12. M/s. Balailal Mookerjee & Co. (P) Ltd., Paradip.
13. Shri J.C. Rajagopalan, C/O M/S IC & SA, Paradip.
14. Shri K.B. Kar C/O Kalinga Iron Works, Paradip.
15. M/s. G. Pattabhai Ramaya & Co., Paradip.
16. Shri M.S. Chetty, C/O Heilgies Ltd., Paradip.
17. Fakir Chand Kirorimal Bansal, Kandla.
18. Dholora Shipping and Trading Co., Kandla.
19. Hiralal Manganlal & Co., Kandla.
20. Friends & Friends Co., Kandla.
21. Purshotam Jaira Co., Kandla.
22. Shri J.V. Kochhar, C/o O.T.A. Kandla.
23. Aditya Engineers, Kandla.
24. South India Corporation, Kandla.
25. Shri N.C. Mehta, C/o K.S.A. Ltd., Kandla.
26. Shri K.M. Jeswani, C/o Robinsons, Kandla.
27. Shri Devidas Sharma, C/o Vinsons, Kandla.
28. Shri Mahesh J. Mehta, C/o D.B.C., Kandla.
29. Shri S. Salgaonkar, C/o G.M.O.E.A., Morrmugao.
30. Hiralal & Co. Pvt. Ltd., Vasco-Da-Gama, Mormugao.
31. Shri K. Gangi Reddy, C/o V.S.A., Visakhapatnam.
32. Shri P.M. Naidu C/o INP & OE, Visakhapatnam.
33. Enterprising Enterprises, Madras.
34. Yak Granite Industries Ltd., Madras.
35. S.M. Natrajan & Brothers, Madras.
36. A. Arumugam Chettiar, Madras.
37. Shri S. Venkiteswaran, Advocate, Maritime Laws and Practices.

ANNEXE-B-1
(Para 1.2.29)

Secretary's Department/Administration Department

Sl. No.	Designation	Bombay	Calcutta	Madras	Visakhapatnam	Cochin	Kandla	Mormugao	New Mangalore	Tuticorin	Paradip	Haldia Dock Complex
1.	Secretary	2450-100-3350	2450-100—3350	2090-75—2890	2090-75—2890	2090-75—2890	2090-75—2890	2090-75—2890	1560-60—2400	1560-60—2400	1760-70—2670	2090-75—2890 (Joint Manager)
	O.S.D. (O&W)		2300-100—3200			1560-60—2400					1560-60—2400	
2.	Deputy Secretary	1760-70—2600	1760-70—2600	1560-60—2570 (Senior) 1560-60—2400 (Junior)	1560-60—2400	1560-60—2400	1560-60—2400	1560-60—2400			1560-60—2400	1760-70—2600
	Chief P.R.O./ Asstt. Manager		1760-70—2600	1560-60—2400				980-50—1930		PRO: 1060-50—1980	PRO: 980-50—1930	1760-70—2600 (Asstt. Manager).
3.	Asstt. Secy./ Jr. Asstt. Manager	1560-60—2400	1560-60—2400	1060-50—1980	1060-50—1980 (Senior) 980-50-1930 (Junior)	1060-50—1980	1060-50—1980	1060-50—1980 (Senior) 980-50—1930 (Junior)	980-50—1930	980-50—1930—	980-50—1930	1560-60-2400 (Jr. Asstt. Manager)

CHIEF ENGINEER'S DEPARTMENT

Sl. No.	Designation	Bombay	Calcutta	Madras	Visakhapat-nam	Cochin	Kandla	Mormugao	New Manga-lore	Tuti-corin	Paradip	Haldia Dock Complex
1.	Chief Engineer	3000-100-3700	3000-100-3700	2450-100-3350	2400-100-3300	2400-100-3300	2400-100-3300	2400-100-3300	—	2400-100-3300	2400-100-3300	—
2.	Addl. Chief Engineer	2550-100-3450									—	2550-100-3450
3.	Dy. Chief Engineer	2300-100-3200	2300-100-3200		1760-70-2600	1760-70 2600		1760-70-2600	—	—		2300-100-3200

MECHANICAL ENGINEER'S DEPARTMENT

1.	Chief Mech. Engineer	2650-100-3550	3000-100-3700	2400-100-3350	2450-100-3300	2250-100-3250	2090-75-2890	2400-100-3300	— —	—	2090-75-3190	—
2.	Addl. Chief Mech. Engineer	2300-100-3200	—	2250-100-3250	—	—	—	—	—	—	—	—
3.	Dy. Chief Mech. Engineer	—	2300-100-3200	—	1760-70-2600	1760-70-2600	—	—	—	—	—	—
4.	Supdt. Engineer	2090-75-2890	—	2090-75-3190	1760-70-2670	—	—	1760-70-2600	1760-70-2600	1760-70-2600	1760-70-2600	—

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ANNEXE 'A' (Contd.)

ACCOUNTS DEPARTMENT

Sl.	Designation	Bombay	Calcutta	Madras	Visakhapat-nam	Cochin	Kandla	Mormugao	New Mana-galore	Paradip	Haldia Dock Complex
1.	Financial Adviser & Chief Accounts Officer/Manager	2650-100-3550	2650-100-3550	2250-100-3250	2090-75-—2890	209075-—2890	2090-75-2890	2090-75-2890	2090-75-2890	2090-75-2890	2250-100-3250 Manager
2.	Addl. Chief Accounts Officer	2300-100-3200	2300-100-3200	2090-75—2890							
3.	Dy. Chief Accounts Officer/Sr. Dy. CAO/ Dy. Manager Dy. Financia' Adviser/Dy. FA & CAO.	2090 75-2890	2090-75-2890 (Sr. Dy. CAO)	1560-60-2400	1760-70-2600 (Sr. Dy.FA & CAO) 1560-60-2400 (Dy. FA & CAO)	1560-60-2400 (Dy. Finance Officer)	1560-60-2400 (Dy.FA & CAO)	1560-60-2570 (Dy. FA & CAO)	1560-60-2400 (Dy.FA & CAO)	1560-60-2400 (Dy.FA & CAO)	2090-75-2890 (Dy. Manager)

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ANNEXE-B-1 (Contd.)

PORT/HARBOUR MASTER (PORT) DEPTT./MARINE DEPTT.

Sl.	Designation	Bombay	Calcutta	Madras	Visakhapatnam	Cochin	Kandla	Mormugao	New Mangalore	Tuticorin	Paradip	Haldia Dock Complex
1.	Dy. conservator Director Marine	3500-100-4000	3500-100-4000	2550-100-3450	2550-100-3450	2550-100-3450	2450-100-3350	2450-100-3350	2450-100-3350	2450 100-3350	2450-100-3350	2650-100-3500 (Manager) 2550-100-3450 (Dy. Manager)
2.	Harbour Master	3000-100-3700	3000-100-3700	2400-100-3300	2400-100-3300	2400-100-3300	2250-100-3250	2250-100-3250	2250-100-3250	2250-100-3250	2250-100-3250	
3.	Sr. Dock Master/ Dy. Harbour Master	2650-100-3550	2650-100-3550									
4.	Dock Master	2550-100-3450	2550-100-—3450	2250-100-3250	2300-100-3200							

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PERSONNEL AND INDUSTRIAL RELATIONS DEPARTMENT

Sl.	Designation	Bombay	Calcutta	Madras	Visakhapat-nam	Cochin	Kandla	Mormugao	New Mana-galore	Tuti-corin	Paradip	Haldia Dock Complex
1.	Chief Personnel & Industrial Relations Manager/ Labour Adviser & Ind. Relations Officer	2300-100-3200	2300-100-3200									
2.	Personal Officer/ Dy. L.A. & IRO	1760-70-2600	1760-70-2600		1560-60-2400							
3.	Asstt. Secy./ Ind. Relations Officer/Public Relations Officer/ Sr. Labour Officer	1560-60-2400	1560-60-2400	1560-60-2400		1560-60-2400 (Lab. Officer)	1360-60-2020	1560-60-2400		1060-50-1980		

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VIGILANCE DEPARTMENT

Sl.	Designation	Bombay	Calcutta	Madras	Visakhapat-nam	Cochin	Kandla	Mormugao	New Mana-galore	Tuti-corin	Paradip	Haldia Dock Complex
1	Chief Vigilance Officer/ Vigilance Officer	2000-2250*		1060-50-—1980 (Vig. Officer)	1560-60-2400 (Chief Vig. officer)	1500-60-—2400 (Vig. Officer)		1060-50-—1980 Vig. Officer)	Not avail-able	1560-60-2400 (Vig. Officer)	980-50-1930 (Vig. Officer)	2090-75-—2890 (Vig. Officer)
2.	Vigilance & Security Officer		1760-70-—2600				1360-60-—2020 (Security Officer)					
3.	Security Officer (Vigilance)/ Security Officer		1150-50-—1950									

* Govt. Pay Scale. Post filled on deputation basis.

(1)	E-4	1060-50-1260-EB-60-1680-EB-60-1980 (16)
(2)	E-5	1360-60-1720-EB-60-2020 (11)
(3)	E-6	1515-60-1875-EB-60-2175 (11)
(4)	E-7	1100-60-1200-60-1440-EB-60-2040-EB-60-2340
(5)	E-8	1560-60-2100-EB-60-2400 (12)
(6)	E-9	1560-60-1860-EB-60-2220-EB-2570 (16)
(7)	E-10	1760-70-2320-EB-60-2600 (12)
(8)	E-11	1760-70-2320-EB-70-2470 (13)
(9)	E-12	1560-60-1860-EB-2220-EB-70-2850 (20)
(10)	E-13	1760-70-2390-100-2890 (9)
(11)	E-14	2090-75-2390-100-2890 (9)
(12)	E-15	1760-70-2250-EB-70-2670-EB-100-3170 (18)
(13)	E-16	2090-75-2390-100-2890 (9)
(14)	E-17	2300-100-3200 (9)
(15)	E-18	2350-100-3200 (10)
(16)	E-19	2400-100-3350 (9)
(17)	E-20	2450-100-3450 (9)
(18)	E-21	2550-100-3450 (9)
(19)	E-22	2650-100-3500 (9)
(20)	E-23	3000-100-3700 (7)
(21)	E-24	3500-100-4000 (5)

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ANNEXE – B.3
(Para 1.2.34)

ORGANISATION OF THE PORT OF SINGAPORE AUTHORITY

CHAIRMAN AND MEMBERS

GENERAL MANAGER

Deputy General Manager

1. Administration Division	:	Secretariat Legal Public Relations Supplies Policies Research & Planning Investigation
2. Operations Division	:	Keepel Wharves Pasir Panjang Wharves Tanjong Paper Container Terminal Sembawang Wharves Jurong Port Warehousing Services.
3. Marine Division		Port Master's Hydrographic Pilotage & Tug Services Marine Craft Chemistry Fire Environmental Control Unit.
4. Commercial Division	:	Bulking Services Slap Reception Centre Estates World Trade Centre PSA Subsidiaries.
5. Personnel Division		Staff Establishment Training Industrial Health & Safety
6. Audit & Systems Division	:	Systems Internal Audit
7. Finance Division	:	Data Processing Treasury Accounts.
8. Engineering Division	:	Mechanical Engineering, Container Terminal Engineering, Electrical Engineering, Marine Engineering, Building & Plant Services, Contracts,

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ANNEXE B- 3 (Contd.)

Planning & Design,
Construction & Maintenance,
Geotechnical and Hydraulics,
Major Projects.

(ANNEXE--B4)
(Para 1.2.36)

ORGANISATION CHART OF FUNCTIONAL GROUPS

I - Operation	II - Marine	III - Engineering	IV - Finance	V - General Admn.
1. Traffic (Cargo Operations)	1. Operations (Marine)	1 Civil Engineering	1. Budget	1. General Administration, Conference, Meetings, etc. Library, Records.
2. Stevedoring	2. Environmental	2. Mech. Engg.	2. Financial Advice	2. Human Resources & Training
3. Railways	3. Communications.	3. Electrical Engg.	3. Accounts including Concurrent Audit.	3. Commercial Deptt. (Estate). 4. Legal matters. 5. Industrial Relations. 6. Labour Welfare. 7. Medical & Public Health Services.
4 Intermodel Transport	4. Dredging	4. Stores		8. Management Development Services.
5. Trade Development 6. Security.		5 Ship Repairs		9 Public Relations. 10. Vigilance.
7. Warehouses. (1) Stuffing & De-Stuffing (2) Port Ware Houses for goods not cleared. (3) Bonded and other ware-houses.				
8. Programmes for Operational Computer.				
9. Safety.				

(ANNEXE—B5)
(Para 1.3.18)

PAY SCALES OF PRINCIPAL OFFICERS AT MAJOR PORTS
DESIGNATIONS/SCALES OF PAY

Name of the Port		Chairman	Dy. Chairman	Dy. Conservator	Traffic Manager	FA&CAO	CME
1.	Bombay	4000-125-4500	3500-100-4000	3500-100-4000	2650-100-3550 (Docks Manager)	2650-100-3550	2650-100-3550
2.	Calcutta	-do-	-do-	-do- (Director Marine)	-do- (Traffic Manager)	-do-	3000-100-3700
3.	Madras	3500-100-4000	2550-100-3450	2550-100-3450	2250-100-3250	2250-100-3250	2450-100-3350
4.	Vizag	-do-	-do-	-do-	-do-	2090-75-2390-100-2890	-do-
5.	Cochin	-do-	-do-	-do-	2090-75-2390-100-2890	-do-	2250-100-3250
6.	Mormugao	3000-100-3700	2450-100-3350	2450-100-3350	-do-	-do-	2400-100-3300
7.	Paradip	-do-	-do-	-do-	1760-70-2670	-do-	2090-75-2390-100-3190
8.	Tuticorin	-do-	-do-	-do-	2090-75-2390-100-2890	-do-	2400-100-3300 (Chief Engg.- Civil)
9.	Kandla	-do-	-do-	-do-	-do-	-do-	2090-75-2390-100-2890
10.	New Managalore	-do-	-do-	-do-	-do-	-do-	— No Post —

ANNEXE C-I
Para 3.3.8

(xxv)

RATE OF HANDLING DIFFERENT CATEGORIES OF CARGO PER SHIP BERTH DAY DURING 1982-83, 1983-84 & 1984-85

(In Tonnes)

Port/year	Break-bulk	Dry-bulk	Tanker	All Combined
1.	2.	3.	4.	5.
Kandla				
1982-83	897	1226	13559	5524
1983-84	1209	1136	16757	6199
1984-85	892	1066	15306	5346
Bombay				
1982-83	452	839	11313	1766
1983-84	404	824	12285	1941
1984-85	413	868	12108	2029
Mormugao				
1982-83	656	10693	6394	7487
1983-84	713	16197	7213	9098
1984-85	521	9379	6297	6780
New Mangalore				
1982-83	522	2739	5500	1811
1983-84	625	2027	5585	1571
1984-85	483	1716	5640	1319
Cochin				
1982-83	361	727	12063	2031
1983-84	295	613	11414	1781
1984-85	309	439	5540	1232
Tuticorin				
1982-83	947	1681	6257	1779
1983-84	932	2236	4615	1909
1984-85	655	1702	5550	1823
Madras				
1982-83	403	3332	9540	2229
1983-84	423	2605	9374	2558
1984-85	451	3007	8430	2640
Visakhapatnam				
1982-83	781	6419	6918	4344
1983-84	763	4890	6496	4059
1984-85	579	4458	6443	3865
Paradip				
1982-83	432	3657	—	3133
1983-84	482	2775	—	2145
1984-85	321	3261	—	3035
Haldia				
1982-83	536	3543	10345	4829
1983-84	386	2664	12865	4618
1984-85	354	1717	10240	3376

ANNEXE- C-1 (Contd.)

1	2	3	4	5
Calcutta				
1982-83	412	658	1532	507
1983-84	407	540	1461	487
1984-85	370	409	1336	433
All Ports				
1982-83	470	2689	10159	2246
1983-84	473	2388	10716	2401
1984-85	435	2345	9404	2314

ANNEXE – C.2
(Para 3.3.8)

SELECTED PORT PERFORMANCE INDICATORS DURING 1983-84 AND 1984-85

Port		No. of vessels visited	Cargo throughput (000' tonnes)	Cargo Handled per ship berth day (In tonnes)	% of pre berthing waiting time to time spent at berth	% of idle time of vessels at berth to time spent at berth	No. of vessels waited for more than 5 days before berthing
1.		2.	3.	4.	5.	6.	7.
1.	**Kandla**						
	1983-84	532	14159	6199	91	19	100
	1984-85	679	15745	5346	97	22	165
2.	**Bombay**						
	1983-84	2037	24741	1941	88	38	656
	1984-85	2000	23203	2029	86	41	646
3.	**Mormugao**						
	1983-84	424	13223	9098	71	26	39
	1984-85	466	14511	6780	103	29	76
4.	**New Mangalore**						
	1983-84	278	2837	1571	20	13	21
	1984-85	313	3382	1319	24	27	30
5.	**Cochin**						
	1983-84	649	5134	1781	23	60	30
	1984-85	648	3921	1232	36	51	62
6.	**Tuticorin**						
	1983-84	341	3548	1904	41	42	41
	1984-85	385	3774	1823	52	45	29
7.	**Madras**						
	1983-84	966	13322	2558	36	37	126
	1984-85	1168	15005	2640	38	39	120
8.	**Vizag**						
	1983-84	515	11353	4059	25	43	44
	1984-85	538	12873	3865	41	42	80
9.	**Paradip**						
	1983-84	94	1586	2145	48	36	17
	1984-85	114	2137	3035	59	51	25
10.	**Haldia**						
	1983-84	410	6380	4618	88	32	73
	1984-85	460	6487	3376	98	24	107
11.	**Calcutta**						
	1983-84	791	3698	487	15	41	74
	1984-85	734	3698	433	20	42	84
	All Ports						
	1983-84	7037	100191	2401	56	38	1221
	1984-85	7445	106736	2314	56	39	1424

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ANNEXE - C.3
(Para 3.3.8)

PERCENTAGE OF IDLE TIME OF VESSELS AT BERTH TO TIME SPENT AT BERTH (CATEGORYWISE)

Port		Break-bulk	Dry-bulk	Tanker	All Combined
1.		2.	3.	4.	5.
1.	Kandla				
	1983-84	17	11	30	19
	1984-85	19	20	29	22
2.	Bombay				
	1983-84	40	34	29	38
	1984-85	44	37	31	41
3.	Mormugao				
	1983-84	27	20	38	26
	1984-85	35	24	36	29
4.	New Mangalore				
	1983-84	12	14	—	13
	1984-85	23	32	19	27
5.	Cochin				
	1983-84	65	60	32	60
	1984-85	59	51	31	51
6.	Tuticorin				
	1983-84	47	37	41	42
	1984-85	44	45	42	45
7.	Madras				
	1983-84	45	42	27	37
	1984-85	44	41	28	39
8.	Viskhapatnam				
	1983-84	41	43	47	43
	1984-85	42	42	44	42
9.	Paradip				
	1983-84	29	39	—	36
	1984-85	38	52	—	51
10.	Haldia				
	1983-84	31	35	28	32
	1984-85	15	25	30	24
11.	Calcutta				
	1983-84	37	47	40	41
	1984-85	41	44	54	42
	All Ports				
	1983-84	40	37	33	38
	1984-85	41	38	33	39

ANNEXE — C. 4
(Para 3.3.8)

PRODUCTIVITY OF PORT LABOUR FOR GENERAL CARGO

Port	Quantity of Cargo handled per gang per shift during		Norm
	1983-84	1984-85	
1.	2.	3.	4.
Kandla	159	150	132
Bombay	96	110	102
Mormugao	107	92	111
New Mangalore	138	156	157
Cochin	111	126	80
Tuticorin	67	62	50
Madras	98	101	110
Visakhapatnam	139	138	152
Paradip	117	212	118
Calcutta	77	80	86

ANNEXE-D-1
(Para 4.3.2)

COMMODITY-WISE TRAFFIC HANDLED BY MAJOR PORTS DURING THE YEARS 1980-81 TO 1985-86

(In Million Tonnes)

Major Ports / Year	POL Products	Iron Ore	Coal	Fertilisers including raw material	Food Grains	Container traffic	Other Cargo	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
KANDLA								
1. 1980-81	6.82	—	—	0.66	0.37	—	0.97	8.82
1981-82	7.16	—	—	0.60	0.60	0.01	1.16	9.53
1982-83	10.74	—	—	0.33	0.47	0.04	1.07	12.65
1983-84	11.36	—	—	0.23	0.51	0.02	2.04	14.16
1984-85	11.94	0.02	—	0.79	0.28	0.11	2.61	15.75
1985-86 (P)	12.34	—	—	0.63	0.30	0.17	3.04	16.48
BOMBAY								
2. 1980-81	8.18	—	—	1.28	0.09	1.01	6.17	16.73
1981-82	10.37	—	—	1.18	0.23	1.50	6.35	19.63
1982-83	17.10	—	—	0.85	0.28	1.50	5.58	25.31
1983-84	16.89	—	—	0.94	0.36	1.58	5.25	25.02
1984-85	16.93	—	—	1.04	0.12	2.12	4.99	25.20
1985-86 (P)	15.47	—	—	1.05	0.08	2.41	5.91	24.92
MORMUGAO								
3. 1980-81	0.58	12.42	—	0.17	—	—	0.59	13.76
1981-82	0.66	13.35	—	0.20	0.11	—	0.57	14.89
1982-83	0.78	11.40	—	0.12	0.04	—	0.42	12.76
1983-84	0.64	11.53	—	0.20	0.04	—	0.81	13.22
1984-85	0.90	12.64	—	0.37	0.03	—	0.57	14.51
1985-86 (P)	0.98	14.19	—	0.31	0.01	—	0.61	16.10
NEW MANGALORE								
4. 1980-81	0.22	—	—	0.30	—	—	0.44	0.96
1981-82	0.36	0.55	—	0.18	0.15	—	0.40	1.64
1982-83	0.35	1.12	—	0.15	0.02	0.01	0.62	2.27
1983-84	0.35	1.23	—	0.21	0.14	—	0.91	2.84
1984-85	0.44	1.73	—	0.25	0.08	—	0.88	3.38
1985-86 (P)	0.40	2.26	—	0.22	—	—	0.81	3.69
COCHIN								
5. 1980-81	3.94	—	—	0.61	0.01	0.14	0.57	5.27
1981-82	4.18	—	—	0.48	0.11	0.15	0.59	5.51
1982-83	4.30	—	—	0.54	0.10	0.16	0.61	5.71
1983-84	3.90	—	—	0.44	0.11	0.17	0.51	5.13
1984-85	2.63	—	—	0.44	0.05	0.36	0.44	3.92
1985-86 (P)	3.83	—	—	0.51	—	0.24	0.53	5.11

ANNEXE-D-1 (Contd.)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	TUTICORIN								
6.	1980-81	0.44	—	0.75	0.59	0.09	—	0.76	2.63
	1981-82	0.47	—	1.05	0.42	0.20	0.02	0.53	2.69
	1982-83	0.52	—	1.60	0.22	—	—	0.89	3.23
	1983-84	0.43	—	1.66	0.21	0.05	—	1.20	3.55
	1984-85	0.51	—	1.76	0.69	0.12	0.01	0.69	3.78
	1985-86 (P)	0.34	—	2.41	0.52	—	0.03	0.93	4.23
	MADRAS								
7	1980-81	4.58	2.75	0.06	0.75	0.09	0.09	2.08	10.40
	1981-82	4.58	3.36	0.08	1.04	0.39	0.14	1.82	11.41
	1982-83	5.81	3.18	0.01	0.48	0.41	0.20	2.31	12.40
	1983-84	6.61	3.18	0.17	0.43	0.57	0.20	2.16	13.32
	1984-85	6.93	4.31	0.10	0.92	0.23	0.34	2.17	15.00
	1985-86 (P)	8.93	4.79	0.17	0.97	0.07	0.68	2.54	18.15
	VISAKHAPATNAM								
8.	1980-81	2.39	5.66	0.35	0.81	0.13	—	0.92	10.26
	1981-82	2.07	6.19	0.43	0.59	0.47	—	1.05	10.80
	1982-83	2.11	5.53	0.81	0.51	0.35	—	1.87	11.18
	1983-84	2.56	4.97	0.37	0.53	0.44	—	2.48	11.35
	1984-85	4.47	5.78	0.70	0.90	0.11	—	0.91	12.87
	1985-86 (P)	6.27	5.73	1.74	0.97	0.08	—	1.12	15.91
1	**PARADIP**								
9.	1980-81	—	1.82	0.07	0.09	—	—	0.31	2.29
	1981-82	—	1.64	0.17	0.08	—	—	0.28	2.17
	1982-83	—	0.98	0.33	0.03	0.05	—	0.42	1.81
	1983-84	—	0.93	0.04	0.05	0.15	—	0.42	1.59
	1984-85	—	1.61	0.15	0.04	0.01	—	0.33	2.14
	1985-86 (P)	—	1.87	0.87	0.13	—	—	0.46	3.33
	CALCUTTA								
10.	1980-81	5.15	0.01	0.88	0.68	0.07	0.16	2.34	9.29
	1981-82	4.55	0.01	1.42	0.55	0.17	0.19	2.86	9.75
	1982-83	4.60	0.01	2.13	0.35	—	0.23	3.37	10.69
	1983-84	4.74	0.02	1.96	0.40	0.94	0.24	2.17	10.47
	1984-85	5.02	—	1.71	0.75	0.20	0.32	2.19	10.19
	1985-86 (P)	6.06	—	2.32	0.77	—	0.46	2.52	12.13
	TOTAL								
	1980-81	32.30	22.66	2.11	5.94	0.85	1.40	15.15	80.41
	1981-82	34.40	25.10	3.15	5.32	2.43	2.01	15.61	88.02
	1982-83	46.31	22.22	4.88	3.58	1.72	2.14	17.16	98.01
	1983-84	47.48	21.86	4.20	3.64	3.31	2.21	17.95	100.65
	1984-85	49.77	26.09	4.42	6.19	1.23	3.26	15.78	106.74
	1985-86 (P)	54.63	28.83	7.50	6.08	0.55	3.99	18.46	120.04

(P) : Provisional (—) Nil or Negligible.

Source: Preliminary Material on Congestion in Ports for Estimates Committee (Lok Sabha) - 1985-86

ANNEXE—D—2
(Para 4.3.14)

COMMODITY WISE TRAFFIC PROJECTIONS FOR THE 7TH PLAN AT MAJOR PORTS

(In Million Tonnes)

Commodities	Calcutta	Haldia	Paradip	Vizag	Madras	Tuti-corin	Cochin	New Managa-lore	Mormugao	Bombay	Nhava Sheva	Kandla I/C Vadinar	Total
1.	2.	3.	4.	5.	6.	7.	8.	9.	10	11.	12.	13.	14.
P.O.L.													
Projected by the Working Group on Prots for Plan	0.50	5.41	0.63	5.96	6.80	0.75	5.80	7.64	0.74	22.50	—	19.39	76.12
As revised by the Planning Commission	0.50	5.25	0.63	5.96	6.99	0.75	5.80	0.64	0.74	22.50	—	17.59	67.35
As assessed by the Committee on Dev. & Modernisation (MPRC)	0.50	5.25	0.63	5.96	6.99	0.75	5.80	4.64£	0.74	22.50	—	17.59	71.35
IRON ORE													
Projected by the Working Group on Ports for 7th Plan	—	—	2.00	8.00	7.00	—	—	4.00	15.05	—	—	—	36.05
As revised by the Planning Commission	—	—	2.00	5.75	4.00	—	—	1.75	12.50	—	—	—	26.00
As assessed by the Committee on Dev. & Modernisation (MPRC)	—	—	6.00	6.00	6.00	—	—	6.00	18.00				38.00

£ - Subject to New Mangalore Refinery being commissioned during the 7th Plan.

ANNEXE—D—2 (Contd...)

Commodities	Calcutta	Haldia	Paradip	Vizag	Madras	Tuti-corin	Cochin	New Managa-lore	Mormugao	Bombay	Nhava Sheva	Kandla I/C Vadinar	Total
1.	2.	3.	4.	5.	6.	7.	8.	9.	10	11.	12.	13.	14.
COAL													
Projected by the Working Group on Ports for 7th Plan	0.50	3.00	1.00	2.50	—	3.55	—	—	—	—	—	—	10.55
As revised by the Planning Commission	0.50	3.00	1.00	2.50	—	3.55	—	—	—	—	—	—	10.55
As assessed by the Committee on Dev. & Modernisation (MPRC)	0.50	3.50	1.10	3.15	—	4.25							12.50
FERTILISER													
Projected by the Working Group on Ports for 7th Plan	1.25	0.50	1.18	1.06	0.81	0.87	0.84	0.24	0.30	—	2.25	1.99	8.47
As revised by the Planning Commission	1.25	0.50	1.30	1.20	0.91	0.96	0.90	0.30	0.38	—	2.25	2.23	12.18
As assessed by the Committee on Dev. & Modernisation (MPRC)	1.25	0.50	1.30	1.20	0.91	0.96	0.90	0.30	0.38	(d	2.25	2.23	12.18

(d Included in Nhava Sheva.

ANNEXE—D—2 (Contd...)
(In Million Tonnes)

(xxxiv)

General Breakbulk Cargo as assessed by the Working Group for 7th Five Year Plan, Planning Commission and committee on Development & Modernisation of Ports (MPRC)

Commodities	Calcutta	Haldia	Paradip	Vizag	Madras	Tuti-corin	Cochin	New Managa-lore	Mormugao	Bombay	Nhava Sheva	Kandla I/C Vadinar	Total
1.	2.	3.	4.	5.	6.	7.	8.	9.	10	11.	12.	13.	14.
1. General Cargo including Container (assumed, 5 %	4.40	0.55	0.90	2.10	4.10	2.00	1.10	1.80	1.00	6.60	2.50	2.90/1.00	30.95
annual Compound growth by 1983-84 actuals)		4.95								9.10			
2. Projected containerised Cargo traffic assuming 50% of general cargo will be containerised	2.20				2.05		0.96 (95%)			3.30	2.50 (100%)		11.01
a. Cargo handled in containe specialized facilities	0.54/0.72				1.92		0.96			2.16	3.00		9.30
	1.26									5.16			
b. Cargo to be handled in break bulk conventionaly		0.94			0.13					0.64			1.71

Commodities	Calcutta	Haldia	Paradip	Vizag	Madras	Tuti-corin	Cochin	New Managa-lore	Mormugao	Bombay	Nhava Sheva Vadinar	Kandla I/C	Total
1.	2.	3.	4.	5.	6.	7.	8.	9.	10	11.	12.	13.	14.
Net Cargo to be handled conventionally in general cargo berth 1-2 (a)	3.69			0.90	2.10	2.18	2.00	0.14	1.80	1.00	3.94	2.90/1.00	21.65
Container Traffic in lakh TEU as assessed by the Committee on Development and Modernisation	1.5				2.00		1.25			3.00	1.5		
											4.5		
i Containerised cargo in million tonnes taking 1 TEU - 12 T.	1.8				2.40		1.50				5.4		11.10
ii Breakbulk cargo in million tons as projected Working Group on 7th Plan & Planning Comm	3.69		0.90	2.10	2.18	2.00	0.14	1.80	1.00		3.94	2.90/1.00	21.65
Total (i + ii)	5.49		0.90	2.10	4.58	2.00	1.64	1.80	1.00		9.34	2.90/1.00	32.75

ANNEXE-D-2 (Contd....)
(In Million Tonnes)

Commodities	Calcutta	Haldia	Paradip	Vizag	Madras	Tuti-corin	Cochin	New Mangalore	Mormugao	Bombay	Nhava Sheva	Kandla I/C Vadinar	Total
1.	2.	3.	4.	5.	6.	7.	8.	9.	10	11.	12.	13.	14.
TOTAL:													
Projected by the Working Group on Ports for 7th Plan	5.39	11.66	5.71	19.62	18.84	7.17	7.74	13.68	17.83	29.74	24.75	25.28	163.85
As revised by the Planning Commission	6.65	9.30	5.83	17.51	16.00	7.26	7.80	4.49	14.62	29.10	4.75	23.72	147.03
As assessed by the Committee on Development & Modernisation of Ports (MPRC)	16.99		9.93	18.41	18.48	7.96	8.34	12.74	20.12	34.09		23.72	166.78

The grand total comes to 170.78 but it has been retained to 166.78 because of the reason explained in the projection of iron ore in Para 4.3.8.

ANNEXE—D—3.
(Para 4.3.6)

PORT CAPACITIES — CARGO WISE
(In Million Tonnes)

Sl. No.	Commodity	By Planning Commission			By Working Group on 7th Plan		
		Capacity as on 31.3.85	Capacity addition during VII Plan	Capacity as on 31.3.90	Capacity as on 31.3.85	Capacity addition during VII Plan	Capacity as on 31.3.90
1	P.O.L.	55.25	16.50	71.75	59.25	20.50	79.75
2.	Iron Ore	41.50	—	41.50	41.50	—	41.50
3.	Fertilisers (Including raw material)	3.90	4.10	8.00	3.90	4.10	8.00
4.	Coal	6.25	2.20	8.45	6.25	2.20	8.45
5.	Other breakbulk	22.35	0.10	22.45	22.35	1.80	24.15
6.	Containar	3.48	5.82	9.30	3.48	5.82	9.30
	Total	132.73	28.72	161.45	136.73	34.42	171.15

ANNEXE — D. 4
(Para 4.3.16)

CAPACITIES PORT WISE
(In Million Tonnes)

Port	By planning Commission		By Working Group on 7th Plan	
	As on 31.3.85	As on 31.3.90	As on 31.3.85.	As on 31.3.90
Calcutta/Haldia	14.36	20.11	14.36	20.11
Paradip	4.85	6.05	4.85	6.05
Vizag	12.70	16.70	16.70	16.70
Madras	16.41	21.37	16.41	21.57
Tuticorin	5.45	6.65	5.45	6.90
Cochin	7.11	7.71	7.11	7.71
New Mangalore	9.30	9.55	9.30	17.55
Mormugao	16.10	16.10	16.10	16.35
Bombay	26.25	28.11	26.25	28.11
Kandla	20.20	23.20	20.20	24.20
Nhava Sheva		5.90		5.90
Total	132.73	161.45	136.73	171.15

ANNEXE—D—5
(Para 4.3.30 & 4.3.33)

TRAFFIC PROJECTIONS UPTO 2000 AD WORKED OUT ON THE BASIS OF PAST GROWTH RATE IN MAJOR PORTS

(In Million Tonnes)

Commodity	1970-71	1975-76	1980-81	1985-86	Average annual compound growth rate	1989-90 As assessed by the Wkg. Gp.on Dev. & Mod. of ports (MPRC)	1994-95	1995-2000
1.	2.	3.	4.	5.	6.	7.	8.	9
P.O.L.	18.81	21.11 (2%)	32.30 (9%)	54.63 (11%)	7.33%	71.35	101.62	144.74
Iron Ore	19.10	21.24 (2%)	22.66 (1%)	28.83 (5%)	2.7%	38.00	43.41	49.60
Coal	0.68	1.19 (12%)	2.11 (12%)	7.50 (29%)	17.7%	12.50	22.03	38.82
Fertiliser & Raw materials	2.41	3.75 (9%)	5.94 (10%)	6.08 (1%)	6.7%	12.18	16.84	23.29
Foodgrains	3.19	6.96	0.85	0.55			2.60	2.60
General Cargo	11.49	10.87	16.55 (9%)	22.45 (6%)	7.5%	32.75	47.02	67.50
Total	55.68	65.12	80.41	120.04		166.78	233.52	326.55

Note:

i) Percentage compound growth rates between the periods have been indicated in brackets.

ii) For Coal, average compound growth rate of 12% for ten years between the period from 1970-71 to 1980-81 has been taken for future projections instead of 17.7% as the growth rate of 29% from 1980-81 to 1985-86 appears to be abnormally high.

iii) For foodgrains, the average of 16 years traffic from 1970-71 to 1985-86 which comes out to 2.6 million tonnes has been taken for future years as no trend is seen in these years.

ANNEXE D-6
(Para 4.4.8)

INFORMATION REGARDING PERFORMANCE AND UTILISATION OF THE AVAILABLE EQUIPMENT OF THE BOMBAY PORT

Type of Equipment	Date of Purchase/ Installation	Designed Capacity	Prescribed Norms	No. of hours available during the year (No. of working days x 24)	No. of hours lost due to Schedule planned maintenance overhaul during the year
(1)	(2)	(3)	(4)	(5)	(6)
(A) ELECTRIC WHARF CRANE — 100 Nos.	29 Nos. — 1955 56 Nos. — 1962 11 Nos. — 1973 4 Nos. — 1977	3 T — 68 Nos. 6 T — 28 Nos. 13 T — 4 Nos.	—	861200	32693
(1 Nos. — 4 Nos.) marked for disposal w.f. October, 1985)					
(A1) HYDRAULIC WHARF CRANE — 48 Nos.	1913-1916	1.75 T — 41 Nos. 6 T — 7 Nos.	—	405504	15296
(B) MOBILE CRANE — 50 Nos.	i. 1956-58 ii 1965 iii. 1975 iv. 1982-84	10 T — 12 Nos. 12.1/2 T — 10 Nos. 11 T — 10 Nos. 14 T — 18 Nos.	—	422400	55478
(C) FORKLIFTS TRUCKS — 51 Nos.	i. 1975 — 11 Nos. ii. 1979 — 10 Nos. 1980 iii. 1979 — 30 Nos. 1980	2 T — 11 Nos. 2 T — 10 Nos. 3 T — 30 Nos.	—	434928	10786
* One Forklift being used by Container Equipment Section on loan basis and is not available for Docks Department.					
(F) LOCOS (DIESEL) — 20 Nos.	'Henschel' make Loco-10 Nos. (Purchased in 1957 'Canadian' make Loco — 10 Nos. (6 Nos. purchased in 1963 4 Nos. purchased in 1964)	440 HP — 10 Nos. 252 HP — 7 Nos. 504 HP — 3 Nos.	—	175200	41440

ANNEXE-D-6 (Contd.)

No. of hours under major breakdown	Actual equipment available hours	Percentage availability Col. 8 x 100 / Col. 5	Hours actually worked during the year	Percentage Utilisation Col. 10 x 100 / Col. 5	Reasons for under utilisation
(7)	(8)	(9)	(10)	(11)	(12)
122221	706686	82.05	213424	24.78	i. These are rail mounted cranes stationed at various berths of Port and are supplied as per the requirements of the Docks Department depending upon the berthing of Ships at various berths. ii. Due to containerisation of cargo.
17742	372466	91.85	66865	16.49	—do—
142952	246112	58.27	129692	30.70	—
121078	303064	69.68	147784	33.98	—
56053	77707	44.35	62731	35.80	—

ANNEXE-D-6 (Contd.)

Average demand per day per shift			Average utilisation per day per shift		
Day	Evening	Night	Day	Evening	Night
(13)	(14)	(15)	(16)	(17)	(18)
34	30	19	33	30	19
12	10	02	12	10	02
28	18	07	23	17	07
32	20	08	29	15	07
	36 Links			23 Links	

ANNEXE D—6 (Contd.)

BOMBAY PORT TRUST

STATEMENT SHOWING THE PERFORMANCE AND UTILISATION OF PORT TRUST FLOTILLA DURING THE YEAR 1985-86

Sl. No.	Name of Tugs, Crane	Date of Purchase/ Installation	Designed capacity in tonnes		Prescribed Norms (Tugs to be made available per day	No. of days available during the year	No. of days lost due to scheduled/ planned maintenance/ overhaul during the year.	No. of days under major breakdown	% availability	Hours actually worked No. of Tugs required No. of Tugs available	% availability for utilisation. No. of Tugs made available divided by prescribed norms x 100.	Reason for under utilisation.
1	2	3	4		5	6	7	8	9	10	11	12
TUGS												
1.	M.T. Amol	1967	22.5	GROUP 'A'		266	99		73%			
2.	M.T. Arvind	1967	22.5		3 Tugs	365	Nil		100%			
3.	D.E.T. Akashaya	1961	15.00		60%	314	51		86%		4.4 Tugs	
4.	M.T. Ankush	1966	22.5			257	108		70%		122%	
5.	M.T. Atul	1966	22.5			259	106		71%			
6.	V.S.T. Aakash	1984	32.5	GROUP 'B'		205	—	160	56%			
7.	V.S.T. Abhiman	1984	32.5		4 Tugs	349	—	16	96%		2.16 Tugs	
8.	V.S.T. Ankush	1-10-1985	32.5		100%	135	—	47	74%		54.16%	
9.	V.S.T. Arul	4.1.1986	32.5			82	—	4	95%			
10.	S.T. Navha	1944	9.00	GROUP 'C'		365	Nil		100%			
11.	M.T. Raja	1959	10.00			220	145		60%			
12.	M.T. Rudra	1959	10.00		6 Tugs	365	Nil		100%		7.3 Tugs	
13.	M.T. Raman	1959	10.00		75%	311	54		85%		101%	
14.	M.T. Rahul	1959	10.00			286	79		78%			
15	M.T. Ramesh	1968	10.5			337	28		92%			
16	M.T. Ranjit	1968	10.5			249	116		68%			
17	S.T Uran	1944	9.00			251	114		69%			
18.	M.T. Bishma	1983	7.00	GROUP 'D'	3 Tugs	311	54		85%			
19	M.T. Bhaskar	1983	7.00		60%	313	52		86%		4.7 Tugs	
20.	M.T. Bharat	1967	6.50			249	116		68%		130%	
21.	M.T. Brahma	1967	6.50			313	52		86%			
22.	M.T. Bahadur	1967	6.50			288	77		79%			
23.	M.T. Arun	1957	3.50			261	104		71%			

1	2.	3.	4.		5.	6	7.	8.	9	10	11.	12.
24.	M.T. Dharma	1972	3.50	GROUP 'E'		249	116		68%		3.6 Tugs	
25.	M.T. Dhruva	1972	3.50		3 Tugs	236	129		65%		100%	
26.	M.T. Sushil	1983	4.00		75%	365	Nil		100%			
	Cranes											
	P.C. Shrestha	1982	60.00	GROUP 'F'	1 Crane	198	167		54%		1.9 Crane	
	A.J. Sharavan	1962	120.00		50%	357	8		98%		158%	

ANNEXE D-6 (Contd.)

STATEMENT SHOWING AVAILABILITY AND UTILISATION OF CONTAINER HANDLING EQUIPMENT IN THE PORT OF BOMBAY FOR THE YEAR 1985-86

S. No.	Equipment	Date of Installation	Designed capacity	Prescribed Norm	No. of hrs. available during the year (No. of working days x 24)	No. of hrs. lost due to Scheduled/ planned Maintenance/, Over-haul during the year	No. of hrs. under major breakdown	Actual Equipment available hours (Col. 5-6-7)	% availability Col. (8) x 100 Col. (5)	Hours actually worked during the year	% Utilisation Col (10)x 100 Col. (5)	Reasons for under utilisation	Average demand Average utilisation per Shift
(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1.	Top Lift Trucks												Average Demand
	2 Nos.	March 83	35.5 T	Availability 70%									
	3 Nos.	May 83	25 T	Utilisation 300 hrs. p.m.	42,600	753.25	23,989.00	17,857.75	41.91%	7710.50	18.09%	a) Breakdown of Hyd. pumps of TLT Nos.	Day shift 3 TLTS. I Shift 2 TLTS. II Shift 2 TLTS.
	5 Nos.										3, 4 & 5	b) Deformation of Static Carriages of TLT Nos. 4 and 5.	355 x 7 ×2485 E. shifts. Average utilisation 7710 × 3.1 hrs. 2485
												c) Failure of Engine cylinder.	per equipment shift.

1	2	3	4	5	6	7	8	9	10	11	12	13
2. Rubber Tyred Gantry Cranes												**Average Demand**
No. 1	Aug. 82	35.5 T below Spreader	Availability 85% Utilisation 300 hrs. p.m.	8,496	100.25	326.50	8,069.25	94.97%	3276.75	38.56%	(a) Shortage of staff. (b) Less Cargo availability at BPS due to erection activity of 2nd Quayside Gantry Crane	3 Cranes in Ist and II shift. 2 Cranes in III shift. 354x8 = 2832 E.shift Shifts **Average utilisation** 7264.75=2.56 hours 2832 hours per Equip. shift.
2	Oct. 82			8,496	128.25	243.25	8,124.50	95.62%	2405.25	28.31%		
3	Nov. 82			8,496	425.50	2,850.00	5,220.50	61.44%	1582.75	18.62%		
3. Quayside Gantry Crane												
No. 1	Sept. 84	35.5 T below spreader	Availability 85% Utilisation 300 hrs. p.m.	8,472	66.50	15.00	8,390.50	99.03%	531.25	6.27%	(a) Shortage of staff. (b) Crane not utilised from May to Nov. 85 due to erection activities of 2nd Quayside Gantry Crane.	**Average Demand** Requisitioned as and when ship is berthed as BPS.
2	Mar. 86			720	5.50	27.25	687.25	95.45%	95.50	13.26%		

REPORT ON DOCK TUGS AT CALCUTTA

1. NAME	CHAMPA	CHAMELI	MALATI	SEULI	GOLAP	TAGAR	M.O.T. TUG—1	HENA	BAKUL	JUIN	RIVERTUGS STALWART	RIVERTUGS SAKTIMAN
2. DATE OF PURCHASE/BUILT	1954	1955	1958	1958	1966	1966	23.4.85 Build 1967	1968	1968	16.12.85 Build 1985	1948	1984
3. DESIGNED CAPACITY H.P.	800/10.25	800/10.25	776/9.6	776/9.6	950/11.45	950/11.80	1050/12	950/13.6	950/13.7	896/14	1000/12	950/22
4. PRESCRIBED NORM	Work on 24 Hr. basis in 2 x 12 hrs. shifts. Scheduled lay up repairs — 3 months for survey, 2 months annual repairs.											
5. NO. OF HRS. AVAILABLE DURING THE YEAR (WORKING DAYS X 24)	8760 Hrs.	8760 Hrs.	8760 Hrs.	2760 Hrs.	8760 Hrs.	8760 Hrs.	8220 Hrs. (fr. 23.4.85 P.M.)	8760 Hrs.	8760 Hrs.	2532 Hrs. (fr. 16.12.85 P.M.)	8760 Hrs.	8760 Hrs.
6. NO. OF HRS. LOST DUE TO PLANNED OVERHAUL (SURVEY REPAIRS)	2016 "	3744 "	960 "	192 "	2616 "	5256 "	—	1956 "	—	—	3408 "	—
7. NO. OF HRS. UNDER MAJOR BREAKDOWN REPAIRS.	1308 "	1536 "	2640 "	816 "	1716 "	552 "	6612 " (incl. I/R problem)	168 "	3946 "	1080 "	876 "	1080 "
8. ACTUAL HRS. AVAILABLE (5 — 6 — 7)	5436 "	3480 "	5160 "	1752 "	4428 "	2952 "	1608 hrs.	6636 "	4764 "	1452 "	4476 "	7600 "
9. % AVAILABILITY $\frac{8 \times 100}{5}$	62%	40%	59%	63%	51%	34%	20%	76%	54%	57%	51%	88%
10. HRS. ACTUALLY WORKED* DURING YEAR				Condemned 24.7.85								
11. % UTILISATION $\frac{10 \times 100}{5}$												
12. REASONS FOR UNDER UTILISATION.												

Two tugs are generally required for berthing/transporting a vessel in the docks and three in case of "dead" vessels. Their utilisation is dependant on the requirements of shipping which is not uniform. Even if there were no shipping movements, two tugs would be required at each dock to cope with emergencies. Inter dock transfer of tugs is every time consuming and not always practicable in view of the limitations imposed by the fact that the arrivals and departures into and from the docks are time bound. Tugs, therefore, work intermittently.

Details against columns 10, 11 & 12 are not relevant in case of our port where the shipping activity is concentrated at certain specific timings only due to tidal and riverine constaints.

ANNEXE D 6(Contd.)

REPORT FROM APRIL 1985 to MARCH 1986
FOR WHARF CRANE

Description	Date of Purchase	Designed Capacity	Prescribed Norm	No. of Equipment Hours available No. of Working Days x 24 x Equipment.	No. of hours due to Planned Maintenance	No of hours under Major breakdown	Actual available (5—6—7)	Availability 8/5 x 100	Hrs. actually worked during the year	% Utilisation
1	2	3	4	5	6	7	8	9	10	11
1 200—T Crane — 1	1956	200 —T	300 Hrs.	Annual — 657456 1985—86	41592	153672	462192	70%	225507	34%
2. 6—T " — 11	1962—63	5—T	300 Hrs. each Crane/month							
3. 3/5 T " — 42	—do—	3—T/5—T								
4. 3—T " — 10	1958-59	3—T								
5. 2—T " — 9	1929	2—T								

REPORT FROM APRIL 1985 TO MARCH 1986
FOR MOBILE CRANES AND FORK LIFTS

Equipment	April' 85 to March'86	Type	Year of purchase	Designed Capacity	Prescribed Norms (Working Hrs./month)/ equipment.	No. of Hrs. available	No. of Hrs. lost for Planned Maintanance	No. of Hrs. under Major breakdown.	Actual available Hrs. 5-(6+7)	Parcentage available 8/5x100	Hrs. actually worked during the year	% Utilisation
		1	2	3	4	5	6	7	8	9	10	11
Mobile Cranes	4 Nos.	Tyre mounted (Coles)	1967	10-T								
	2 "	"	1981	"								
	2 "	"	1982	"								
	3 "	"	1984	"								
	4 "	"	1974	6-T								
	5 "	"	1980	"								
	9 "	"	1982	"	250	266304	53620	44500	168184	63%	128188	48%
	1 No.	"	1983	"								
	2 Nos.	"	1981	3-T								
	1 No.	"	1983	"								
	1 No.	Crawler P&H	1964	30-T								
	1 No.	" (Tata)	1983	"								
	1 No.	" (Tata)	1985	"								
Pork Lifts	3 Nos.	Godrej	1980	3-T								
	11 "	Voltas	1980	"								
	10 "	Voltas	1981	"								
	18 "	Voltas	1982	"	300	438856	128724	78528	231604	53%	158646	36%
	4 "	Garden Reach/W	1983	"								
	12 "	Godrej	1983	2-T								
	4 "	Godrej	1983	3-T								

LOCO POSITION FROM 1.4.85 to 31.3.86

Loco Description	Year of purchase	Prescribed norm	Designed Capacity	No. of Hrs. available Working Days	No. of Hrs. lost due to Planned Maintenance	No. of Hrs. under Major B.D.	Actual available Hrs. (5)-(6)-(7)	Availability (8-5)x100	Hours Actually worked during the year	Utilisation 10/5x100	Reasons for under Utilisation	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Steam Loco 10 Nos.	1950-51 & 1955		450 HP	365x10x24 =87600	2x365x24 =17520	365x24x6 =70080	17520	20%				All Locos are 32-35 yrs. old and are unfit for Traffic operation. Hence for fuel economy 6 locos are under process of condemnation. 4 locos were remain to make 2 locos available for department and local service for sometime after which they will also be condemned.
6 Wheeler Canadian Diesel Locos — 6 Nos.	1959		320 HP	365x24x6 =52560	1x365x24 =8760	26000 Hrs.	17800	33.86%				All these Locos are 27 yrs. old 2 are heavily cannibelised. One is under POH and one is under the major repair. These locos are due for condemnation and are kept operative till 4 New Locos under 7th plan are procured.

Anneaxe D—6 (Contd....)

1	2	3	4	5	6	7	8	9	10	11	12	13
	8 Wheeler Canadian Diesel Locos — 3 Nos.	1961	640 HP	365x24x3 =26280	—	22560	3720	13.6%				All the 3 Locos are 25 yrs. old and are earmarked and are under process of condemnation. One is working on Tool Van (for rerailment work). The remaining 2 Locos are heavily cannibelised.
	12 Wheeler Canadian Diesel Locos — 3 Nos.	1967	1250 HP	365x24x3 =26280	1752	17520	7008	26.7%				20 yrs. old. No POH facility for these heavy Locos in port. 2 of the 3 Locos are operating after 1 was put in commission after major repair. One is awaiting POH by some PSU.
	CIW built WDS-4 Diesel Locos — 7 Nos.	1971	700 HP	365x24x7 =61320	9100	28972	23248	38%				1 Loco out of commission with damaged brake gearying system CLW did not supply parts). One is awaiting POH which CLW did for other 6 Locos but have now discontinued POH worked 1 or 2 Loco are in turn remain out of commission for major repair of Vulcan coupling brake system etc.
	CLW built WIG-4 Diesel Locos — 4 Nos.	1982	700 HP	365x24x4 35 040	4968	2x365x24 =77520	12552	36%				2 of the 8 Locos are out of commission for Brake Parts (not supplied by CLW) and now long heavily cannibepised
	For Total No. of 23 Diesel Locos			2,01,480	22,828							

ANNEXE D 6 (Contd.)

The demand and supply of mobile crane and Forklift per day on an average during April 1986 to September 1986 are shown below:—

Mobile Crane

Shift	Demand	Supply	Percentage of Supply to Demand
First Shift	26.0	15.0	57.7
Second Shift	24.85	13.13	52.84
Third Shift	8.95	5.84	65.25

Forklift

Shift	Demand	Supply	Percentage of Supply to demand
First Shift	26.9	16.2	60.0
Second Shift	27.2	15.4	56.4
Third Shift	11.3	8.4	74.3

NB: The number of equipment supplied includes those which were reported late.

On an average 3 mobile cranes and 4 Forklifts were supplied late during 1st shift and one mobile crane and one Forklift during 2nd Shift.

ANNEXURE-D-6 (Contd.)

NAME OF PORT — HALDIA DOCK COMPLEX, CALCUTTA, PORT TRUST YEAR — 1985-86

Description	Date of purchase	Designed capacity	Prescribed Norm	No. of hrs. available 350 (Working days x 614	No. of hrs. Lost due to sch/Planned Maintenance	No. of hrs. under major Break-down	Actual Equipt. available hrs. (5-6-7)	% availability 8/5x100)	Hours actually worked	% Utilisation $\frac{Col\text{-}10 \times 100}{5}$	Reasons for under utilisation
1	2.	3.	4	5	6	7	8	9	10	11.	12
A. Wharf Crane	—	—	—	—	—	—	—	—	—	—	—
B. Mobile Crane											
(i)	Coles-1 1977	6 T.Mobiles	8 hrs./day								
(ii)	Coles-2	1978 10 T	"	14000	2800	1400	9800	70%	9200	65.7%	1. Manpower only for one shift.
(iii)	Coles-3	1981 3 T	"								
(iv)	Escorts - 4	1984 6 T	"								
(v)	P-H crane	1981 68 T	"								
C. Fork lifts											
(i)	GFL-1 1978	2.5 T	"								
(ii)	GFL-2 1978	2.5 T	"								
(iii)	GFL-3 1978	2.5 T	"								
(iv)	GFL-4 1979	2.5 T	"								
(v)	GFL-5 1979	2.5 T	"	25200	7560	1260	16380	65%	15490	61.46%	1. Manpower only for one shift.
(vi)	GFL-6 1984	2.5 T	"								
(vii)	GFL-7 1984	2.5 T	"								
(viii)	VFL-1 1979	2 T	"								
(ix)	VFL-2 1979	T	"								

ANNEXE-D-6 (Contd.)

1	2	3	4	5	6	7	8	9	10	11	12
Floating Cranes											
E.											
TUGS-S(1)	1971	20 Bollard/Pull 20 hrs./day		42000	8400	2100	31500	75%	17500	41.6%	1. No Night Navigation. 2. Non-availability of manning for certain period as cranes are Calcutta based.
" (2)	1973	"									
" (3)	1975	"									
" (4)	1976	"									
" (5)	1977	"									
Locos											
D 55	1968	1600 T.24/hrs./day									
56	1968	"	"								
57	1968	"	"								
58	1968	"	"								
59	1968	"	"								
60	1968	"	"								
61	1968	"	"	109200	32760	11200	65240	59.74%	56240	51.5%	1. Less Manpower. 2. Industrial Disputes.
62	1967	3000 T	"								
65	1967	"	"								
66	1967	"	"								
WDS - 75	1981	2400 T	"								
80	1981	"	"								
81	1981	"	"								
G.											
Gantry Cranes											
i. Unloader	1980	700 TPH	12 hrs/day	4200	210	84	3906	93%	2268	54%	1. Manpower for only one shift.
ii. Portainer	1979	30T	-do-	4200	150	200	3850	91.66%	2058	49%	-do-
iii. Transtanier	1979	30T	-do-	4200	100	90	4010	95%	3444	82%	-do-
H. **Other Coal Loading Plant**											
i. Unloading (Tippler etc.)	1977	1500 TPH	24 hrs./ day	16800	1819 2956 Spillage	1436 2136 Non-availability of S.E. Rly. Wagon	8453	50.31%	2422	14.4%	1. Non-availability of Cargo & Wagon.
ii. Loading (shiploader etc.)	1977	1500 TPH		16800	1810 1660	1190	12140	72.2%	2956	17.6%	1. non-availability of Cargo & Vessel.

ANNEXE-D-6 (Contd.)

(Lv)

MADRAS PORT TRUST

BRIEF NOTE REGARDING EQUIPMENT MODERNISATION

From the experience of Madras Port during the last 3 years when containerisation has picked up speed, the following observations are very much relevant in modernisation of Cargo handling equipments:—

(1) During the last 3 years there is rapid change in the pattern of utilisation of cargo handling equipments.

(2) While conventional equipments are being less and less utilised, the mechanised systems including container handling equipments, iron ore equipments and oil handling systems are more and more intensively utilised.

(3) The changes that taking place is so rapid that unless the policy of modernisation also keep pace with this change, there is bound to be under utilisation in one area and over-utilisation in other areas.

(4) Only by intensive observation of the changing trends and taking right decisions in the right time, such abnormality can be avoided.

(5) This process is possible only if there is deep understanding and knowledge of the situation exists in each Port and the changing trends that is taking place in the respective ports.

(6) It will be very difficult for laying down any policy which will have common application at the relevant point of time for the situation is different in different ports. Even in same port the situation is different in different areas.

Subject to the above observations, the following areas need attention:

(i) Addition of container handling equipment in the various ports matching with increasing tempo of containerisation has to be resorted to.

(ii) The mechanisation of dry bulk handling such as coal, fertilizers, fertilizer raw materials, etc., has to be resorted to if large quantities have to be handled.

(iii) The fleet strength of the conventional cargo handling equipments has to be adjusted from time to time either by disposal of obsolete and old equipments or by mothballing of good and viable units till they are needed again.

(iv) A continuous and intensive review of the type and size of the equipments required has to be made every year at the time of preparation of budget to make maximum utilisation of the funds available to acquire what is needed.

ANNEXE-D-6-(Contd.)
for the year 1985-86

NAME OF THE PORT: MADRAS

Equipment/ Craft	Date of purchase/ installation	Designed capacity (specify unit) (Unit as on Setp. 86)	Prescribed norm	No. of hrs. available during the year (No. of working days x 24)	No. of hrs. lost due to scheduled/ planned maintenance overhaul during the year	No. of hrs. under major break-down.	Actual equipment available hours (Col.5-6-7)	%avail-ability (Col.8x100) Col.5	Hours actually worked during the year	%utilisation (Col.10x100) Col.5	Reasons for low utilisation
1	2	3	4	5	6	7	8	9	10	11	12
A. WHARF CRANES			300 hrs/ month/ plant	3,72,360	25,843	20,421	3,26,096	87.57%	1,53,927	41.33%	
1. Holland	1960	3 Tons 1 No.									
2. "	1960	50 Tons 1 No.									
3. Jessop	1961	3 Tons 2 Nos.									
4. "	1961	5 Tons 1 No.									
5. "	1983-84	10 Tons 10 Nos.									
6. "	1973	13 Tons 3 Nos.									
7. Stothert & Pitt.	1949 2 Nos. 1954 1 No.	5 Tons 3 Nos.									
8. Kooks	1965	5 Tons 1 No.									
9. "	1965	10 Tons 2 Nos.									
10. Krupps-Ardelt	1964	3 Tons 10 Nos.									Less utilisation due to low demand from Traffic on account of containerisation.
11. Skoda	1960	3 Tons 3 Nos.									
12. "	1960	13 Tons 3 Nos.									
		Total 40 Nos.									
B. MOBILE CRANES			250 hrs/ month/ plant	1,46,064	16,008	21,048	1,09,009	74.63%	45,861	31.39%	
1. Escorts	1980	5 Tons 3 Nos.									
2. Coles Endurance	1980	15 Tons 3 Nos.									
3. Coles Feneas	1980	6 Tons 7 Nos.									

ANNEXE D-6 (Contd...)

NAME OF THE PORT : MADRAS

1	2	3	4	5	6	7	8	9	10	11	12
C. FORK LIFT TRUCKS (DIESEL)			300 hrs/month/ plant	5,90,808	62,520	62,184	4,66,104	78.89%	2,43,081	41.14%	Less utilisation due to low demand from Traffic on account of containerisation.
1. Godrej CFLT	1982	2.25 T — 12 Nos.									
2. Godrej C-500-Y-300	1980	3 T — 18 Nos.									
3. —do—	1981	3 T — 20 Nos.									
4. TCM FD—135	Z1980	10 T — 2 Nos.									
5. Godrej—PRC	1983	1300 Kg — 1 Nos.									
6. Godrej C-500-Y-300	1984	3 T — 2 Nos.									
7. Yale Voltas	1984	3 T — 1 Nos.									
8. Lansing Texmaco	1984	10 T — 2 Nos.									
9. Godrej GY 800 D	1985	5 T — 2 Nos.									
10. Lansing Texmaco 12/600	1985	10 T — 1 Nos.									
11. Voltas—Boss-B-1200	1985	10 T — 1 Nos.									
12. Godrej G800—D	1986	5 T — 1 Nos.									
13. Lansing Texmaco	1986	5 T — 1 Nos.									
		Total — 64 Nos.									

	Average Traffic demand per day in 3 shifts	Average Traffic supply per day in 3 shifts.
Mobile Cranes	17	16.14
Frok Lift Trucks	89	85.03
Electric Wharf Cranes	55	54.06

ANNEXE — D6 (Contd.....)

NAME OF PORT : MADRAS

Equipment/ Craft	Date of purchase/ installation	Designed capacity (specify unit)	Prescribed norm	No. of hrs. available during the year (No. of working days x 24)	No. of hrs. lost due to scheduled/ planned maintenance overhaul during the year	No. of hrs. under major break-down.	Actual equipment available hours (Col.5-6-7)	%avail-ability (Col.8x100) Col.5	Hours actually worked during the year	%utilisation (Col.10x100) Col.5	Reasons for under utilisation
1	2	3	4	5	6	7	8	9	10	11	12
Tug "Venkat"	1969	31 Tons Bollard Pull	64.93%	8760	3048	432	5280	60.27%	1468	16.75	POH from 14.1.86 to 31.3.86 on Slipway.
Tug "Mani"	1977	22.5 Ton	74.5%	8760	1584	48	7128	81.36%	2356	26.89%	
Tug "Palani"	1978	22.5 Ton	74.5%	8760	2040	96	6624	75.61%	2062	23.53%	
Tug 'Amaravathy"	1968	32.5 Ton	64.93%	8760	2040	504	6216	70.95%	2138	24.40%	
Tug "Palar"	1963	12 Ton	64.93%	8760	3888	672	4200	47.94%	1271	14.50%	PHO on slipway from 21.4.85 to 21.8.85
Tug "Pamar"	1963	12	64.93%	8760	3096	96	5568	63.56%	1809	20.65%	PHO on slipway from 25.10.85 to 31.12.85
FLOATING CRANE											
"Vaigai'8	1963	120 Ton	64.93%	4912	380	Nil	4232	92.26%	2522	51.34%	

	Average demand per day (shifts 8 hrs.)	Average supply per day (shifts 8 hrs.)
Tugs	12	11.31
Floating Crans	2	1.84

For The Year : 1985-86

NAME OF PORT : MADRAS

Equipment Craft	Date of purchase/ installation	Designed capacity (specify unit)	Prescribed Norm	No. of hrs. available during the year (No. of working days x 24)	No. of hours ost due to scheduled/ planned maintenance overhauling during the year.	No. of Hrs. under Major break-down.	Actual Equipment available hours Col. 5- Col. 6- Col. 7-	Percentage availability Col. 8 x 100 / 5	Hrs. actually worked during the year. 8/5 x 100	Percentage utilisation Col. 10 x 100 / 5	Reasons for under-utilisation
1	2	3	4	5	6	7	8	9	10	11	12
LOCOS —											
Canadian 8 Nos	1961	600 Tonnes	300 hrs/ months/ unit	1,40,160 hrs.	5,216 hrs.	52,560 hrs.	82,384 hrs.	58.78%	35,619 hrs	25.41%	-
CLW. 8 Nos.	1972	1785 Tonnes									
Diesel Locos	Average Traffic demand per day in 3 shifts / 13.58		Average supply per day in 3 shifts / 13.54								

NAME OF PORT : M A D R A S

Annexe — D-6 (Contd...)
For the year : 1986-86

Equipment Craft	Date of purchase/ installa-tion	Designed capacity (specify unit)	Prescr-ibed norms in hrs	No. of hrs. able during the year (No. of working days x 24)	No. of hours. lost due to schedu-led, planned mainte-nance overhaul during the year	No. of hours under major break-down	Actual equip-ment availa-ble (col. 5-Col. 6-Col. 7)	Percent-age availa-bility col. 5 x 100 Col. 5	Hours actually worked during the year	Percentage utilisation Col. 10 Col. 5 x 100	Reasons for under-Utilisation
1	2	3	4	5	6	7	8	9	10	11	12
GANTRY CRANE 2 Nos.	Dec. 1983	35.5 M.T.	14,646 hrs.	17,232	528 hrs	168 hrs	16,536 hrs.	95.96%	12,410 hrs.	72%	

(Ltd)

ANNEXE-D-6 (Contd..)

NAME OF PORT : KANDLA PORT TRUST
YEAR : 1985-86

No.	Equipments	Wharf cranes Cargo Jetty 26 Nos.	Wharf cranes Bunder Area & Maintnenace Jetty. 4 Nos.	Mobile Cranes 5 Nos.	Forklift Trucks 10 Nos.
1.	Date of Purchase/Installation.	21 1955-59	4 Nos. 1955-59	1 10/79	1 10/77
	Installation.	5 1985-86		2 2/80	3 4/79
		26		1 4/81	3 7/79
				1 5/82	3 9/83
				5	10
2.	Designed capacity	3 T. 20 Nos.	3T. 2 Nos.	36 T 1 No.	4 T 3 Nos.
		6 T 5 Nos.	6 T 1 Nos.	15/22 1 No.	2/3T
		10T 1 No.,	10T 1 No.,	10/12½ 1 No.	
				3 T 2 Nos.	
3.	Prescribed Norm	Availability 85 to 90%	85% to 90%	82% to 85%	75% to 80%
		Utilisation 35%	35%	30%	35%
4.	No. of hours available during the year	2,08,284	34,752	43,440	86,880
5.	No. of hours lost due to Scheduled/planned maintenance overhauling during the year.			10,317	26,480
6.	No. of hours under major break	15,270		2,837	4,391
7.	Actual equipment available	1,63,164	23,832	30,286	56,009
8.	Percentage available	78.3%	68.5%	69.7%	64.5%
9.	Hours actually worked during the year.	75,467	634	6,712	18,751
10.	Percentage utilisation	36.2%	1.8%	15.5%	21.6%
11.	Reason for under utilisation	—	Given separately.	Given separately	Given separately

ANNEXE-D-6 (Contd.)

(Lxii)

YEAR : 1985-86

Name of the Port: **KANDLA**

CARGO HANDLING EQUIPMENT

Reasons for under utilisation:

(1) **Wharf Cranes at Bunder Area and Maintenance Jetty**

Against the availability of 68.6%, the percentage of utilisation is only 1.8%. This is because there is no stream traffic being handled at Kandla Port. The importers and exporters of cargo prefer to have alongside berths to avoid double expenditure on handling by hiring lighterage, tugs, etc. Further, one of these cranes has been fixed at maintenance jetty which is required only for departmental use during repairs and maintenance of various craft at the jetty. Thus the availability and utilisation of this crane should rightly be deleted from that of cargo handling equipments. The crane which is now installed at maintenance jetty was previously at Bunder basin.

(2) **Mobile Cranes**

The utilisation of the mobile cranes works out to 15.5 per cent by the availability is of the order of 69.7 percent. This is purely because of the nature and type of cargo being handled at Kandla Port which does not require constant and continuous use of the mobile cranes. Mostly these mobile cranes are utilised for handling machinery packages or when general caro requiring the use of such crane is available. Further, the utilisation of the mobile cargo handling equipment gets adversely affected when the packaged cargo or steel pipes, ingots, etc. are directly delivered into the trucks/trailor by the ships cranes or wharf cranes. It will be observed from the statement attached hereto that most of the cargo being handled at Kandla are of bulk nature which does not require the use of mobile cranes. However, it is necessary that the minimum number of equipment should be maintained for traffic and departmental use so that general cargo traffic can be attracted and also handled.

(3) **Forklift Trucks**

It will be seen that the utilisation of the forklifts was 21.6% as against the availability of 64.5%. The forklifts are not being utilised to the viable extent as explained in case of mobile cranes.

Further, the forklifts which are available are of capacity ranging from 2.5 tonnes to 4.00 tonnes which can be used only with the packages and other cargo weighing upto 4.00 tonnes. Further, the availability of general cargo requiring the use of mobile equipment is minimum hence the utilisation is also limited. However, minimum number of forklifts requiring for handling general cargo is required to be maintained at the port.

It may be seen from the above that the port has been maintaining only a minimum number of mobile cargo handling equipments which are required for handling general cargo traffic at the Port. The trade at the Port is also allowed to use the mobile cargo handling equipments owned by the private parties in the event of non-availability of the similar type of equipment with the Port. It is stated that there are several such parties owing mobile cranes, forklifts, trailors etc. at the Port.

ANNEXE-D-6 (Contd.)

NAME OF PORT : KANDLA PORT TRUST
Year : 1985—86

No.	Equipment	Shipping Tugs	Harbour Tugs	Pilot—cum—Survey Launch.	General Service Launches.		Mooring Launches.		Fire Boat
1	2	3	4	5	6		7		8
2.	Date of purchase/ Installation.	ST Roopvati 1965 MT Kutch Kesari 1979 MT Girnar 1983	MT Vir 1972 MT Bhadre Shwar. 1982	ML Sara 1972 ML Jogni 1983 ML Flamingo 1983 ML Tapkeshwari 1985	ML Lynda ML Lucie ML Lotus ML Sang ML Varuna ML Toral	1951 (Reconditiond & re-engined in 1977) 1952 —do— 1972 1952 —do— 1977 1954 —do— 1970 1972 1982	ML Sonsaria 1971 ML Ciby 1984 ML Manisha 1984		FF Agnishanti 1964
3.	Designed Capacity	MT Girnar 30T BP 5T BP each MT Kutch Kasari 45T BP ST Roopvati 15T BP		Length ML Jogni 20m. ML Tapkesh—21.0m wari. ML Flamingo 13.7 ML Sara 17.0	Speed 13 Knots/m 15 —do— 15 —do— 12 —do—	Length ML Torql 15.0m ML Sang 12.8" ML Lynda 10.67 ML Lotus 10.67 Lucie 10.67 Varuba 9.14	Speed 10 Knots/m. 8 " 8 " 8 " 8 " 6 "	Length Ciby. Manisha	Pump capacity 9.7m 1600 GPMx2 9.7 @ 175 ft. 9.5 head.
4.	Prescribed norm					—	—		
5	No. of hours available (No. of working days x 24)	26064	17376	30336	52128			26064	8688
6	No. of hours lost due to Scheduled/planned maintenance/overhauling during the year.	4348	3602	7247	15619			4424	24

(Lakh)

Annexe D-6-(Contd.,)

1		3	4	5	6	7	8
7.	No. of hours under major breakdown :						
	a) No. of hours for which no staff provision.	8688	5792	10112	20272	17376	nil
	b) No. of hours for which craft manned.	17376	11584	28224	31856	8688	8688
8.	Actual eqtipment available hours (Column 5-- (Column 6+7+7a)	13028	7982	12977	16237	4264	8664
9.	Percentage availability (Column 8/7(b)x100	74.9%	68.9%	64.2%	50.9%	49.1%	99.7%
10.	Hours actually worked during the year.	6750	1575	2978	6443	1886	462
11	Percentage utilisation (Col. 10/5x100)	25.9%	9.06%	9.80%	12.3%	7.2%	5.3%
11(a)	Percentage utilisation with ref. to col. 7(b)	38.8%	13.6%	14.7%	20.2%	21.7%	5.3%
12.	Reasons for under Utilisation.		Given Separately				

MARINE DEPARTMENT

From the Statement submitted, it will be seen that the percentage availability and utilisation is worked out with regard to number of hours for which the craft was manned, instead of number of hours available, i.e. number of working days x 24. This is necessary, as a number of crafts are not manned round the clock, but are manned in restricted number of shifts taking into account the job requirements.

Reasons for low percentage utilisation of craft:

Shipping Tugs:

Since Kandla is a tidal port, the shipping activity is restricted to a short duration when the number of ships have to be berthed/unberthed at various berths. The Cargo Jetties are in a different location with relation to the oil jetties and, therefore, if two ships have to be berthed on top of high water at the Cargo Jetty as well as the Oil Jetty, it is essential to have minimum two separate tugs. After attending to the shipping operations, there is no other work for the shipping tugs as there is no barge operations in the Port. While the tugs are kept standby, the utilisation can only be increased provided the shipping operations could take place for all the 24 hours.

In this context, extract of para 13 of Chapter — 1 of the Report of the United Nations Conference on Trade and Development on Port Pricing is quite relevant. "Such a situation may result from mistakes in investment planning, from the initial low utilisation of a new investment or from the fact that certain port assets are indivisible. This happens when the minimum size of an asset is greater than that actually required. For example, if two tugs are required to berth a ship, two must be maintained even if used only once each week, since without them the port could not function".

2. **Harbour Tugs:**

Harbour Tugs are maintained for towage of water barge, cargo barge, hopper barge and for towing the Mooring Tender-cum-water Barge for laying or picking up channel marking buoys. In the relevant period under review, the Grab Dredger has been under repairs and, therefore, the hopper barges were also not utilised. The Harbour Tugs are mainly used only for towage of water barge. The harbour tugs are also used in bad weather when it may not be possible to transport pilots by the smaller pilot launches. Since the barge work is not a continuous nature, the utilisation has been low.

3. **Pilot-cum-Survey Launches:**

Since Kandla is a tidal port with a Bar at the entrance, loaded ships can be piloted in only during high water time and similar restrictions exist for ships sailing out of the port. It is, therefore, necessary to have different launches for embarking and disembarking Pilots. Since Kandla has a very large area to be covered for carrying out hydrographic survey, it is necessary to earmark certain launches only for the purpose of hydrographic survey and for collecting other hydraulic data. To carry out velocity observations, collecting samples, etc., the number of launches required is, therefore, much large as individual launches has to be utilised for individual work which is not of a long duration, but has to be done at a restricted period around high water and that too in the day time.

General Purpose Launches:

These launches are maintained to transport men and materials to the different tugs and dredgers and to crafts kept at the moorings. Since the staff of the floating craft has to be changed three times a day, the necessity of transporting maximum number of staff is at the time of the change of shift. In the absence of sufficient number of launches, the port would be incurring a very heavy expenditure on overtime, besides the staff may be put in undue hardships as the train timings are specifically related to the shift timings and there is very little availability of public transport other than the train.

Mooring Launches:

The reason for low percentage utilisation is the same as that of tugs. These launches are used only at the time of mooring/berthing/unberthing and therefore, have to remain idle when there is no shipping. As brought out earliar, since most of the shipping operations take place around high water time, the launches have to be kept ready at the specific time and remain idle after attending to the remaining job.

Fire Float (Agnishanti):

The utilisation of this craft is very low as it is a safety measure to be used only when ther is a fire on the ship or the fire in the jetty area which is handled by the water tenderers ashore and needs additional support from the fire float. Sinch this is as asset maintained and to be used in an emergency, it may be seen that the percentage of availability is very high.

AS regards the prescribed norms, as per the Ministry's directives of fixing the hire charge of floating craft, the crafts are expected to be working at least for 200 days in a year taking into account the dry docking period and programmed routine maintenance period at regular interval.

From the above, it may be seen that floating crafts are expected to be available only for 200 days, out of 365 days, in a year. In view of the above, the percentage availability expected in only 54.8

Annexe-D6 (Contd.)

NAME OF PORT — COCHIN
YEAR 1985 - 86
EQUIPMENT — ELECTRIC CRANES

Name of equipment Port Sl. No.	Date of Purchase.	Designed capacity	Prescribed norms	No. of hours available during the current year. No. of working days x 24	No. of hrs. lost due to scheduled/ planned maintenance/ overhauling the year.	No. of hrs. under major breakdown	Actual equipment available hours. (Col.5-6-7-)	Percentage of availability (Col. 8 x 100) 5	Hrs. actually worked during the year.	Percentage of utilisation (Col. 10 x 100 5	Remarks for low utilisation.
1	2	3	4	5	6	7	8	9	10	11	12
3 Tonne Electric Wharf Crane											
1.—Colby Crane Sl. No. 1	1945	3/10T	Norm utilition 35%	8640	724	190	7726	89.42	1453	16.82	1. The Cochin Port Trust is working on 2 shifts basis instead of 3 shifts.
2. — do —No. 3	1945	do-	norm for availability 90%	8640	664	210	7766	89.88		1594	
3. — do —No. 5	1945	do -		8640	724	143	7773	89.97	1604	18.56	2. Impact of containerisation.
4. — do —No. 7	- do -	- do -		8640	724	238	7678	88.87	1533	17.74	
5. — do —No. 9	- do -	- do -		8640	724	177	7739	89.57	1839	21.28	
6. — do —No. 12	- do -	3 T.		8640	3916	6	4718	54.61	87	1.01	3. Idling of Wharf Cranes for want of Cargo.
7. Southert & Pith No. 2	1959	3 T		8640	724	146	7770	89.93	2044	23.66	
8. — do —No. 6	1959	3 T.		8640	724	155	7761	89.83	1415	16.38	
9. — do —No. 8	- do -	3 T.		8640	724	523	7393	85.57	1490	17.25	
10. — do —No. 11	- do -	3 T.		8640	724	484	7432	86.02	1110	12.85	
11. RABA make No. 18	1959	3 T		8640	724	19	7897	91.40	944	10.93	
12. — do —No. 20	1959	3/10T		8640	662	19	7959	92.12	535	6.19	
13. — do —No. 13	1962	- do -		8640	724	19	7897	91.40	825	9.55	
14. — do —No. 14	- do -	3 T		8640	724	14	7902	91.46	465	5.38	

ANNEXE D-6 (Contd...)

1	2	3	4	5	6	7	(8)	9	10	11	12
15.	— do —No. 15	-do-	do	8640	724	26	7890	91.32	550	6.37	
16.	— do —No. 16	-do-	3/10T	8640	724	305	7611	88.09	921	10.66	
17	— do —No. 17	-do-	3 T	8640	724	51	7865	91.03	787	9.11	
18.	— do —No. 12	-do-	3/10T	8640	662	13	7965	92.19	1179	13.65	
	18 Nos.			155520	16040	2738	136742	87.93	20375	13.10	
Electric Wharf Cranes 1½ T											
1.	Conwansheldom Sl. No. 4-	1938	1½ T	8640	724	34	7882	91.23	772	8.94	
2.	— do —No. 10	-do-	do	8640	724	138	7778	90.02	1479	17.12	
2 Nos.				17280	1448	172	15660	90.63	2251	13.02	
Total for 20 cranes				172800	17488	2910	152402	88.20	22626	13.09	

Name of Port : COCHIN
Year 1985-86
EQUIPMENT — MOBILE CRANES

ANNEXE D-6 (Contd...)

Sl. No.	Name of equipment/ Port Sl.No. of equipment.	Date of purchase/ installation	Designed capacity	Prescribed norm	No. of hrs. available during the year (No. of working days x 24)	No. of hrs. lost due to scheduled/ planned maintenance overhaul during the year	No. of hrs. under major breakdown.	Actual equipment available hours (Col.5-6-7)	Percentage of availability (Col.8x100) Col.5	Hours actually worked during the year	Percentage utilisation (Col.8x100) Col. 5	Reasons for low utilisation
1	2	3	4	5	6	7	8	9	10	11	12	13
	Heavy duty diesel electric Mobile Crane 3 Nos.		17.5 T Mobile duty and 40.8 T on block duty at 3.5 T radius.	Norm prescribed for availability 82 to 85%. Utilisation								The norm of utilisation prescribed by Ministry for Mobile Cranes is 30%. Since Cochin Port is working only in 2 shift the Ministry
1.	Coles endurance HD Crane (Indian) Sl. No. 1	1981	—do—	—do—	8640	240	852	7548	87.36	3274	37.90	advised that the degree of utilisation could be compared awith 2/3 of norm which will come to 20% . As such the present utilisation is above the norm *Since serviced off.
2.	—do— Sl. No. 12	1984	—do—	—do—	8640	240	532	7868	91.06	4040	4676	
3.	Coles Ranger Crane (imported) Sl. No. 11	duty & 32 1969	15 T on Mobile tonne on block duty.		8640	930	1380	6330	73.26	1023	11.84*	
	Total heavy duty cranes 3 Nos.				25920	1410	2764	21746	83.90	8337	32.16%	
	Light duty Mobile Cranes.											
1.	Coles Aeneas (c) Mobile Cranes Sl. No. 2	1983	6/10T at 3.5 radius	Availability 82 to 85% utilisation 30%	8640	862	1772	6006	69.51	2706	31.32	No. 4 Crane withdrawn from service October 85.

1	2	3	4	5	6	7	8	9	10	11	12	13
2.	—do— No. 3	—do—	—do—		8640	964	2110	5566	64.42	2059	23.83	Percentage of utilisat-
3.	—do— No. 9	1968	—do—		8640	1360	2256	5024	58.15	842	9.75	ion comes near the
4.	—do— No. 10	1968	—do—		8640	2598	3274	2768	32.04	651	7.53	norm of 20%.
5.	Coles U.K.	1958	6 T on MObile duty.		4320	100	1444	2776	64.26	255	5.90	
6.	—do— No. 5	1956	—do—		8640	800	1664	6176	71.48	2721	31.50	
7.	—do— No. 8	1958	—do—		8640	1954	1618	5068	58.66	1497	17.33	
	Total for 7 Cranes.				56160	8638	14138	33384	99.44	10731	19.12	
Light duty Mobile Crane.												
1.	Coles U.K. Sl. No. 6	1956	4.5 T at 4.5 n radius.	Availability 82 to 85%	8640	1328	1368	5944	68.80	1043	12.07	No. 7 Crane with- drawn from service
2.	Sl. No. 7	1956	—do—	Utilisation 30%	4320	100	1366	2854	66.06	449	10.40	since 10/85.
	Total for 2 Cranes.				12960	1428	2734	8798	67.89	1490	11.50	
Total for 12 Cranes					95040	11476	19636	63928	67.26	20558	21.63	

+ Since the lifting capacity of these cranes are less, the demand is less.

Name of Port : COCHIN

ANNEXE D-6 (Contd...)

Year 1985-86

EQUIPMENT — FORK LIFT TRUCKS

Name of equipment.	Date of purchase/ installation.	Designed capacity	Prescribed norm	No. of hrs. available during the year (No. of working days x 24)	No. of hrs. lost due to scheduled/ planned maintenance overhaul during the year	No. of hrs. under major breakdown.	Actual equipment available hours (Col.5-6-7)	%age of vailability (Col.8x100) / Col.5	Hours actually worked during the year	%age of utilisation (Col.10x100) / Col.5	Reason for low utilisation
1	2	3	4	5	6	7	8	9	10	11	12
Diesel fork lift 3T —41 Nos. Trucks											FLT No. 19, 21 24 withdrawn &24 the service in 1984
1. Voltas make No. 1	1979	3T at 500 mm Load Centres	Norm for utilisation 35%	8640	4022	786	3832	44.35	1220	14.12	2T F.L. T.No. 27, 28 29 withdrawn from service from October '85.
2. —do— No. 2	1979	3T —do—	Norm for availability 75 to 80%	8640	1516	848	6276	72.64	1854	21.46	
3. —do— No. 3	1979	3T —do-		8640	820	1340	6480	75.00	2071	23.97	
4. —do— No. 4	1979	3T —do—		8640	3140	700	4800	55.56	711	8.23	The %age utilisation shown in Col. 11 is on 3 shift basis. Since Cochin Port is working only two shifts. the Ministry of Shipping & Transport had advertised vide lr. No. DW/DTE-7/83 dt. 20.10.83 that the degree of utilisation for Cochin Port could be compared with 2/3rd of the norm. which will come to 23%. As such the average %age of utilisation of the 41
5. —do— No. 5	1979	3T —do—		8640	1390	1194	6056	70.19	1482	17.15	
6. —do— No. 6	1979	3T —do—		8640	1568	556	6516	75.42	1944	22.50	
7. Voltas yale No. 7	1976	3T		8640	2028	28	6584	76.20	1557	18.02	
8. —do— No. 8	1976	3T		8640	1520	368	6752	78.15	1969	22.79	
9. —do— No. 9	1976	3T		8640	1432	1772	5436	62.92	937	10.84	
10. —do— No. 10	"	"		8640	1688	876	6076	70.32	1955	22.63	
11. —do— No. 11	"	"		8640	2148	928	5564	64.40	1653	19.13	
12. —do— No. 12	"	"		8640	1898	1908	4834	55.95	1285	14.87	
13. —do— No. 13	1983	"		8640	240	588	7812	90.42	3478	40.25	
14. —do— No. 14	"	"		8640	2192	872	5576	64.54	2426	28.08	
15. —do— No. 15	"	"		8640	240	48	8352	96.67	3915	45.21	
16. —do— No. 16	"	"		8640	99	666	7284	84.31	3412	39.49	
17. —do— No. 17	1984	"		8640	786	1374	6480	75.00	2725	31.54	
18. —do— No. 18	"	"		8640	240	1366	7034	81.41	2569	29.73	
19. —do— No. 20	"	"		8640	240	1278	7122	82.43	3853	44.59	
20. Godrej Make NO. 22	1985	"		8640	240	936	7464	86.39	3767	43.60	
21. —do— No. 23	"	"		8640	700	420	7520	87.04	3737	43.25	
22. Voltas No.25	1981	"		8640	1400	244	6996	80.97	2434	28.17	

	2	3	4	5	6	7	8	9	10	11	12
23. —do— No. 26	"	"		8640	2286	570	5784	66.94	2484	28.75	Nos. 3 Tonne FL Truck for 85-86 which works out to 21.57% is in nearer with the norms prescribed by the Ministry.
24. —do— No. 31	"	"		8640	1173	786	6681	77.33	2533	29.32	
25. —do— No. 32	"	"		8640	220	1032	7388	85.51	2973	34.41	
26. Voltas Yale No. 37	1974	"		8640	190	2134	6316	73.10	960	11.11	
27. —do— No. 38	"	"		8640	240	900	7500	86.81	1306	15.12	
28. —do— No. 39	"	"		8640	2704	1040	4896	56.67	1749	20.24	
29. —do— No. 40	"	"		8640	3322	958	4360	50.46	1585	18.34	
30. —do— No. 41	"	"		8640	1452	1972	5216	60.37	1185	17.18	
31. —do— No. 42	"	"		8640	748	1116	6776	78.43	1421	16.45	
32. Godrej No.43	1979	"		8640	240	1140	7260	84.03	1933	22.37	
33. —do— No. 44	"	"		8640	828	2860	4952	57.31	578	6.69	
34. —do— No. 45	"	"		8640	1048	2378	5214	60.35	739	8.55	
35. —do— No. 46	"	"		8640	3744	168	3212	37.18	468	5.42	
36. —do— No. 47	"	"		8640	3140	1136	4364	50.51	534	6.18	
37. —do— No. 48	"	"		8640	1500	1312	5828	67.45	492	5.69	
38. —do— No. 49	"	"		8640	1548	1862	5230	60.53	675	7.81	
39. —do— No. 50	"	"		8640	896	1404	6340	73.38	282	3.26	
40. Voltas No. 51	1981	"		8640	1910	2498	4232	48.98	1476	11.08	
41. —do— No. 52	"	"		8640	1548	2118	4974	57.57	1799	20.82	
Total 41 Nos.		3 Tons Capacity		354240	58875	47996	247369	69.83%	76426	21.57%	

ANNEXE — D6 (Contd...)

1	2	3	4	5	6	7	8	9	10	11	12
Diesel Fork Lift Trucks 2 Tonne Capacity-8 Nos											
1. **Godrej-No. 27**	1969	2 Tonne at 500 mm L.C.		3600	646	300	2654	73.72	165	4.58	Since these 8 trucks are very old and the lifting capacity is only two tonnes, the trade is not preferring these trucks for Traffic operation. Four of these trucks have already been replaced with 3 Tonne trucks during 4/86. The remaining 4 trucks have also been serviced off.
2. **—do— No. 28**	"	"		4320	628	292	3400	78.70	144	3.33	
3. **—do— No. 29**	"	"		4320	120	72	4128	95.56	280	6.48	
4. **—do— No. 30**	"	"		8640	240	536	7864	91.02	529	6.12	
5. **—do— No. 33**	"	"		8640	230	824	7586	87.80	1155	13.37	
6. **—do— No. 34**	"	"		8640	1394	1442	5804	67.18	499	5.78	
7. **—do— No. 35**	"	"		8640	2176	1232	5232	60.55	193	2.23	
8. **—do— No. 36**	"	"		8640	1538	738	6364	73.66	999	11.56	
Total 8 Nos.		2 Tonne Capacity		55440	6972	5436	43032	77.62%	3964	7.15%	
Total F.L.T.	=41 + 8			354240 + 55440	58875 + 6972	47996 + 5436	247369 + 43032		76426 + 3964		
	49			409680	65847	53432	290401	70.88%	80390	19.62%	

ANNEXE — D6 (Contd.....)

NAME OF PORT: COCHIN
YEAR: 1985-1986
Equipment: Tugs & Floating Crane

Sl. No.	Name of Equipment.	Date of purchase	Designed Capacity.	Prescribed norm.	No. of Hrs. available during the current year (No. of working days x 24)	No. of Hrs. lost due to Scheduled/planned maintenance overhauling during the year.	No. of Hrs. under Major breakdown.	Actual equipment available Hrs. (Col. 5-6-7.)	%age availability 8/5 x 100	Hrs. actually worked during the year.	%age of utilisation (Col. 10/5 x 100)	Remarks for low utilisation.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1.	Floating Crane-Periyar	1966	120 Tonnes		7152	384		6768	94.63%	1289	18.02%	The floating crane is working in single shift of 8 Hrs. and the utilisation is subject to the demand of the Trade and other departmental works.
2.	Motor Tug Cochin	1983	Gross Tonnage- 320 T Reg. 96T 2000 BHP		8640	2304	2160	4176	48.33%	2060	23.84%	1. Major breakdown to Port main Engine, Annual Docking and Survey. 2. The Tug operates only to a maximum of 2 shifts (16 Hrs) in a day.

ANNEXE-D-6 (Contd.)

1	2	3	4	5	6	7	8	9	10	11	12
3.	W.T. Kodungallore	1983	30T	8640	1728		7032	81.39	1110½	12.85%	1. Breakdown and repair of No. 2 Generator. 2. Planned maintenance in engine room. 3. Worked only in one shift (8 Hrs) a day.
4.	M. BRISTOW	1976	25 Tonnes Bollard Pull at 440 RPM 1492 BHP at 500 RPM	8640	1440	912	6288	72.78	1332	15.41	1. Annual Docking and Refit. 2. Major Breakdowns 3. Single shift operation
5.	M.T.Shaktan	1968	1400 HP Twin Screw Harbour Tug	8640	640	768	7232	83.70	12 80	14.81	1. Minor breakdown to machineries. 2. Single shift operation.

ANNEXE – D6 (Contd.....)

NAME OF PORT: COCHIN
YEAR: 1985-1986
EQUIPMENT: TRACTORS

Sl. No.	Name of Equipment/ Port Sl. No. of Equipment	Date of Purchase/ installation	Designed Capacity.	Prescribed norm.	No. of hrs. available during the year (No. of working days x 24)	No. of Hrs. lost due to Scheduled/planned maintenance - overhaul during the year	No. of Hrs. under Major breakdown.	Actual equipment available Hrs. (Col. 5-6-7.)	Percentage actually worked during the year	Hrs. actually worked during the year.	Percentage of utilisation (Col. 10/5 100)	Reason for low utilisation.
1	2	3	4	5	6	7	8	9	10	11	12	13
	Heavy Duty Tractors- 3 Nos.											
1.	Ashok Leyland Hippo Sl. No.1	1979	Suitable for handling 30T pay load on Semi-Trailer.	No Prescribed norms for availability & utilisation fixed.	8640	210	2162	6268	72.55%	3369	39.00%	There is no norm prescribed by the Government for the Tractors
2.	Ashok Leyland Beaver Sl.No.2	1981	-do- for 20 T pay load		8640	964	692	6984	80.83%	4298	49.75%	
3.	Ashok Leyland Beaver Sl. No.3	1981	-do-		8640	676	244	7720	89.35%	4724	54.68%	
	Heavy Duty Tractors- 3 Nos.				25920	1850	3098	20972	80.91%	12391	47.80%	

ANNEXE D-6 (Contd...)

1	2	3	4	5	6	7		9	10	11	12	13
	Light Duty Tractors- 5 Nos.											The demand for these light duty Tractors is very little since these Tractors are used only for hauling the light duty Trailers for transporting cotton bales. The quantum of cotton bales handled through this Port has come down and hence the law degree of utility. However, Cochin Port Trust is procuring special low bed trailers for transporting empty containers suitable to be coupled with these 5 tractors and as such it is expected that there would be substantial increase in the utilisation of these tractors.
1	International 444 - Sl.No.1	1980	5 T	No.Prescribed norms	8640	240		8400	97.22%	744	8.61%	
2.	-do- Sl.No.2	1980	"		8640	240		8400	97.22%	1079	12.49%	
3.	-do- Sl.No.3	1980	"		8640	210	1706	6724	77.82%	412	4.77%	
4.	-do- Sl.No.4	1980	"		8640	240	24	8376	96.94%	944	10.93%	
5.	-do- Sl.No.5	1980	"		8640	240		8400	97.22%	481	5.57%	
	Total 5 Nos.				43200	1170	1730	40300	93.29%	3660	8.47%	

Annexe D-6 (contd.)

NAME OF THE PORT : VISAKHAPATNAM PORT TRUST
YEAR : 1985-86

Name of equipment.	Date of purchase/ Installation	Designed Capacity (Specify unit)	Prescribed Norm: Availability Norm hrs.	Prescribed Norm: Utilisation Norms hrs.	No. of hours available during the Yr.(working) days x 24	No.of hrs. lost due to scheduled/ planned/Maintenance/Overhaul during the year.	No. of hrs. under major breakdown	Actual equipment available Hrs. (Col.5-6-7.)	Percentage of availability 8/5x100	Actual working hrs.	Percentage of utilisation Col. 10/5x100	Reasons for under utilisation.
1.	2.	3.	4(a)	4(b)	5.	6.	7.	8.	9.	10.	11.	12
(A) WHARF CRANES												
1. Electric Wharf Crane No. 1	1967	3 Tons.		6505	3000 Hrs.	8568	659	440	7469	87-17	3895	45-46	
2. -do- No. 2	1967	-do-		6505	-do-	8568	836	12	7717	90-10	3731	43-55	
3. -do- No. 3	1967	-do-		6505	-do-	8568	128	56	8384	97-85	4560	53-22	
4. -do- No. 4	1967	-do-		6505	-do-	8568	2321	75	6172	72-04	3104	36-23	
5. -do- No. 5	1967	-do-		6505	-do-	8568	1106	68	7394	86-30	3648	42-58	
6. -do- No. 7	1967	-do-		6505	-do-	8568	171	17	8380	97-81	4561	53-23	
7. -do- No. 9	1934	-do-		6505	-do-	8568	497	861	7210	84-15	1021	11-92	Condemned & decommissioned w.e.f. 10/85
8. -do- No.10	1934	-do-		3252	-do-	4368	37	588	3743	85-69	1181	27-04	-do-
9. -do- No.11	1934	-do-		3252	-do-	4368	42	273	4053	92-79	1224	28-02	-do-
10.-do- No.12	1934	-do-		3252	-do-	4368	134	273	3961	90-68	956	21-89	-do-
11.-do- No.18	1967	-do-		6505	-do-	8568	1209	390	6969	81-34	3268	38-14	
12.-do- No.21	1934	-do-		3252	-do-	4368	198		4170	95-47	165	3-78	Condemned Decommissioned w.e.f. 10/85.

Annexe D-6 (contd.)

1.		2.	3.	4.(a)	4.(b)	5.	6.	7.	8.	9.	10.	11.	12.
13.	Elec. Wharf Crane No. 23	1967	3 Tons.	6505	3000 Hrs.	8568	204	28	8336	97-29	4233	49-40	
14.	—do— 25	1967	—do—	6505	—do—	8568	1277	7	7284	85-01	2752	32-12	Lack of demand and repairs.
15.	—do— 6	1967	6 Tons.	6505	—do—	8568	1103	260	7205	84-09	3985	46-51	
16.	—do— 8	1967	—do—	6505	—do—	8568	421	823	7324	85-48	4092	47-76	
17.	—do— 14	1959	—do—	6505	—do—	8568	41	63	8464	98-79	1232	14-38	
18.	—do— 16	1959	—do—	6505	—do—	8568	54	64	8450	98-62	1660	19-37	Lack of demand.
19.	—do— 28	1967	—do—	6505	—do—	8568	296	—	8272	96-55	921	10-75	Lack of demand
20.	—do— 30	1967	—do—	6505	—do—	8568	314	—	8254	96-34	1675	19-55	—do—
21.	—do— 13	1958	10 Tons.	6505	—do—	8568	171	1	8396	97-99	3078	35-92	
22.	—do— 15	1958	—do—	6505	—do—	8568	312	13	8243	96-21	2668	31-14	Lack of demand.
23.	—do— 19	1975	—do—	6505	—do—	8568	802	17	7749	90-44	4811	56-15	
24.	—do— 20	1975	—do—	6505	—do—	8568	195	25	8348	97-43	5513	64-34	
25.	—do— 29	1975	—do—	6505	—do—	8568	2691	—	5877	68-59	974	11-37	Shifted from Inner Harbour to G.C.B. at Outer Harbour.
26.	—do— 31	1975	—do—	6505	—do—	8568	2064	—	6504	75-91	1175	13-71	—do—
(G)	Gantry Crane No. 31	1982	50 Tons.	6505	—	8568	82	42	8444	98-55	1215	14-18	(Exclusively used for container handling) lack of demand.

Annexe D-6 (contd.)

Name of equip-ment.	Date of purchase/ Instalation	Designed Capacity (Specify unit)	Prescribed Norm Availa-bility Norm	Utili-sation Norm	No.of hrs. available during the Yr.(working) days x 24)	No. of lost due to scheduled/ planned/Main-tenance/Over-haul during the year.	No. of hrs. under major break-down	Actual equip-ment avai-lable Hrs. Col.5-6-7)	Percen-tage of availa-bility 8/5x100	Actual working hrs.	Percen-tage of utilisa-tion Col. 10/5x100	Reasons for un-der uti-lisation.
1	.2.	3.	4(a)	4(b)	5.	6.	7.	8.	9.	10.	11.	12
(B) MOBILE CRANE												
No. 4	1970	10 Tonne	6061	2,500	8616	5864	1248	1504	17.46	664	7.71	Due to Electrical/ Mech. repairs and major breakdown from 7/85 to 3/86.
No. 12	1958	"	6061	2,500	8616	4559	168	3889	45.14	2337	27.12	Due to repairs maintenance etc.
No. 1	1981	25 Tonne	6061	2,500	8616	2049	—	6567	76.22	5400	62.67	
No. 2	1981	"	6061	2,500	8616	4400	—	4216	48.93	2970	34.47	
No. 5	1977	"	6061	2,500	8616	1199	—	7417	86.08	4553	50.52	
No. 15	1955	"	6061	2,500	8616	2136	5032	1448	16.81	791	9.18	Not available for work due to major breakdowns.
No. 6	1982	50 Tonne	6061	2,500	8616	3024	—	5592	64.90	3794	44.03	
No. 3	1981	"	6061	2,500	8616	1118	—	7498	87.02	2689	31.21	
No. 17	1965	35 Tonne	6061	2,500	8616	2241	—	6375	73.99	3337	38.73	
No. 18	1967	45 Tonne	6061	2,500	8616	2288	—	8328	73.44	3345	38.82	

(Lacs)

Annexe D-6 (contd.)

NAME OF THE PORT : VISAKHAPATNAM PORT TRUST
YEAR : 1985-86.

Name of the equipment.	Date of purchase/ Installation	Designed Capacity (Specify unit)	Prescribed Norm Availability Norm hrs.	Utilisation Norms hrs.	No. of hrs. available during the Yr.(working) days x 24)	No.of hrs. lost due to scheduled/ planned/Maintenance/Overhaul during the year.	No. of hrs. under major breakdown	Actual equipment available Hrs. Col.5-(Col.6-7)	Percentage of availability 8/5x100	Actual working hrs.	Percentage of utilisation Col. 10/5x100	Reasons for under utilisation.
1.	2.	3.	4(a)	4(b)	5.	6.	7.	8.	9.	10.	11.	12.
(C) FORK LIFT TRUCKS												
1. Godrej No. Make.												
G. 11	1976	3000 Kgs.	3696	3000	5760	2928	2832	—	—	—	—	Condemned w.e.f. 12/85.
G. 12	1976	3000 Kgs.	3696	3000	5760	2208	2832	768	13.33	—	—	—do—
G. 13	1976	3000 Kgs.	5544	3000	8616	1578	—	7038	81.69	4783	55.51	
G. 14	1976	3000 Kgs.	5544	3000	8616	2069	—	6547	75.99	3607	41.86	
G. 23	1979	3000 Kgs.	5544	3000	8616	1600	—	7016	81.43	2744	31.85	Lack of demand
G. 24	1979	3000 Kgs.	5544	3000	8616	2097	—	6519	75.66	2686	31.17	—do—
G. 25	1979	3000 Kgs.	5544	3000	8616	2104	—	6512	75.80	1040	12.07	—do—
G. 26	1979	3000 Kgs.	5544	3000	8616	4750	528	3338	38.74	784	9.10	Repairs & lack of demand
G. 27	1979	3000 Kgs.	5544	3000	8616	3141	504	4971	57.69	1328	15.41	Major break down.
G. 28	1979	3000 Kgs.	5544	3000	8616	2034	—	6582	76.39	1959	22.63	Lack of demand
G. 29	1979	3000 "	3696	3000	5760	2928	2832	—	—	—	—	Condemned w.e.f. 12/85
G. 30	1979	3000 "	5544	3000	8616	3121	—	5495	63.78	1285	14.91	Lack of demand
G. 54	1976	3000 "	3696	3000	5760	5760	—	—	—	—	—	Condemned w.e.f 12/85
G. 55	1976	3000 "	3696	3000	5760	2928	2832	—	—	—	—	—do—
G. 56	1976	3000 "	5544	3000	8616	2856	600	5160	59.89	2103	24.41	Repairs and lack of demand
G. 57	1976	3000 "	5544	3000	8616	2479	140	5997	69.60	2453	28.47	Repairs and lack of demand
G. 58	1976	3000 "	3696	3000	5760	2928	2832	—	—	—	—	Condemned w.e.f. 12/85
G. 59	1976	3000 "	3696	3000	5760	2928	2832	—	—	—	—	
G. 60	1976	3000 "	5544	3000	8616	1840	—	6776	78.64	2953	34.27	
G. 61	1976	3000 "	5544	3000	8616	2279	—	6337	73.55	2943	34.16	
G. I A	1984	3000 "	5544	3000	8616	1444	—	7172	83.24	4395	51.01	
G. II A	1984	3000 "	5544	3000	8616	3126	—	5490	63.72	3093	35.90	
Voltas V.62	1984	3000 "	5544	3000	8616	3600	744	4272	49.58	3128	36.31	
Voltas V.63	1984	3000 "	5544	3000	8616	1748	—	6868	79.71	4748	55.11	

1	2	3	4(a)	4(b)	5	6	7	8	9	10	11	12
PRC 32	1982	3000 Kgs.	5544	3000	8616	—	—	8568	100.00	—	—	i) Specially procured for handling news print. ii) Lack of demand iii) Now used for other cargo operations after conversion into general fork-lift.
No. CF 1	1982	3000 "	5544	3000	8616	2705	2352	3559	41.31	1468	17.04	Major breakdowns and lack of demand.
No. CF 2	1982	3000 "	5544	3000	8616	2599	—	6017	69.84	2444	28.37	Lack of demand.
Voltas V 33	1979	3000 "	5544	3000	8616	2196	2312	4108	47.68	2824	32.78	
V 34	1979	3000 "	5544	3000	8616	2143	112	6361	73.83	3537	41.05	
V 35	1979	3000 "	5544	3000	8616	2499	—	6117	71.00	3410	39.58	
V 36	1979	3000 "	5544	3000	8616	4912	1152	2552	29.62	1112	12.91	Major breakdown repair and lack of demand.
V 37	1981	3000 "	5544	3000	8616	3139	—	5477	63.57	3175	36.85	
V 38	1981	3000 "	5544	3000	8616	5568	2808	240	2.79	128	1.49	Due to major breakdown repairs.
Voltas V. 39	1981	3000 Kgs.	5544	3000	8616	4294	—	4322	50.16	2975	34.53	
V 40	1981	3000 "	5544	3000	8616	2146	1560	4910	56.99	3495	40.56	
V 41	1981	3000 "	5544	3000	8616	4288	2112	2216	25.72	1816	21.08	Major breakdown and repairs.
V 42	1981	3000 "	5544	3000	8616	6335	2112	169	1.96	168	1.95	—do—
V 43	1981	3000 "	5544	3000	8616	3182	—	5434	63.07	2892	33.57	Repairs/POH
V. 44	1981	3000 "	5544	3000	8616	4234	—	4382	50.86	2302	26.72	Repairs/POH
V. 45	1981	3000 "	5544	3000	8616	5064	3536	16	0.19	16	0.19	Major breakdown/Repairs/POH
V. 46	1981	3000 "	5544	3000	8616	3600	—	5016	58.22	2796	32.45	—
V. 47	1984	3000 "	5544	3000	8616	2028	—	6488	76,46	4152	48.19	
V 50	1986	3000 "	851	557	1320	55	—	1265	95.83	562	42.58	Commended w.e.f. 5.2.86.
V. 51	1986	3000 "	851	557	1320	—	—	1320	100.00	524	39.70	—do—
V. 52	1986	3000 "	851	557	1320	—	—	1320	100.00	582	44.09	—do—
V. 53	1986	3000 "	488	310	1320	—	—	1320	100.00	230	17.42	Commended w.e.f. 28.2.86.

Annexe D-6 (Contd...)

1.	2.	3.	4(a)	4(b)	5.	6.	7.	8.	9.	10:	11.	12
K.T. 1	1979	44.5 Tonnes	—	—	8616	1420	—	7196	83.52	2112	24.51	Lack of demand
K.T. 2	1981	44.5 Tonnes	—	—	8616	1238	—	7378	85:63	1354	15.71	—do—
1. Mini Dozer	1976	0.75 in Metres Bucket	—	—	8616	984	2832	4800	55.71	—	—	condemned during Dec '85
2. Poclain Excavator	1976	1.75 cu. Mts.	—	—	8616	4328	1416	2872	33.33	1120	13.00	POH/Repairs Major Breakdown.
3. Front end loader.	1981	3.5 cu. mts.	—	—	8616	1840	2864	3912	45.40	1538	17.85	—do—
BEML 1												
BEML 2	1981	3.8 cu. mts.	—	—	8616	2016	2112	4488	52.09	2400	27.86	—do— and lack of demand.

(Loooiv)

NAME OF THE PORT : VISAKHAPATNAM PORT TRUST

Year 1985-86

ANNEXE-D-6 (Contd.)

	Name of the equip-ment	Date of purchase/ Insta-lation	Deaigned Capacity (Specify unit)	Prescribed Availa-bility Norm hrs.	Norm Utili-sation Norm hrs.	No. of hrs. avai-lable during the Yr. (work-ing days x 24)	No. of hrs. lost due to scheduled/ planned/ Maintenance/ Overhaul during the year.	No. of hrs. under major break-down.	Actual equip-ment avai-lable Hrs. Col. 5 (Col. 6-7)	Percen-tage of availa-bility 8/5 x 100	Ac-tual of work ing hrs.	Persen-tage utili-sation Col. 10/ 5 x 100	Reasons for un-der uti-lisation.
	1	2	3	4(a)	4(b)	5	6	7	8	9	10	11	12
D.	**FLOATING CRANE**						Out of commision						
	BHEEMA (Diesel self propelling)	1969	150 Tonnes	—	—	8565	—	888	7677	89-60	7440	86.83	—
2.	HANUMAN (Diesel)	1972	50 "	—	—	744	—	—	744	100.00	744	100.00	Commissioned during March/86.

Annexe D-6 (Contd...)

NAME OF THE PORT : VISAKHAPATNAM PORT TRUST

Year 1985-86

Name of the equipment	Date of purchase/ Installation	Deaigned Capacity (Specify unit)	Prescribed Availability Norm hrs.	Norm Utilisation Norm hrs.	No. of hrs. available during the Yr. (working days x 24)	No. of hrs. lost due to scheduled/ planned/ Maintenance/ Overhaul during the year.	No. of hrs. under major breakdown.	Actual equipment available Hrs. Col. 5 (Col. 6-7)	Percentage of availability 8/5 x 100	Actual of working hrs.	Percentage of utilisation Col. 10/ 5 x 100	Reasons for under utilisation.
1	2	3	4(a)	4(b)	5	6	7	8	9	10	11	12
(E) TUGS						**Out of commission**						
1 S.T. Dolphin.	1964	16 Tonne Bollardpull	—	—	8568	—		1464	7104	82.91	2880	33.61
2. S.T. NagarJuna	1964	17 Tonne Bollardpull	—	—	8568	—		—	8565	100.00	8016	93.56
3. M.T. Aruna	1958	2 "	—	—	8568	—		6120	2448	28.57	2016	23.53
4. M.T. Subhadra	1969	2 "	—	—	8568	—		—	8568	100.00	6672	77.87
5. M.T. Aruna	1968 1970	28 "	—	—	8568	—		24	8544	99.72	7320	85.43
6. M.T. Shri	1975	32 "	—	—	8568	—		240	8328	97.20	6384	74.51
7. M.T. Sumati	1976	32 "	—	—	8568	—		1320	7248	84.59	5400	63.03
8. M.T. Dhananjaya	1979	30 "	—	—	8568	—		408	8160	95.24	7800	91.04
9. Sambhavi	1979	32 "	—	—	8568	—		888	7680	89.64	7176	83.75
10. Swarna	1984	30 "	—	—	8568	—		120	8448	98.60	6576	76.75

Note : i) Break up of Major breakdown, scheduled, planned/maintenance/Overhaul are not available and hence shown under out of commission.

ii) Date available in days are convered into Hrs.

iii) No norm is prescribed for floating crafts.

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NAME OF THE PORT : VISAKHAPATNAM PORT TRUST

Year : 1985-86

Name of the equipment.	Date of purchase/ installation.	Designed capacity (Specify Unit)	Prescribed Norm Availability Norm hrs.	Utilisation Norm hrs.	No. of hrs available during the Yr. (Working days x 24)	No. of hrs. lost due to scheduled/ planned/ Maintenance/overhaul during the year.	No. of hrs. under major breakdown. Col. 5-6-7)	Actual equipment availability	Percentage of availability 8/5 ax 100	Actual working hrs.	Percentage of utilisation col. 10/5 x 100	Reasons for under Utilisation
1.	2.	3.	4.(a)	4.(b)	5.	6.	7	8.	9.	10.	11.	12.
(F) **LOCOS**												
1. CLW 1 190 67	1969	600 HP			8760	952	960	6848	78%	4590	52%	
2. CLW 2 190 70	1969	—do—			—	—	—	—	—	—	—	Under break down since 5/85 sent CLW for MOH in 1/86.
3. CLW 3 190 77	1969	—do—			—	—	—	—	—	—	—	Engine failed under major break down from 4/85.
4. CLW 4 190 82	1969	—do—			8760	940	1440	5980	68%	4230	48%	
5. CLW 5 191 34	1970	700 HP			8760	960	1230	6570	75%	4120	47%	
6. CIW 6 191 35	1970	—do—			—	—	—	—	—	—	—	Condemned and surveyed
7. CLW 7 191 36	1970	—do—			8760	3112	960	4688	53%	2970	33.9%	Under MOH from 1/86 to 10/86.

Annexe D—6 (Contd.....)

1.	2.	3.	4 (a)	4 (b)	5.	6.	7.	8.	9.	10.	11.	12.
8.	CLW 8											
	191 38 1970	700 HP			8760	945	1200	6615	75%	4410	50%	
9.	CLW 9											
	191 62 1971	700 HP			8760	950	2880	4930	56%	3150	35.9%	Under break down from 8/85 to 12/85.
10.	CLW 10											
	191 71 1972	700 HP			—	—	—	—	—	—	—	Condemned and surveyed.
11.	CLW 11											
	191 72 1970	700 HP			—	—	—	—	—	—	—	Under break down since 4/85 sent to CLW for MOH on 1/86.
12.	CLW 14											
	192 63 1974	700 HP			8760	940	1220	6600	75%	4400	50%	
13.	CLW 15											
	192 64 1974	700 HP			8760	952	1322	6486	74%	4320	49%	
14.	DLW 10											
	VPT 10 1981	1380 HP			8760	4580	72	4252	48%	2964	33.8%	Sent to S.E. Railway from MOH on 10/85 to 4/86.
15.	DLW 12											
	VPT 12 1984	1380			8760	950	940	6870	78%	4950	56.5%	
16.	VSP 1 1985	1380			8760	945	955	6860	78%	4938	56%	
17.	VSP 2 1985	1380 HP			8760	949	968	6843	78%	4910	56%	
18.	DLW 8											
	VPT 14 15.2.86	1380			42 days 1008	420	—	588	58%	399	40%	

NAME OF THE PORT : **VISAKHAPATNAM PORT TRUST**

Year 1985-86

Name of the equipment.	Date of purchase/ Installation.	Designed capacity (Specify Unit)	Prescribed Norm = Availability =Norm-hrs.	Utilisation Norm-hrs.	No. of hrs available during the Yr. (Working days x 24)	No. of hrs. lost due to scheduled/ planned/ Mainten-ance/over-haul during the year.	No. of hrs. under major breakdown.	Actual equipment available (Col. 5-6-7)	Percentage of availability 8/5 x 100	Actual working hrs.	Percentage of utilisation col. 10/5 x 100	Reasons for under Utilisation
1.	2.	3.	4.(a)	4.(b)	5.	6.	7.	8.	9.	10	11.	12.
OHC LOCOS												
GE Locos												
OHC 1	March 66	63 tonne capacity hauling capacity =1500 tonne	Working hours in a year =8,640 hrs.		8640 hrs.	Planned maintenance 1152 hrs. P.O.H. 480 hrs.	1844 hrs.	5164 hrs.	59.76	3004	34.76	Due to short supply of racks from mines as against norm of 8 racks per day.
OHC 2	—do—	—do—	Maint. hours in a year 1152 POH 480 hrs.		8640	1632 hrs.	3648	3360	38.88	1556	18.00	
OHC 3	—do—	—do—			8640	1632	5320	1688	19.53	600	6.94	
OHC 4	—do—	—do—			8640	1632	2200	4808	55.64	2448	28.33	
OHC 5	—do—	—do—	—		—	—	—	—	—	—	—	Under major break down for want of power pack.
OHC 6	—do—	—do—			8640	1632	2550	4458	51.59	2031	26.63	
VPT 9	9.4.81	1380 HP 3,500 tonne hauling cap.	M.H. 1152 POH 1200		8640	2352	Nil	6288	72.77	1810	20.94	
VPT 11	17.7.83	—do—	—do—		8640	2352	Nil	6288	72.77	1650	20.94	

Annexe D—6 (Contd....)

PERFORMANCE OF DREDGERS FOR 1985-86

PORT : VISAKHAPATNAM PORT TRUST

Name of the dredger	Year of purchase installation	Designed capacity	Norms fixed for dredging work in days.	No. of dredging days	Non dredging days due to Mech. repairs	Overhaul	Sundays & holidays	Qty. dredged in thousand cu. mts.	Target	Reasons for poor performance.
(H) OTHERS										
1. M.D. Varaha	1977	2,500 cu. mts. nopper capacity 8,900 cu. mts./ hr. (Dredge pump)	220	166	84 1/3	30	67	927.14	924	No short fall.
2. S.D. Visakha	1958	1614 cu. mts. hopper capacity 8070 cu. mts. of dredge pump	220	152 1/3	24 1/3	99 2/3	67	917.02	627	No short fall.
3. D.D. Waltair	1958	80 cu. mts. Bucket capacity 25 cu. mts. in rock	220	32 2/3	44	—	67	3.76	25.95	Declared surplus during 12 85 and age of the dredger and non-operation 2nd and 3rd shift.
4. G.D. Mudlark	1948	12 cu mts. bucket capacity	220	63 1/3	105	—	67	2.30	8.8	Non operation of 2nd and 3rd shift and age of the dredger
5. G.H.D. Durga	1973	500 cu. mts. hopper cap. Grab bucket capacity in cu mts per hr. 71 42	220	185 1/3	11	85 1/3	67	84.03	86	Prolonged overhaul

Annexe D—6 (Contd....)

MORMUGAO PORT TRUST
PERFORMANCE AND UTILISATION OF HANDLING EQUIPMENT DURING 1985-86

Equipment Name No.	Date of purchase/ installation	Designed capacity	Prescribed norm	No. of hrs. available (No. of working days x 24)	No. of hrs. lost due to scheduled planned maintenance/ overhaul	No. of hrs. under major breakdown	Actual equipment available hrs. (Col.5—6—7)	% availability Col. (8) x 100 / Col. (5)	Hrs. actually worked	% utilisation Col. (10)x100 / Col. (5)
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
Wharf Cranes:										
A	1933	3 Tons	1. Yearly Laid up period: 10%	8544	104	3408	5032	59	672	7.9
B	1933	3 Tons	to 12% of total time in a year.	8544	1920**	24	6600	77	146	1.7
C	1933	3 Tons	2. Availability 88% to 90%.	8544	—*	824	7720	90	228	2.7
D	1933	3 Tons	3. Yearly utilisation 35% (3000	8544	—*	368	8176	96	113	1.3
E	1935	3 Tons	hrs.)	8544	—*	1968	6576	77	1355	15.9
F	1935	3 Tons		8544	—*	—	8544	100	2423	28.4
G	1935	3 Tons		8544	—*	144	8400	98	2335	27.3
H	1935	3 Tons		8544	—*	728	7816	91	1621	19.0
I	1935	3 to 6 Tons		8544	—*	—	8544	100	2713	31.8
1	1967	3 to 6 Tons		8544	—*	1760	6784	79	3729	43.6
2	1967	3 Tons		8544	824	1304	6416	75	4127	48.3
3	1967	3 Tons		8544	—*	872	7672	90	4251	49.8
4	1967	3 Tons		8544	1744**	504	6296	74	3417	40.0
5	1967	3 Tons		8544	24	376	8144	95	4633	54.2
6	1967	3 Tons		8544	696	344	7504	88	3529	41.3
			Average	8544	354	842	7348	86	2353	27.5

* Maintenance is undertaken while cranes are free. Here separate period is not indicated.
** Major overhauling carried out.

ANNEXE-D-6 (Contd..)

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11
MOBILE CRANES										
1.	1967	12 Tons	1. Yearly laid up period:—	5712*	24	656	5032	88	519	9.1
2.	1972	30 Tons	15% to 18%	5696*		504	5192	91	525	9.2
			2. Availability 82% to 85%							
			3. Yearly utilization (30%) (2500 hrs.)							
		Average		5704	12	580	5112	90	522	9.2
DREDGERS			Utilisation							
G.D. SAL	1976	250 m^3 hopper capacity	2500 hrs. per annum	4380	660	1176	2544	58	2117	48
S.D. ZUARI	1965	1500 m^3 hopper capacity	2500 hrs. per annum	4380	896	1060	2424	55	2225	51
			Average	4380	776	1118	2484	57	2171	50
TUGS										
Mocambique	1956	10 Tons Bollard pull	Availability on 24 hrs. basis	4464**	—	495	3969	90	562	12.6
Dona Paula	1961	20 Tons Bollard pull	Age in year No. of hrs.	4380**	—	1068	3312	76	253	5.8
Tiracol	1978	30 Tons Bollard pull	2-5 6888	4752**	—	227	4525	95	672	14.1
Chapora	1980	30 Tons Bollard pull	6-12 6528	6178**	372	60	5746	93	1026	16.6
Betul	1982	30 Tons Bollard pull	13-25 5688	6480**	—	310	6170	95	1832	28.3
			Average	5250	74	432	4744	90	869	16.6

* No. of hrs. are worked out on the basis of availability of drivers.

** No. of hrs. based on shifts manned in rotation.

ANNEXE-D-6 (Contd..)

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
FORKLIFTS										
5		3 Tons	1. Yearly laid up period	1480	—	1382	98	7	98	6.6
6	1970	3 Tons	20% to 25%*	1480	—	1125	355	24	248	16.8
7	1970	2 Tons		1480	—	1259	221	15	83	6.6
8	1970	2 Tons	2. Availability 75% to 85%	1688	—	1381	307	18	142	8.4
9	1970	2 Tons		1480	—	1400	—	—	—	—
10	1970	2 Tons	3. Yearly utilization 35%	1480	—	1254	226	15	126	8.5
11	1984	2 Tons	(3500 hrs.)	3792	—	—	3792	100	2268	59.8
12	1984	3 Tons	**NB:**	4008	—	—	4008	100	2137	53.3
13	1984	2 Tons	*It may go up to 35% if in case of	3584	—	—	3584	100	1447	40.4
14	1984	3 Tons	handling abbrassive/corrosive	3584	—	—	3584	100	1023	28.5
15	1985	3 Tons	material	1032	—	—	1032	100	245	23.7
16	1985	3 Tons		1240	—	—	1240	100	617	59.8
17	1985	3 Tons		824	—	—	824	100	189	22.9
18	1985	3 Tons		824	—	—	824	100	214	26.0
19	1985	3 Tons		824	—	—	824	100	170	20.6
20	1985	3 Tons		824	—	—	824	100	148	18.0
21	1986	3 Tons		208	—	—	208	100	175	84.1
			Average	1775	—	464	1291	74	549	31.3

Figures in Col. 5 pertaining to forklifts are adjusted on the basis of availability of drivers vide para 5 of the note.

ANNEXE-D-6 (Contd..)

1.	2.	3	4.	5.	6.	7.	8.	9.	10.	11
LAUNCHES										
M.L. Julia	1958	105 HP		4968	852	127	3989	80	1366	27.5
M.L. Sadhana	1965	105 HP		5202	—	1283	3916	75	994	19.1
M.L. Surya	1967	210 HP		4596	732	656	3208	70	774	16.8
M.L. Calangute	1974	85 HP		4536	—	1164	3372	74	292	6.4
M.L. Colva-II	1982	2x235 HP		5996	3048*	116	2032	39	481	9.3
	Average			4898	926	669	3303	67	781	15.9
LOCOMOTIVES										
LD1	1960	AXEL LOAD 10 TONS. 204 HP		8760	—	4120	4640	53	3856	44.0
LD2	1960	—do—		8760	—	1528	7232	83	6696	76.4
LD3	1960	—do—		8760	—	1098	7664	87	6920	79.0
			Average	8760	—	2248	6512	74	5824	66.5

Major overhauling carried out.

(xciv)

Annexe D-6 (contd.)

MORMUGAO PORT TRUST

EXPLANATORY NOTE ON THE UTILISATION OF EQUIPMENTS

WHARF CRANES

The port has a total of 15 wharf cranes out of which 13 cranes are of 3 tonnes capacity and 2 are of 6 tonnes capacity. Out of 13 wharf cranes of 3 tonnes capacity, 9 cranes (A to I) are over 50 years old. With considerable difficulty these old cranes are maintained and kept operational. There is great difficulty in procurement of parts for the cranes.

2. The utilisation of these cranes is also linked with the volume, nature of cargo and design of vessels. During the year 1985-86, a total traffic of 4 lakh tonnes has been handled by these cranes as against 5 lakh tonnes that was handled during the previous year. In the recent past, it has been found that some ships calling at this port have wider beam and these cranes cannot be used for loading cargo due to inadequate length of boom. In such cases, ships derricks have been employed. While 10:10:8 cranes were being supplied for traffic use in the three shifts, the same has now been reduced to 8:8:6. these figures are exceeded occassionally depending upon demand.

3. The cranes are placed on the quay covering berths nos. 1 to 5. Though the cranes are erected on continuous track space limitations confirm the use of 4 cranes A to D to berths 1 & 2 only, which are not usable for cargo handling. These are shallow drafted berths fit for use by Port crafts only. Thus the use of these cranes is quite limited. In this context, it is to be noted that we have proposed to dispose off 6 of the old 3 ton cranes and replace them with only ten ton capacity cranes.

4. Berth No. 3 is functionally better than berth 1 & 2 and has a draft of 7.0 metres. This berth is used for shallow drafted vessels or at the stages when a vessels draft is limited. The cranes adjunct to A to D are also thus utilised to a limited extent only. Berth nos. 4 & 5 are deep drafted and are thus highly utilised for all kinds of cargo. The cranes at these berths are highly utilised.

5. Seasonal variation in traffic has a direct bearing on the utilisation of the cranes. Mormugao Port idles hy[illegible]oscopic cargo like fertilizers. During the four months of monson season (June to September), the overall traffic is limited. Handling of most kinds of cargo becomes difficult due to rain.

II. **MOBILE CRANES**

The utilisation of mobile cranes is very limited in this port in the absence of cargo suitable to be handled by these cranes. However, the port maintained these two cranes to meet the emergent needs of the trade and also of the port, as such facilities are not immediately available nearby on hire as in the case of Bombay. The utilisation of these cranes is expected to increase if a proposal for handling containers materialises.

III. **DREDGERS**

The two dredgers work for a single extended shift of 12 hours every day. Moreover, these dredgers are not deployed for dredging work during the monsoon period (say June to August) in view of the fact that any dredging carried out during this period is infructuous due to suspended silt. However, this period is being utilised for dry docking and other major repairs.

IV. **TUGS**

For handling large sized vessels upto 305 m. LOT at MOHP berth no.9, the port has to deploy 4 tugs. The number of in and out harbour movements was 915 and the number of shifting movements requiring tug assistance was 318 during 1985-86. 4 tugs are normally available during the 12 day shift hours and 2 only during the 12 night shift hours. Whenever night navigation is expected, additional required number of tugs are deployed. The availability of tugs as indicated in the statement pertains to the period worked on above basis.

V. **FORKLIFTS**

Out of 21 forklifts shown in the statement, 6 nos. have been scrapped when new forklifts were acquired. Since the availability of forklifts drivers is limited, the use of forklifts is made wherever it is extremely necessary. Presently 8 forklifts drivers are available and they are normally adjusted in three shifts in the ratio of 3:2:3. Additional demand is met from O.T. Action is being taken to recruit more forklift drivers so that the utilisation of the same would be increased. In view of this, the availability of forklifts is worked out accordingly. The utilisation of fork lifts is expected to go up sharply when the transit shed at the new berth no. 10 is commenced in January 1987.

VI. **GENERAL**

A comprehensive computarised maintenance management system is being developed for port's mechanical ore handling plant and for efective maintenance of wharf cranes, mobile cranes, dredgers, tugs and forklifts, it is proposed to computerise the maintenance of these items. Accordingly, data for discussion during the Productivity Action Group are collected in a manner which would facilitate smooth computerisation of the maintenance management function.

Annexe D-6-(Contd..)

UTILIZATION OF CARGO HANDLING EQUIPMENTS

Name of Port: NEW MANGALORE PORT TRUST YEAR: 1985-86

Description of the equipment		Date of purchase/ installation	Designed (specify unit)	Prescribed norm	No. of hrs. available during the year (No. of working daysx24) (in hrs.)	No. of hrs. lost due to scheduled planned main tenance over-haul during the yr. (in hrs.)	No. of hrs. under major break down (in hrs.)
1.		2.	3.	4.	5.	6.	7.
A. **WHARF CRANES:**							
1. 'Jeesop' ELL Wharf cranes		1976	ELL Wharf Crane — 3T	300 hrs. per crane per yr.	6888		716
	No. 1						
	No. 2	1976	-do-	-do-	6888	—	3124
-do-	No. 3	1976	-do-	-do-	6888	—	1608
2. 'Jessop ELL Wharf Crane		1976	do-	Crane — 6T	6888		
3. 'BRAITHWAITE' Portal level luffing crane			Braithwaite portal level luffing crane-10T				
-do-	No. 1	1978	-do-	-do-	6888	—	288
-do-	No. 2	1979	-do-	-do-	6888	—	2376
-do-	No. 3	1979	-do-	-do-	6888		4848
-do-	No. 4	1979	-do-	-do-	6888		576
B. **MOBILE CRANES**							
1. Tata P&H 655 B Crawler mounted crane	1 No.	1967	30 T Crawler crane with showel drag line can shell and hook attachment	2500 hrs. per crane per year.	6888	—	864
2. Tata I&H 320 Crawler mounted crane	1 No.	1973	20 T crawler crane with hook attachment	2500 hrs. per cr. per yr.	6888	—	4584
3. Coles crane tyre mounted	1 No.	1969	5 T	-do-	6888		2112
4. -do-	1 No.	1975	7.5T Blocked capacity 12.5 T	-do-	6888	—	578

ANNEXE D:6 (Contd...)

1	2	3	4	5	6	7	8	9
5.	-do-	1 No.	1980	7.5 T Blocked capacity 12.5 T	-do-	6888	—	1126
6.	-do-	1 No.	1981	16 T Blocked capacity 31.75 T @ 3 m radius	do-	6888	—	1200
C. FORK LIFT TRUCKS								
1	Godrej 'DCY'	1 No.	1971	2T Diesel powered FLT with hook attachment	3000 hrs. per FLT per yr	6888	—	1680
	-do-	1 No.	1971	-do-	-do-	6888	—	1128
2.	VOLTAS 'YALE'	1 No.	1971	-do- 3T	-do-	6888	—	—
	-do-	1 No.	1971	-do- 3T	-do-	6888	—	648
	-do-	1 No.	1971	-do- 3T	-do-	6888	—	4656
H. OTHERS:								
	Pay Loaders	2 Nos.	1976	1.5 cu.m. bucket cap. Diesel Engine powered front end loader	Auction taken for disposal as the model is cut moded.			

UTILIZATION OF CARGO HANDLING EQUIPMENTS

Name of Port: NEW MANGALORE PORT TRUST YEAR. 1985-86

Annexe-D-6 (Contd..)

Actual equipment available hours (5-6-7) in hours	% availability (8/5x100)	Hrs. actually worked during the year (in Hrs.)	% Utilisation (10/5x100)	Reasons for under utilisation
8.	9.	10.	11.	12.
6172	89.61 (88 to 90%)	545	7.91 (35%)	The utilisation figures are given based on 3 shift basis. Actually, the Port is functioning in two shifts. In case the Port Works in 3 shifts, the utilisation figures will proportionately increase.
3764	54.65 (88 to 90%)	409	5.94 (35%)	The reasons for low utilisation of each type of equipment are given below:
5280	76.66 (88 to 90%)	485	7.04 (35%)	**Wharf Cranes:**
6888	100.00 (88 to 90%)	302	4.38 (35%)	1) The users are permitted to use the ship's derricks for loading/unloading of cargo. Only when the ship's derricks are out of order Port Wharf cranes are requisitioned.
6600	95.82 (88 to 90%)	576	8.36 (35%)	
4512	65.51 (88 to 90%)	408	5.92 (35%)	2) The track rails are worn out and movement of these cranes are posing a broblem. Some times even when requisitioned, the port is not in a Position to spare the services of cranes at
2040	29.62 (88 to 90%)	23	0.33 (35%)	
6312	91.64 (88 to 90%)	298	4.33 (35%)	3) The wharf cranes are mostly used as a service equipment as wharf cranes are absolutely essential in the berths.
6024	87.46 (82 to 85%)	286	4.15 (30%)	
2304	33.45 (82 to 85%)	614	8.91 (30%)	**Mobile Cranes:**
4776	69.34 82 to 85%	718	10.42 (30%)	We have permitted the users to use their private cranes in the stackyard, for loading and unloading as we were not able to meet the demand of the users. A large no. of private cranes are working for handling of granite blocks and wooden logs. However, heavier capacity cranes to handle contrainers has to be procured by the Port.
6310	91.61 (82 to 85%)	986	14.31 (30%)	
5762	83.65 (82 to 85%)	690	10.02 (30%)	
5688	82.58 (82 to 85%)	402	5.84 (30%)	
5208	75.61 (75 to 80%)	5	0.07 (35%)	
5760	83.62 (75 to 80%)	93	1.35 (35%)	**Forklifts:**
6888	100% (75 to 80%)	1052	15.27 (35%)	In this Port cargoes are transported by lorries and the forklifts are not being used intensively like in other Ports. Therefore, only a minimum number of forklifts are maintained.
6240	92.59 (75 to 80%)	505	7.33 (35%)	
2232	32.40 (75 to 80%)	130	1.89 (35%)	

Note: Percentage indicated in brackets under columns 9 & 11 are the norms fixed by the Ministry.

NEW MANGALORE PORT **Annex D-6 (Contd.)**

SUGGESTIONS

Almost all the cranes are of 10-15 years old and some of them are outdated models. It is better to dispose off these old and procure modern cranes which will reduce the down time period and maintenance expenditure.

We have to go in for atleast one or two container handling cranes also. The Port has handled 1803 Containers in 1985-86 with the available heavy duty cranes which are not suitable for this purpose. But for more efficient handling and to meet the future demand in container handling the Port has to procure cranes suitable to handle 20' and 40' containers, and also for heavy lifts and granite blocks.

The hoppers with automatic bagging plant for handling urea and DOP require replacements.

Marine loading arms may be provided to oil jetty.

ANNEXE D—6

NOTE ON UTILISATION AND MODERNISATION OF CARGO HANDLING EQUIPMENTS AT TUTICORIN PORT

1. The following is the list of cargo handling equipment available at Tuticorin Port.

1.	**Wharf Cranes**		
	(i) 3 T	....	3 Nos.
	(ii) 6 T	....	2 Nos.
	(iii) 10 T (Heavy lift crane)	....	1 No.
	(iv) 10 T grab crane (4T net)	....	4 Nos.
2.	Forklift Trucks	....	18 Nos.
3.	Front End Loaders 2.29 Cu.m. capacity	....	2 Nos.
4.	**Locomotives**		
	(i) Tata Loco — 500 T	....	2 Nos.
	(ii) Ventra Loco — 1500 T	....	2 Nos.
5	**Mobile Cranes**		
	(i) Tata P & H 25T • 5M	....	1 No.
	(ii) Tata P & H 75T • 3.5M	....	3 Nos.
	(iii) Coles 10T • 3M	....	2 Nos.
	(iv) Marshall Demag 12T • 2.5M	....	1 No.
	(v) Coles Port Tower Crane 36T • 3.5M	....	1 No.

WHARF CRANES

The ship derricks are available free of cost to the Stevedoring agents for loading and unloading operations. Hence the wharf cranes are taken on hire only when the ship derricks fail or to supplement the loading and unloading operations. More than 80% of general cargo are directly loaded or unloaded from the wharf, thereby keeping the utility of cargo handling equipment to the minimum. It is for this reason in the two additional berths recently constructed, no wharf cranes have been provided instead only a mobile crane (coles tower endurance crane) has been provided. This can also be used for handling general cargo in other places also.

Regarding the utilisation of 6T cranes, its utility was initially low as the hire charge for this crane was Rs. 450/- per shift whereas the hire charges for 3T crane is Rs. 180/- per shift. As the normal sling load is less than 3T, the Shipping Agents were reluctant to use the 6T crane in view of the higher hire charges. As a trial measure, the hire charges for the 6T crane was reduced to be on per with 3T crane. By this, the utilisation of 6T crane has gone up from 678 hours for the 12 months of last year to 2728 hours for the corresponding 12 months this year. The increase is almost 400%.

Regarding the 10T hook crane, this is the only heavy lift wharf crane available in the port. Eventhough the handling of heavy packages at wharf is occasional, this is an essential requirement.

Regarding the use of grab crane, these were mainly used for unloading of coal for Thermal Plant and Industrial Units. Consequent to the commissioning of the coal jetty in North Breakwater, the coal vessels carrying thermal coal are now unloaded at the mechanised coal jetty. Only when the industrial coal ships are to be handled, these grab cranes are used.

FORKLIFT TRUCKS

About 80% of the general cargo are directly loaded or unloaded at the wharf from the lorries. Hence the stacking of cargo at the transit shed is minimum. Moreover the FLT is not included in the cargo handling gang as in the case of Madras. However, the peak hour demand is 10 to 11 at the maximum. Moreover, the FLTs have to be stationed at VOC wharf, additional berths and also in the minor port (Zone B).

MOBILE CRANES

The Tata P & H cranes were purchased during the project stage and were used for construction purposes. These are now being used whenever additional construction works are taken up and also for handling containers at wharf. The truck mounted coles tower crane and marshall crane are generally used for handling packages at Zone A and Zone B.

LOCOMOTIVES

The locomotives are used for shunting railway wagons carrying cement, industrial coal, fertiliser etc. The utility mainly depends upon the movement of cargo by rail.

FRONT END LOADERS:

The Front End Loaders are used for loading industrial coal that is unloaded at wharf by the grab cranes. The utility depends upon the import of coal for industrial units in and around Tuticorin.

CONTAINER HANDLING EQUIPMENTS

As per the decision of Government of India, 4 of the existing major ports have been developed into a full-fledged container terminals viz. Bombay and Cochin on the west coast, Madras and Haldia on the east coast. The unique location of Tuticorin at the southern tip of India on the direct sea route to the east and to the west promises a good future for being developed as an ideal transhipment port. To compete with the developed ports like Singapore and Colombo, which are functioning effectively as transhipment ports, with large container terminals and sophisticated handling equipments, the Tuticorin Port should also be developed with matching handling equipment. With this in view, the Directive Group constituted by the Ministry has also recommended that all other ports should have minimum infrastructural facilities to handle containers.

The UNCTAD Secretariat has carried-out an extension survey of containerisation and its impact on ports in developing countries. These studies have confirmed that in the ports of developing countries, container services handle between 20 to 60% of the gaeneral cargo. Specialised container terminals to handle fully cellular container ships cannot be financially justified until a satisfactory level of traffic is reached. If the investment is to be justified, a container throughput of about 30000 to 50000 TEUs must be expected in the first three years of operation. Till then the Port should either provide limited facilities for container feeder ships or adopt transitional multipurpose terminals.

In view of the limited container traffic, it will not be economical to provide for a full-fledged container terminal at Tuticorin Port at present. Hence a multipurpose berth will have to be planned with the provision of conversion into full-fledged container terminal at a later date. With this in view, the two additional berths recently constructed are kept as plain berths without any wharf cranes, transit sheds etc., so that to serve as a multi-purpose berth. With the increasing traffic in container the Port has provided facilities for handling reefer containers. Necessary electrical installations with 440 : 220 ratings are made available with stand-by generator for use of the reefer containers. This is necessary to improve the marine export through this Port.

The container traffic in Tuticorin Port is on the increase during the last 4 years as seen below:

1982-83	...	718 TEUs
1983-84	...	1072 TEUs
1984-85	...	1233 TEUs
1985-86	...	3186 TEUs
4/86 to 9/86 (For 6 months)	...	3238 TEUs

At present these containers are handled by the crawler mounted Tata P & H cranes and trailers. This is a very slow process involving extra labour and it is not recommended as a normal practice. The 20' empty containers are handled by the existing 3T Forklift Trucks by providing extra counter weights. This is also not recommended as a normal practice.

There is a provision of Rs. 32.00 lakhs for the procurement of container handling equipment for this Port during 7th Five Year Plan and this amount is quite inadequate. It is therefore proposed to procure one top lift truck for handling containers. As per the master plan studies also (made for the period 1985 to 2000 A.D.) it has been recommended that for the year 1985-1986, 2 Nos. top lift trucks (1 No.-21T and 1 No.-31T) have to be procured. Against the recommendation of two, it is proposed to procure one No. of top lift truck of 31T capacity.

The norms fixed by the Ministry for these wharf cranes and FLTs are 300 hours per month. Assuming that the handling operations are done all the days in the year, the average working per day per machine works out to 10 to 12 hours. This means every crane and every FLT has to work daily 10 to 12 hours which is difficult to achieve. This is mainly because the berth occupancy itself is about 62%. When the berth is not occupied, there is no operation of loading or unloading at Tuticorin Port.

Moreover at Tuticorin 80% of general cargo is directly delivered on to the lorries. It is, therefore, felt that the norms fixed is very much on the higher side. Eventhough the utility is low, we cannot completely dispose these cranes, as these cranes are required whenever the derrick fails or to supplement the derrick operation. It is, therefore, proposed that the crane charges may be included in the cargo related service charges, so that these equipments are made available free of cost as done in the case of ship derricks. This will ensure more utility and meaningful utilisation of the life period of the cargo handling equipments.

Annexe-D-6 (Contd..)

STATEMENT SHOWING THE UTILISATION OF EQUIPMENT

Name of Port: TUTICORIN

Year: 1985-86

Sl. No.	Description	Total number available	No. of units in working condition			No. of units demanded by Traffic			No. of units supplied			Remarks
			I	II	III	I	II	III	I	II	III	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1.	WHARF CRANE 3T to 10T including 4 Nos. Grab	10	10	9	9	4	4	4	4	4	4	Though more number of units are in working condition, the traffic demand is only a minimum which depends on the seasonal arrival of ships, type of cargo, etc.
2.	FORK LIFT TRUCKS 3T	18	16	16	16	10	10	10	10	10	10	
3.	FRONT END LOADER 25 Cu. m.	2	2	2	1	1	1	1	1	1	1	
4.	LOCOMOTIVES 500T—2Nos. 1500T—2Nos.	4	3	3	3	1	1	1	1	1	1	
5.	MOBILE CRANE 12T to 75T	8	7	7	7	1	1	1	1	1	1	

ANNEXE D—6 (Contd....)

PERFORMANCES AND UTILISATION OF EQUIPMENTS

NAME OF PORT : TUTICORIN

YEAR : 1985-86

Description	Date of purchase/ installation.	Designed capacity	Prescribed norm	No. of hours. available during the year. No. of working days 124.	No. of hours lost due to scheduled/ planned maintenance/ overhaul.	Major break-down hours.	Available hours 5-(6+7)	% availability 8/5x100	Actually worked Hours.	% age utilisation. 10/5 x 100	Reasons for under utilisation
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
A.1. Wharf Cranes 3—3	1980	3T at 23M	3600	8688	219.05	26.15	8442.40	97.18	1026.25	11.81	The ship derricks are available free of cost to the Stevedoring Agents for loading and unloading operations. Hence the Wharf Cranes are taken on hire only when the ship derricks fail or to supplement the loading and unlaoding operations. More than 80% of the general cargo are directly loaded or unloaded from the Wharf, there by keeping the utility of cargo handling equipment to the minimum.
2. Wharf Cranes 3—4	1980	3T at 23M	3600	8688	233.00	739.05	7715.55	88.81	1629.50	18.76	
3. Wharf Cranes 3—5	1980	3T at 23M	3600	8688	329.10	95.00	8263.50	95.12	1430.50	16.47	
4. Wharf Cranes 6—1	1980	6T at 23M	3600	8688	325.50	321.50	8040.20	92.55	1016.05	11.70	
5. Wharf Cranes 6—2	1980	6T at 23M	3600	8688	246.40	166.35	8274.45	95.24	1470.25	16.92	
6. Wharf Cranes 10—1	1977	10T at 23M	3600	8688	346.45	—	8341.15	96.00	41.00	0.47	This is the only heavy lift wharf crane available in the Port. Eventhough the handling of heavy packages at wharf is occasional, this is an essential requirement.

	2	3	4	5	6	7	8	9	10	11	12
7. Wharf Crane Grab—1	1979	10T/4T net at 23M	3600	8688	84.30	1314.55	7288.35	83.89	150.05	1.73	Regarding the use of grab crane, these were mainly used for unloading of coal for Thermal Plant and Industrial Units. Consequent to the commissioning of the coal jetty, the coal uessels carrying thermal coal are now unloaded at the mechanised coal jetty. Only when the industrial coal ships are to be handled, these grab cranes are used.
8. Wharf Crane Grab—2	1979	10T/4T net at 23M	3600	8688	107.55	20.45	8559.20	98.52	339.55	3.91	
9. Wharf Crane Grab—3	1979	10T/4T net at 23M	3600	8688	83.30	895.50	7708.40	88.73	298.30	3.44	
10. Wharf Crane Grab—4	1979	10T/4T net at 23M	3600	8688	104.45	20.35	8562.40	98.56	207.00	2.38	

ANNEXE D—6 (Contd....)

PERFORMANCE AND UTILISATION OF EQUIPMENTS

NAME OF PORT : TUTICORIN

YEAR : 1985-86

Description	Date of purchase/ installation.	Designed capacity	Prescribed norm	No. of hours. available during the year. No. of working days 124.	No. of hours lost due to scheduled/ planned maintenance/ overhaul.	Major break-down hours.	Available hours 5-(6+7)	% availability 8/5x100	Actually worked Hours.	% age utilisation.	Reasons for under utilisation.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
B. MOBILE CRANE											
1. TATA P&H 995 ALC—T 1	1966	25T at 5M	3000	8688	28.12	493.55	8165.50	93.99	321.10	3.70	These cranes were purchased during the project stage and were used for construction purposes. These are now being used whenever additional construction works are taken up and also for handling containers
2. TATA P&H 995 ALC—T 2	1966	75T at 3M	3000	8688	1488.00	0.00	7200.00	82.87	29.45	0.34	
3. TATA P&H 955 ALC—T 3	1966	75T at 3M	3000	8688	5842.30	1323.10	1522.20	17.52	82.35	0.95	
4. TATA P&H 955 ALC—T 4	1909	75T at 3M	3000	8688	14.0	314.45	8659.15	99.67	462.50	5.35	
5. PORT TOWER CRANE-COLLS	1984	36T at 3.5M	3000	8688	2.00	32.50	86.53.10	99.60	203.55	2.36	This crane was procured for use at additional berth where there is no wharf crane. This crane is also used for handling packages at wharf.
6. COLES-TYRE MOUNTED I	1963	12T at 2.5M	3000	8688	4.00	10.00	8674.00	99.84	360.30	4.15	These 3 cranes are mobile cranes used for handling general cargo packages at Zone A and Zone B.
7. COLES-TYRE MOUNTED II	1963	12T at 2.5M	3000	8688	0.00	108.30	8579.30	98.75	134.30	1.55	
8. DEMAG-V-72	1981	12T at 2.5M	3000	8688	5.10	—	8684.50	99.56	401.50	4.63	

ANNEXE—D6 (Contd....)

PERFORMANCES AND UTILISATION OF EQUIPMENTS

NAME OF PORT : TUTICORIN YEAR : 1985-86

Description	Date of purchase/ installation.	Designed capacity	Prescribed norm	No. of hours. available during the year. No. of working days 124.	No. of hours lost due to scheduled/ planned maintenance/ overhaul.	Major break-down hours.	Available hours 5-(6+7)	% availability 8/5x100	Actually worked Hours.	% age utilisation 10/5x100	Reasons for under utilisation
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
PORT LIFT TRUCKS—1	1972	3T at 0.5M	3600	8688	35.55	719.15	7952.50	91.30	226.10	2.60	about 80 percent of the general cargo are directly loaded or unloaded at the Wharf. Hence, the stacking of cargo at the transit shed/wharf is minimum. Moreover, the Forklift Trucks is not included in the cargo handling gang as in the case of Madras. However the peak hour demand is 10 to 11 at the maximum. Moreover, these Forklift Trucks have to be stationed at VOC Wharf, additional berth and also in the Minor Port (Zone 'B')
PORT LIFT TRUCKS—2	1972	3T at 0.5M	3600	8688	29.05	317.30	8341.25	96.01	248.50	2.86	
PORT LIFT TRUCKS—3	1972	3T at 0.5M	3600	8688	45.55	280.00	8362.05	96.25	396.45	4.57	
PORT LIFT TRUCKS—4	1972	3T at 0.5M	3600	8688	127.45	1723.40	6836.35	78.69	721.00	8.30	
PORT LIFT TRUCKS—5	1972	3T at 0.5M	3600	8688	86.50	176.25	8424.45	96.97	301.55	3.48	
PORT LIFT TRUCKS—6	1972	3T at 0.5M	3600	8688	45.55	248.10	8394.05	96.62	318.35	3.67	
PORT LIFT TRUCKS—7	1972	3T at 0.5M	3600	8688	115.10	1278.20	7294.30	83.96	846.35	9.74	
PORT LIFT TRUCKS—8	1972	3T at 0.5M	3600	8688	83.55	419.15	8184.50	94.21	454.55	5.24	
PORT LIFT TRUCKS—9	1972	3T at 0.5M	3600	8688	64.10	614.55	8008.55	92.18	402.15	4.65	
PORT LIFT TRUCKS—10	1972	3T at 0.5M	3600	8688	59.00	181.45	8447.15	97.23	427.55	4.93	
PORT LIFT TRUCKS—11	1972	3T at 0.5M	3600	8688	44.00	557.45	8086.15	93.07	398.55	4.59	
PORT LIFT TRUCKS—12	1972	3T at 0.5M	3600	8688	141.05	120.25	8426.30	96.99	839.30	9.67	
PORT LIFT TRUCKS—13	1979	3T at 0.5M	3600	8688	39.45	1311.45	7336.30	84.44	197.50	2.28	
PORT LIFT TRUCKS—14	1979	3T at 0.5M	3600	8688	80.00	84.50	8523.10	98.10	468.20	5.39	
PORT LIFT TRUCKS—15	1979	3T at 0.5M	3600	8688	81.50	481.25	8124.45	93.52	608.40	7.01	
PORT LIFT TRUCKS—16	1979	3T at 0.5M	3600	8688	59.30	28.45	8599.45	98.98	442.20	5.09	
PORT LIFT TRUCKS—17	1979	3T at 0.5M	3600	8688	50.55	173.10	8463.55	97.42	352.30	4.06	
PORT LIFT TRUCKS—18	1979	3T at 0.5M	3600	8688	73.40	983.00	7631.20	87.84	373.30	4.30	

ANNEXE-D-6 (Contd.)

PERFORMANCE AND UTILIZATION OF EQUIPMENT

Name of Port: Tuticorin **Year 1985-1986**

Description	Date of purchase/ installation.	Designed capacity	Prescribed norm	No. of hrs. available during the year (No. of working days x 24)	No. of hours lost due to scheduled/planned maintenance/ overhaul.	Major break down hours	Available hours 5-(6+7)	%Availability 8/5 X 100	Actually worked hours	% of utilisation 10/5 X 100	Reason for under utilisation
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
F. LOCOMOTIVES											
TATA LOCO — 1	1971	500T	3000	8688	7.30	16.00	8664.30	99.73	12.30	0.14	The locomotives are used for shunting railway wagons carrying cement, fertilisers etc. The utility mainly depends upon the movement of cargo by rail.
TATA LOCO — 2	1971	500T	3000	8688	7.00	—	8681.00	99.92	80.35	0.93	
VENTRA LOCO	1982	1500T	3000	8688	62.45	4372.15	4253.00	48.95	279.05	3.21	
VENTRA LOCO	1982	1500T	3000	8688	99.10	153.40	8435.10	97.09	620.10	7.14	
H. FRONT END LOADER											
TERKI — 72-21 FEL-3	1979	2.3 cum. (Bucket)	3600	8688	55.40	1663.30	6968.50	80.21	421.20	4.85	These two loaders are used for loading industrial coal that is unloaded at the Wharf by the grab cranes. The utility depends upon the import of coal for the industrial units in and around Tuticorin.
TERKI — 72-21 FEL-4	1979	2.3 Cum (Bucket)	3600	8688	90.00	1952.50	5645.10	76.49	532.05	6.12	

ANNEXE -D-6 (Contd..)

PERFORMANCE AND UTILIZATION OF PORT EQUIPMENT

FLOATING CHARTS

Name of Port: Tuticorin **Year 1985-1986**

Description	Date of Purchase/ installa-	Designed capacity	Prescri- bed norm	No. of hours available (No. of working days I 3/2/1 shifts 8)	Schedu- led/pl- anned mainten- ance/ overhaul hours.	Major break down hours	Actual Equip- ment available Hours. 5-(6+7)	%age availabilty 8/5x100	Acually worked Hours.	%age utilisation 10/5x100	Reasons for under utilisation.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
E. FLOATING CRAFTS											
1. M.T. Kamaraj	1981	30TBP	Not applicable	4736	5	—	4731	99.89	1978	41.76	Pilotage operation have been done from 06.00 hrs. to 18.00 hrs. since there is no night pilot' age operations.
2. M.T. Rajaji	1982	30TBP	-do-	7104	17	—	7087	99.76	932	13.12	
3. M.T. Porunat	1982	8/TBP	-do-	2368	1269	—	1099	46.41	78	3.29	Being as a stand by tug in the place of High powerd Tugs.
4. K.V. Vaduci.	1969	21220BHP	-do-	7104	671	—	6433	90.55	1815	25.55	
5. M.T. Veerapanitan	1963	21214BHP	-do-	7104	3917	—	3187	44.86	1062	14.85	
6. M.T. Mannar (Repowered during 1962)	1954	21132BHP	-do-	7104	591	—	6513	91.68	1530	21.54	Movement of Traffic have come down at
7. M.L. Bharathi	1979	11490BHP	-do-	2368	2064	—	304	12.84	—	—	Zone 'B' hence the
8. M.L. Jeralin	1967	21165BHP	-do-	4736	1295	—	3441	72.66	171	3.61	Tugs are under utilised.
9. M.L. Cholan	1984	21336BHP	-do-	2368	266	—	2102	88.77	790	33.36	Pilotage operation have
10. M.L. Veura V. (w.e.f.12.5 195)	1985	21336BHP	-do-	2368	173	—	2195	92.69	664	28.04	been dons from 06.00 Hrs. to 18.00 hrs. since
11. M.L. Veera Charan	1970	11165BHP	-do-	4736	1184	—	3552	75.00	928	19.59	there is no night pilot-
12. A.B. Anbu	1975	1153.9BHP	-do-	7104	833	—	6271	88.27	626	8.81	age operations.
13. M.B. Aasi	1975	1153.9BHP	-do-	7104	137	—	6967	98.07	718	10.11	
14. M.B. Thambra Parant	1966	100T	-do-	2368	1788	—	580	24.49	120	5.07	For want of water scar-
15. W.B. Vaigot	1965	100T	-do-	2368	—	—	2368	100%	510	21.54	city servicing can not be given to the Ports/Ships users.

ANNEXE D - 6 (Contd.. ')

PARADIP PORT TRUST
AVAILABILITY UTILISATION OF EQUIPMENTS AT PARADIP PORT

Availability and utilisation of equipment during 1985 - 1986

									O T H E R S	
	Particulars	Wharf Crane	Mobile Crane	Forklift Truck	Locos	Tugs	Pay Loader	Track shovel	Buldozer	Tata 668 Crane:	Pay Loader
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1.	Date of Purchase/ Installation:	1977 = 3 nos. 1984 = 1 no.	1964 = 2 no. 1976 = 1 no. 1977 = 2 nos. 1981 = 1 no.	1975 = 6 no. 1976 = 3 nos. 1977 = 3 no. 1980 = 2 no.	1975 = 1 no. 1976 = 1 no. 1977 = 1 no. 1981 = 1 no.	1970 = 1 no. 1974 = 1 no. 1982 = 1 no.	1980 = 1 no. 1976 = 1 no.	1985 = 1 no.	1980 = 1 no.	1982 = 1 no.	1984 = 1 no.
2.	Designed Capacity:	13.1. M.T. at 21.34 Mtrs. each.	31.75 MT. = 1 no. 12.5 MT at 3.05 Mtrs. = 5 Nos.	3 Ton at 500 MM each	57.84 MT. (Distributed to 3 axles) = 4 Nos. 126 MT (distributed to 6 axles) = 1 no.	1335 BHP 18 T. Pollard = 2 nos Pollard 1275 X 2 BHP 30 Ton Pallard = 1 no.	3.8 Cum. and 1.5 Cum	1.3 Cum	275 H.P.	13.72 M.T.	3.8 Cum.
3.	Pres. Norms in % age :	85-88	82-85	65-80	—	—	—	—	—	—	—
	(i) Availability.										
	(ii) Utilisation :	35	30	35	—	—	—	—	—	—	—
4.	No. of Hrs. Available	35040	52560	122640	43680	21408	17520	5219	4858	3841	4855.5
5.	No. of Hrs. lost due to Schedule/planned maintenance :	1679.5	1535	3444	1424		783	1883	84		
6.	No. of Hrs. under Major B/D :	2487	19261	34501	19672		2255		1740		
7.	Actual Equipment Available Hrs.	30873.5	31764	84695	22584	20025	14482	3336	3034	2372	3588.5
8.	Percentage of Availability :	88.11	6043	69.06	51.70	93.54	82.70	62.92	62.45	61.75	73.91

(1)	(2.)	(3.)	(4.)	(5.)	(6.)	(7.)	(8.)	(9.)	(10.)	(11.)
9. Hrs. actually Worked	9010.5	5759.5	20150	12258.5	1609	5397	1262	1744	686	2658.5
10. Percentage of Utilisation	25.71	10.98	16.43	28.06	7.51	30.80	24.18	35.90	17.86	54.76
11. Reasons for under under Utilisation	Wharf Cranes are generally utilised for handling chrome Ore and bulk Fertilizer besides these are used on handling Coal when Ships' derricks do not work. Utilisation below norm was due to less demand of the equipments.	The Mobile Cranes are used for handling Iron & Steel, CARE Cargo brought in by LASH Vessels, etc. Less utilisation of these equipments was mainly due to poor arrival of these Cargoes.	These equipments are utilised for handling Cargoes like CARE, Fertilizer & Sugar in bagges. The poor arrival of these Cargoes has resulted in poor demand of these equipments.	Less utilisation of Locos was due to inadequate rake arrivals at the Port.	Less utilisation of Tugs was due to less demand for these equipments.	The demand of payloaders was adequately met during the year 1985-86. The utilisation of these equipments is expected to go up in the current year with the movement of more Coal through this Port.		These equipments were engaged for Project work. The Utilisation of these equipments are satisfactory with respect of demand		

ANNEXE D-7
(Para 4.4.8)

STATEMENT - I
YEAR: 1985-86

(α)

EQUIPMENT : WHARF CRANES ELECTRIC

No.	PORT	TOTAL ITEMS OF EQUIPMENT	NO. OF HOURS AVAILABLE (NO. OF WORKING DAYS X 24)	ACTUAL EQUIPMENT AVAILABLE HOURS	AVAILABILITY % COL. 5 x 100 / COL.4	HOURS ACTUALLY WORKED DURING YEAR	UTILISATION COL. 7 x 100 / COL. 4	UTILISATION COL. 7 x 100 / COL.5
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	BOMBAY	100	8,61,200	7,06,686	82.1	2,13,424	24.8	30.2
	CALCUTTA	73	6,57,456	4,62,192	70.0	2,25,507	34.0	48.8
	HALDIA	—	—	—	—	—	—	—
	MADRAS	40	3,72,360	3,26,096	87.6	1,53,927	41.3	47.2
	KANDLA	26	2,08,284	1,63,164	78.3	75,467	36.2	46.3
	COCHIN***	20	1,29,600	1,14,302	88.2	22,626	17.5	19.8
	VIZAG	27	2,14,536	1,92,752	89.8	71,316	33.2	37.0
	MORMUGAO	15	1,28,160	1,10,220	86.0	35,295	27.5	32.0
	NEW III MANGALORE	8	41,328	31,176	75.4	2,760		8.9
	TUTICORIN	10	86,880	81,196	95.5	7,609	8.8	9.4
	PARADIP	4	35,040	30,874	88.1	9,011	25.7	29.2

*** Adjusted on 2 shift basis. [[[Not adjusted for two shift working.

ANNEXE D-7
(Para 4.4.8)

STATEMENT - 1
YEAR: 1985-86

(cxi)

EQUIPMENT : WHARF CRANES ELECTRIC

No.	PORT	TOTAL ITEMS OF EQUIPMENT	NO. OF HOURS AVAILABLE (NO. OF WORKING DAYS X 24)	ACTUAL EQUIPMENT AVAILABLE HOURS	AVAILABILITY % COL. 5 x 100 COL.4	HOURS ACTUALLY WORKED DURING YEAR	UTILISATION COL. 7 x 100 COL. 4	UTILISATION COL. 7 x 100 COL.5
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	BOMBAY	48	4,05,504	3,72,466	91.85	66,865	16.49	18.0
	CALCUTTA							
	HALDIA							
	MADRAS							
	COCHIN							
	VIZAG							
	MORMUGAO							
	NEW MANGALORE							
	TUTICORIN							
	PARADIP							

ANNEXE D-7
(Para 4.4.8)

STATEMENT - 1
YEAR: 1985-86

EQUIPMENT : MOBILE CRANES

No.	PORT	TOTAL ITEMS OF EQUIPMENT	NO. OF HOURS AVAILABLE (NO. OF WORKING DAYS X 24)	ACTUAL EQUIPMENT AVAILABLE HOURS	AVAILABILITY % COL. 5 x 100 COL.4	HOURS ACTUALLY WORKED DURING YEAR	UTILISATION COL. 7 x 100 COL. 4	UTILISATION COL. 7 x 100 COL.5
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	BOMBAY	50	4,22,400	2,46,400	58.3	1,29,692	30.7	52.7
	CALCUTTA	36	3,66,304	1,68,184	63.0	1,28,188	48.0	76.2
	HALDIA ***	5	14,000	9,800	70.0	9,200	65.7	93.9
	MADRAS	13	1,46,064	1,09,008	74.6	45,861	31.4	42.1
	KANDLA	5	43,440	30,286	69.7	6,712	15.5	22.2
	COCHIN ‖‖	12	71,280	47,946	67.3	20,552	28.8	42.9
	VIZAG	10	86,160	50,834	59.0	29,680	34.4	58.4
	MORMUGAO	2	11,408	10,224	90.0	1,044	9.2	10.2
	NEW †† MANGALORE	6	30,996	23,148	74.7	3,696	11.9	16.0
	TUTICORIN	8	69,504	60,138	86.5	1,995	2.9	3.3
	PARADIP	6	52,560	31,764	60.4	5,760	11.0	18.1

*** On one shift basis; ‖‖ Adjusted on two shift basis; †† Not adjusted for two shift basis.

ANNEXE D-7 (Contd.)

(cxiii)

STATEMENT - III
YEAR: 1985-86

EQUIPMENT : FORKLIFT TRUCKS

No.	PORT	TOTAL ITEMS OF EQUIPMENT	NO. OF HOURS AVAILABLE (NO. OF WORKING DAYS X 24)	ACTUAL EQUIPMENT AVAILABLE HOURS	AVAILABILITY % COL. 5 x 100 COL.4	HOURS ACTUALLY WORKED DURING YEAR	UTILISATION COL. 7 x 100 COL. 4	UTILISATION COL. 7 x 100 COL.5
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	BOMBAY	51	4,34,928	3,03,064	69.7	1,47,784	34.0	48.8
	CALCUTTA	62	4,38,856	2,31,604	53.0	1,58,646	36.0	68.5
	HALDIA***	9	25,200	16,380	65.0	15,490	61.5	94.6
	MADRAS	64	5,90,808	4,66,104	78.9	2,43,081	41.1	52.2
	KANDLA	10	86,880	56,009	64.5	18,751	21.6	33.5
	COCHIN {{{	49	3,07,260	2,17,800	70.9	80,390	26.2	36.9
	VIZAG	46	3,47,160	1,84,035	53.0	86,658	25.0	47.1
	MORMUGAO	17	29,835	21,947	74.0	9,333	31.5	42.5
	NEW £££ MANGALORE	5	25,830	19,746	76.4	1,785	6.9	9.0
	TUTICORIN	18	1,56,384	1,46,046	93.4	8,023	5.1	5.5
	PARADIP	14	1,22,640		69.1	20,150	16.4	23.8

*** On one shift basis; {{{ Adjusted on two shift basis; £££ Not adjusted for two shift basis.

ANNEXE D-7 (Contd.)

STATEMENT - IV

YEAR: 1985-86

EQUIPMENT : SHIPPING TUGS

No.	PORT	TOTAL ITEMS OF EQUIPMENT	NO. OF HOURS AVAILABLE (NO. OF WORKING DAYS X 24)	ACTUAL EQUIPMENT AVAILABLE HOURS	AVAILABILITY % COL. 5 x 100 / COL.4	HOURS ACTUALLY WORKED DURING YEAR	UTILISATION COL. 7 x 100 / COL. 4	UTILISATION COL. 7 x 100 / COL.5
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	BOMBAY***	9	2,232	1,641	73.5	N.A.	I	N.A.
	CALCUTTA	12	92,352	49,744	53.9	N.A.	N.A.	N.A.
	HALDIA ***	5	42,000	31,500	75.0	17,500	41.6	52.6
	MADRAS	6	52,560	35,016	66.6	11,104	21.1	31.7
	KANDLA	3	25,064	13,028	50.0	6,750	25.9	51.8
	COCHIN	4	25,920	18,546	83.7	5,783	22.3	31.2
	VIZAG	8	68,544	57,981	84.6	51,550	75.2	88.9
	MORMUGAO		2,61,250	23,720	90.0	4,345	16.6	18.3
	NEW MANGALORE							
	TUTICORIN	3	14,208	12,917	90.0	2,988	21.0	23.1
	PARADIP	3	21,408	20,025	93.5	1,609	7.5	8.0

*** Column 4 & 5 denote No. of days *** No night Navigation, figures for 12 hours only.

ANNEXE D-7 (Contd.)

STATEMENT - IV(a)

YEAR: 1985-86

EQUIPMENT : DOCK TUGS (Indira Dock)

No.	PORT	TOTAL ITEMS OF EQUIPMENT	NO. OF HOURS AVAILABLE (NO. OF WORKING DAYS X 24)	ACTUAL EQUIPMENT AVAILABLE HOURS	AVAILABILITY % COL. 5 x 100 / COL.4	HOURS ACTUALLY WORKED DURING YEAR	UTILISATION COL. 7 x 100 / COL. 4	UTILISATION COL. 7 x 100 / COL.5
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	BOMBAY***	8	2,384	1,848	77.5	N.A.	N.A.	N.A.
	CALCUTTA							
	HALDIA							
	MADRAS							
	KANDLA							
	COCHIN							
	VIZAG							
	MORMUGAO							
	NEW MANGALORE							
	TUTICORIN							
	PARADIP							

*** Columns 4 & 5 denote NO. of days.

ANNEXE D-7 (Contd.)

STATEMENT - IV(b)

YEAR: 1985-86

EQUIPMENT : DOCK TUGS (For towing barges)

No.	PORT	TOTAL ITEMS OF EQUIPMENT	NO. OF HOURS AVAILABLE (NO. OF WORKING DAYS X 24)	ACTUAL EQUIPMENT AVAILABLE HOURS	AVAILABILITY % COL. 5 x 100 / COL.4	HOURS ACTUALLY WORKED DURING YEAR	UTILISATION COL. 7 x 100 / COL. 4	UTILISATION COL. 7 x 100 / COL.5
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	BOMBAY***	9	2,585	1,885	72.9	N.A.	N.A.	N.A.
	CALCUTTA							
	HALDIA							
	MADRAS							
	KANDLA	3	17,376	7,982	45.9	1,575	9.1	19.7
	COCHIN							
	VIZAG	2	17,136	17,112	99.9	8,688	50.7	50.8
	MORMUGAO							
	NEW MANGALORE							
	TUTICORIN	3	21,312	16,133	75.7	4,407	20.7	27.3
	PARADIP							

*** Columns 4 & 5 denote No. of days.

ANNEXE D-7 (Contd.)

STATEMENT - V

YEAR: 1985-86

EQUIPMENT : FLOATING CRANES

No.	PORT	TOTAL ITEMS OF EQUIPMENT	NO. OF HOURS AVAILABLE (NO. OF WORKING DAYS X 24)	ACTUAL EQUIPMENT AVAILABLE HOURS	AVAILABILITY % COL. 5 x 100 / COL.4	HOURS ACTUALLY WORKED DURING YEAR	UTILISATION COL. 7 x 100 / COL. 4	UTILISATION COL. 7 x 100 / COL.5
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	BOMBAY***	2	555	380	68.5	N.A.	N.A.	N.A.
	CALCUTTA	3	26,280	12,111	46.1	3,846	14.6	31.8
	HALDIA	—	—	—	—	—	—	—
	MADRAS ●●●	1	4,912	4,532	92.3	2,522	51.3	53.6
	KANDLA							
	COCHIN	1	5,364	5,076	94.6	1,289	24.0	25.4
	VIZAG	2	9,309	8,421	90.5	8,184	87.9	97.2
	MORMUGAO							
	NEW MANGALORE							
	TUTICORIN							
	PARADIP							

*** Columns 4 & 5 denote No. of days ●●● Adjusted for two shift working.

ANNEXE D-7 (Contd.)

STATEMENT - VI

YEAR: 1985-86

EQUIPMENT : LOCOS (Diesel)

No.	PORT	TOTAL ITEMS OF EQUIPMENT	NO. OF HOURS AVAILABLE (NO. OF WORKING DAYS X 24)	ACTUAL EQUIPMENT AVAILABLE HOURS	AVAILABILITY % COL. 5 x 100 / COL.4	HOURS ACTUALLY WORKED DURING YEAR	UTILISATION COL. 7 x 100 / COL. 4	UTILISATION COL. 7 x 100 / COL.5
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	BOMBAY	20	1,75,200	77,707	44.4	62,731	35.8	80.7
	CALCUTTA	23	2,01,480	81,848	40.6	N.A.	N.A.	N.A.
	HALDIA	13	1,09,200	65,240	59.7	56,240	51.5	86.2
	MADRAS	16	1,40,160	82,384	58.8	35,619	25.4	42.2
	KANDLA	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	COCHIN***							
	VIZAG	21	1,75,166	1,06,194	60.6	63,450	36.2	59.7
	MORMUGAO	3	26,280	19,536	74.0	17,472	66.5	89.4
	NEW MANGALORE	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	TUTICORIN	4	34,752	30,033	86.4	992	2.9	3.3
	PARADIP	5	43,680	22,584	51.7	12,259	28.1	54.3

*** Operated by Railways.

ANNEXE D-7 (Contd.)

STATEMENT - VI(a)

YEAR: 1985-86

EQUIPMENT : TRACTORS

No.	PORT	TOTAL ITEMS OF EQUIPMENT	NO. OF HOURS AVAILABLE (NO. OF WORKING DAYS X 24)	ACTUAL EQUIPMENT AVAILABLE HOURS	AVAILABILITY % COL. 5 x 100 COL.4	HOURS ACTUALLY WORKED DURING YEAR	UTILISATION COL. 7 x 100 COL. 4	UTILISATION COL. 7 x 100 COL.5
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	BOMBAY							
	CALCUTTA							
	HALDIA							
	MADRAS	19	1,63,704	1,58,244	96.6	1,19,232	72.8	75.3
	KANDLA							
	COCHIN***	8	51,840	45,9	88.4	16,051	31.0	34.9
	VIZAG							
	MORMUGAO							
	NEW MANGALORE							
	TUTICORIN							
	PARADIP							

*** Adjusted for two shift basis.

ANNEXE D-7 (Contd.)

STATEMENT - VI(b)

YEAR: 1985-86

EQUIPMENT : FRONT END LOADERS

No.	PORT	TOTAL ITEMS OF EQUIPMENT	NO. OF HOURS AVAILABLE (NO. OF WORKING DAYS X 24)	ACTUAL EQUIPMENT AVAILABLE HOURS	AVAILABILITY % COL. 5 x 100 COL.4	HOURS ACTUALLY WORKED DURING YEAR	UTILISATION COL. 7 x 100 COL. 4	UTILISATION COL. 7 x 100 COL.5
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	BOMBAY							
	CALCUTTA							
	HALDIA							
	MADRAS							
	KANDLA							
	COCHIN							
	VIZAG	2	17,232	8,400	48.7	3,938	22.9	46.9
	MORMUGAO							
	NEW MANGALORE	2 (Condemned)						
	TUTICORIN	2	17,376	13,614	78.3	953	5.5	7.0
	PARADIP	3	22,376	18,071	80.8	8,056	36.0	44.6

(contd)

STATEMENT - VII
YEAR: 1985-86

EQUIPMENT : WHARF SIDE GANTRIES

No.	PORT	TOTAL ITEMS OF EQUIPMENT	NO. OF HOURS AVAILABLE (NO. OF WORKING DAYS X 24)	ACTUAL EQUIPMENT AVAILABLE HOURS	AVAILABILITY % COL. 5 x 100 COL.4	HOURS ACTUALLY WORKED DURING YEAR	UTILISATION COL. 7 x 100 COL. 4	UTILISATION COL. 7 x 100 COL.5
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	BOMBAY	2	9,192	9,078	98.8	627	6.8	6.9
	CALCUTTA	—	—	—	—	—	—	—
	HALDIA***	1	8,400	7,812	93.0	4,536	54.0	58.1
	MADRAS	2	17,232	16,536	96.0	12,410	72.0	75.0
	KANDLA							
	COCHIN							
	VIZAG							
	MORMUGAO							
	NEW MANGALORE							
	TUTICORIN							
	PARADIP							

*** On one shift basis.

(contd)

EQUIPMENT : RUBBER TYRED GANTRY CRANES

STATEMENT - VII(a)
YEAR: 1985-86

No.	PORT	TOTAL ITEMS OF EQUIPMENT	NO. OF HOURS AVAILABLE (NO. OF WORKING DAYS X 24)	ACTUAL EQUIPMENT AVAILABLE HOURS	AVAILABILITY % COL. 5 x 100 COL.4	HOURS ACTUALLY WORKED DURING YEAR	UTILISATION COL. 7 x 100 COL. 4	UTILISATION COL. 7 x 100 COL.5
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	BOMBAY	3	25,488	21,415	84.0	7,265	28.5	33.9
	CALCUTTA	—	—	—	—	—	—	—
	HALDIA***	1	8,400	7,860	93.6	5,502	65.5	70.0
	MADRAS	2	17,232	16,664	96.5	15,811	91.7	95.0
	KANDLA							
	COCHIN							
	VIZAG							
	MORMUGAO							
	NEW MANGALORE							
	TUTICORIN							
	PARADIP							

*** On One shift basis.

ANNEXE D-7 (Contd.)

STATEMENT - VII(b)
YEAR: 1985-86

EQUIPMENT : TOP LIFT TRUCKS

(contd)

No.	PORT	TOTAL ITEMS OF EQUIPMENT	NO. OF HOURS AVAILABLE (NO. OF WORKING DAYS X 24)	ACTUAL EQUIPMENT AVAILABLE HOURS	AVAILABILITY % COL. 5 x 100 COL.4	HOURS ACTUALLY WORKED DURING YEAR	UTILISATION COL. 7 x 100 COL. 4*	UTILISATION COL. 7 x 100 COL.5
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	BOMBAY	5	42,600	17858	41.9	7,711	18.1	43.2
	CALCUTTA							
	HALDIA							
	MADRAS	5	43,080	40,884	94.9	30,156	70.0	75.8
	KANDLA							
	COCHIN							
	VIZAG							
	MORMUGAO							
	NEW MANGALORE							
	TUTICORIN							
	PARADIP							

CONDITION MONITORING AND VIBRATION ANALYSIS

INTRODUCTION

The success of a company often depends on the continued safe and productive operations of the rotating machibery employed in its fleet, and the way these machines are maintained determines how long they will run as well as how safe and productive they will be. Normally, the maintenance practices obtaining generally are :

1. Breakdown maintenance
2. Periodic dis-assembly and inspection.
3. On-stream detection and diagnosis.

While (1) and (2) are employed fairly on a wide scale, on critical machinery and onplants which run continuously and down time will be very expensive : and as such "on-stream dection and diagnosis" is the right method.

In expressing the problem of any machine, it is normal to use terms like it is making noise, it is running rough, etc., Scientifically speaking, it is accepted that noise and vibration are two positive parameters which are indicative of the condition of the rotating machinery. In the recent years, this idea of relating the machine condition of its level of vibration and noise has become the basis of a new technique which involves detection analysis and correction of faults in the machine. The technique called 'Vibration analysis' or 'Mech-Analysis consists of measurement of machinery vibrations, shaft movement or machinery noise, in fact, any measurement that permits us to determine the machine's conditon, while it operates, as it normally does.

In the Port condition, monitoring and vibration analysis works are being done in respect of critical machines. The equipment consists of the following:

1. IRD Model 308 Sound and Vibration meter.
2. IRD Model 350 vibration analyser.
3. XY recorder to be used in conjunction with the analyser 350.
4. IRD Model 544 pick-up probe.
5. Shock pulses meter for determining shocks/Impulses in anti-friction bearings (SPM Model 42B).

BACKGROUND

The background of this technique lies in the principle that every machine, even in the best of operating conditions, will have some vibration and noise because of small and minor defects. This level may be regarded as normal or inherent. But when a machinery noise and vibration increase or become excessive, some mechanical trouble is usually the reason for the noise and vibration in a machine just do not increase or become excessive without any reason or assign-able cause. There is something which causes it. It may be unbalance, misalignement worn-out gears or bearings, looseness, etc. Finally, each mechanical defect generates vibration and noise in a unique manner. This makes it possible to positively identify the problem by simply measuring its noise and vibration characteristics.:

METHODOLOGY

The methodology employed is in three stages (I) Detection (II) Analysis (III) Correction.

I. DETECTION

For detection, the IRD Model 544 probe is held firmly against the surface from where the vibrations are picked up. This is connected to the Model 308 meter which shows the vibration and noise levels. The readings are taken in three planes.

a) Vertical

b) Horizontal and

c) Axial

The characteristics of the vibration which are measured are:

1) **VIBRATION DISPLACEMENT**

This is the total distance travelled by the vibrating part from the extreme limit to the other extreme limit of travel. It is the peak-to-peak displacement. This is normally expressed in microns.

2) **VIBRATION VELOCITY**

The velocity of the motion of the vibrating part is a characteristic which is measured. But since it is constantly changing throughout the cycle, the maximum is reached as the vibrating part crosses the neutral position. This peak velocity is only selected for measurement. This is normally expressed in inches or millimetres per second peak.

3) **VIBRATION FREQUENCY**

The amount of time required to complete one cycle of vibration is the period of vibration. The number of cycles or vibration for a given interval of time is the frequency of the vibration and usually expressed in terms of cycles per minutes (CPM).

SIGNIFICANCE OF THE VIBRATION CHARACTERISTICS

The significance of the characteristics of vibration lies in the fact that they are used to detect and describe the unwanted motion of a machine. Each characteristic of the vibration tells us something about the vibration. Therefore, the characteristics might be considered to be symptem used to diagnose inefficient operation or **impending trouble in a machine.** Knowing the vibration frequency allows us to identify much part is at fault and what the problem is. The forces much cause vibration are generated from the rotating motion of the machine parts. Therefore, these forces change in amount and direction as the rotating part changes its position and direction with respect to the rest of the machine. As a result, the vibration produced will have on frequency dependent upon, the rotating speed of the part which has the trouble. Thus, by knowing the frequency of the vibration we can identify which part is at fault.

Different machinery troubles cause different frequencies of vibration. This makes it possible for us to identify the nature of the problem. For example, unbalance of a rotating part will produce the frequency of vibration equal to rotating speed (1 x rpm) of the part. One the other hand, mechanical looseness produces the vibration at a frequency equal to the twice the rotating speed

(2 x rpm). Based on experiments made, different frequencies have been given an indicative of various problems causing the vibration.

DISPLACEMENT, VELOCITY AND ACCELERATION

These are measured to determine the amount of severity of the vibration. The displacement, velocity or acceleration of a vibration is often referred to as amplitude of the vibration. In terms of the operation of the machine, the vibration amplitude is the indicator and to determine how bad or good the operation of the machine may be. The greater the amplitude, the more servere the vibration. In practice, the measure of the vibration velocity is a direct measurement of the vibration severity.

HOW MUCH VIBRATION IS TOO MUCH

Since the vibration amplitude is a measure of the severity of the trouble in a machine, one has to establish the level beyond which the vibration is considered 'too much'. Absolute vibration tolerance or limits to any machine are not possible. Based on years of experimentation some guidelines are available which provide realistic measure of determining this threshold value of vibration level.

II. **ANALYSIS**

To analyse and determine at what frequency the peak value occurs the model 350 analyser is used in conjunction with the XY recorder. The XY recorder gives at 'Y' axis the amplitude of vibration at different frequencies, which are plotted on the 'X' axis. From this curve the frequency at which the peak value occurs is determined and from the empirical rules provided, the probable cause like misalignment, looseness, unbalance or a combination of these three, are determined.

Based on the analysis the corrective action is taken by the Maintenance Engineers.

A record is kept for data thus measured, so that the behaviour of the machines vibration, or the 'Vibration Signature' as it is sometimes called, is studied. Any change in this pattern would require immediate action.

In addition to the above, the SHOCK PULSE METER (SPM) is also used on all anti-friction bearings. The principle behind this, is that each roller or ball, as it rotates between the inner and outer races housed in a cage, produce a shock or impulse which can be picked up by a probe attached to stethescope. Based on the condition of the bearing rollers, certain shock impulses are quite normal and are inherent. Here again, like in the case of vibration pick up certain normal sound levels will always exist even in the perfect bearings, properly lubricated and maintained. But there may be certain shocks which are above such normal level and these are picked up by monitoring through this shock pulse meter. The levels are recorded in decibels of sound. When used in conjunction with the vibration analysis, SPM correctly gives the condition of the bearings.

CORRECTION

After the detection and analysis stage comes the work of the maintenance engineers in carrying out the correction. Based on the probable cause indicated in the analysis, they align, or balance or dismantle and check for any flaws or failures and take remedial action. By this process costly and time consuming breakdowns are avoided.

The inter pretation fo the vibration curves is very important as the whole analysis depends on this skill to interpret correctly.

CONDITION MONITORING IN M.P.T.

In the M.P.T., the Condition Monitoring consisting of the above measures, analysis, interpretation, etc., is being done in the following plants.

ANNEXE D-8 (Contd.)

I. **OUTER HARBOUR**

1. Reclaimers (I & II)
2. Ship loaders (I & II)
3. Stackers (I & II)
4. Apron Feeders (I & II)
5. Receiving Conveyors (R1, R2, R3, and R4,)
6. Ship conveyors of the outer harbour (S1, S2, S3, S4, S6,)

II. **CONTAINER TERMINAL**

1. Hitachi Transfer Cranes I and II.
2. Hitachi Quay Crane.
3. Jessop Quay Crane.

III. **FLOATING CRANES VAIGAI**

IV. **JESSOP 10 TONNES ELECTRIC CRANE.**

In all the above, about 382 points are being monitored every month. This has given us an opportunity for on stream detection and rectification of impending troubles in these critical plants.

PRESENT PHASE OR CONDITION MONITORING

ANNEXE D-8

As a measure of further sophistication to air quick analysis and data retrieval the Port has gone in for computerisation of the acquisition of data required. This consists of a IBM PC compatible, Personal Computer with a colour monitor and dot matrix printer. An electronic interface and matching software are built-in for acquisition, storing and transfer of data from interface and computer and then for visual display on the VDU or printer for hand copies.

The Transducer used for picking up the vibrations will now be connected to the Interface which is portable. It can operate either on mains supply or with battery power. It has its own CPU and memory with a digital display window. The probe will be held on any surface where the data is to be monitored and selected buttons pressed on the interface which will permit the signals picked up by the probe to be transferred to the interface. This will be repeated for each axis viz. Vertical, Horizontal and Axial and as the data gets memorised the window also displays the value of amplitude of vibration. One does not have to record the readings manually and the operator is free to move from one point to another point and just carry on the recording of vibrations in three axes i.e. Horizontal, Vertical and Axial. After this works is over, the interface is taken to the computer system and connected up for transfer of data from CPU of the interface to the main computer memory. These will then be fed into a Micro Computer which has been programmed to indicate which are th points where the values exceeded the threshold value pre-set. On a video screen it will give graphic presentation of the vibrations signature and at any given time, upto 3 sets of such graph of signatures can be projected for comparison and analysis. The printer also when required, can print out this information and graphics also. The whole system is under trials..

(contd)

IDENTIFICATION OF THE TRAINING NEEDS AND REQUIREMENTS OF EMPLOYEES IN MAJOR PORTS

ANNEXE D-9

(Para 4.7.1)

Various studies have shown that if our major ports have in the past not succeeded in exploiting fully the benefits of new technologies, it is largely because the work force and the managers had little or no exposure to any formal or on job training so essential for success of all modernization measures. The matter was discussed by the Governing Body at its meeting held in May, 1984. As a sequal thereto a Committee was set up for making a scientific assessment of the training needs of all port personnel. The Committee was also required to identify the priority areas so that the two national port institutes could address themselves to this task more meaningfully than hitherto and draw up time bound programmes for training in those activity areas which required priority attention. The Committee after deliberating on this subject in its two meetings held on 27.7.1984 and 5.1.1985 suggested, subject to Governing Body's approval a quick study of available manpower and a survey of the training needs and its analysis. The Governing Body at its meeting held in May, 1984 endorsed the approach suggested by the Committee. Accordingly, while the Indian Institute of Port Management, Calcutta, was asked to undertake the manpower survey and training needs analysis in respect of Class III and IV employees of all major ports, the National Institute of Port management was asked to make a similar study with respect to Class I & II officers of all the major ports. These two institutes completed the task in record time and submitted their reports by the end of October, 1985

A brief resume of these studies which are placed on the table is given below:—

i) **Survey of training needs of port managers: NIPM.**

Altogether the Committe has identified 29 training programmes for port managers as shown at Appendix-I for a target population of 3286 officers.

ii) **Training need analysis in case of Class III & IV Employees: IIPM**

The study has identified 44 broad categories of training programmes for Class III & IV employees as shown at Appendix-II. The target population is 1,10,737.

The Committee in its meeting held on 26.11.1985 made an indepth appraisal of these two studies which it opined were imaginatively prepared and could well be adopted as a basic input in the ports programme for imparting skills to the work force and exposing the middle and senior level managers to the new and modern techniques of port management. The Committee underlined the vast maginitude of the task but at the same time underscored the urgency for undertaking and accomplishing it within the shortest possible time; otherwise the goal of bridging the hiatus between our major ports and those of the industrialized country ports would remain elusive no matter what other measures the ports may take to modernize; areas have to be identified so that the impact becomes visible and palpable in the shortest possible time. It is equally important for us to ensure that the limited resources are fully utilised and that there is no wastage of resources by duplicating the efforts either of the port or national level. The need for a nodal agency to monitor and closely co-ordinate the activities of these institutes so that the training effort moves in a planned manner towards an identified goal was also recognised.

Shri P.B. Rajagopalan explained the broad approach of the Nhava Sheva Port to training. He also informed the Committee initially some port employees will be given training by equipment

manufacturers/suppliers as a part of their contractual obligations, but that their number would obviously not be large. The Committee felt that it would be very useful if it broadly indicates the promotional areas in which each of these institutes should place major emphasis, optimal utilisation of the facilities of these institutes would be possible.

The Committee took up detailed discussion of various training programmes identified in the reports at Appendix I & II. The Committee classified these programmes into 3 categories—A, B & C in order of preference. The Committee expects that programmes grouped under A should be taken up immediately and completed preferably in the financial year 1986-87. The rationals for this classification of training programmes adopted by the Committee is that personnel involved direclty or indirectly in operational activities should receive immediate attention. It is in this context programmes in cargo operations, mechanical equipment and handling systems and maintenance of these systems were accorded the highest priority.

After classifying these programmes into three categories, the Committee examined the allocation of these programmes between the two Institutes, taking into account the existing inventory of training skills at these Institutes. The proposed distribution of the programmes to these two Institutes is shown in Appendix—iii. It is evident that out of the principal functional areas in port operations, development and management, while training needs in areas like traffic, mechanical and civil engineering, and finance will be specialised at NIPM for marine (including hydraulics) and materials management, personnel/administration, IIPM will specialise in it. However, there will and should be no water tight compartmentalisation.

The Committee after careful examination of all aspects decided to recommend as follows:

1. The duration of a training programme designed for managers which will include middle level officers, should not be less than 2 weeks. In other words, the effective duration of the programme should atleast be 10 full working days;

2. The duration of the training programme in the case of Class III & IV employees should be one week.

3. The intake of participants to a programme should be a minimum of 15 and maximum of 20.

4. The training courses for Class III & IV employees will be developed according to a standard format by the National Institutes. These courses will be so designed as with suitable modifications, should be capable of being imparted also by the local port Institutes.

5. The courses for trainees/instructors will be conducted by the National Institutes.

6. The emphasis in the training programmes for Class III & IV employees should be more on the use of audiovisual techniques rather than on class room lectures;

7. There should be mobility and interchangeability between the two National Institutes; and

8. The Indian Ports Association should act as a nodal agency for organising, co-ordinating and overseeing the activities of the two National Institutes as well as the port level training Institutes.

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LIST OF TRAINING PROGRAMMES SUGGESTED IN CASE OF CLASS I AND II OFFICERS

Sl NO.	Training Programme	Target Population
1.	Overview of ports	JLO/MLO
2.	Inter Personnel skills	JLO/MLO
3.	Industrial Relations	JLO/MLO
4.	Computer Concepts and applications	MLO
5.	Finance, budgets and control	MLO
6.	Planning of port facilities	MLO/SLO
7.	Documentation	JLO/MLO
8.	Operational planning/break bulk terminals	JLO
9.	Container terminal operations	JLO/MLO
10.	Bulk handling systems	JLO/MLO
11.	Handling of hazardous cargoes	JLO/MLO
12.	Tanker terminal operations	MLO
13.	Port pricing	MLO/JLO
14.	Contract Administration	MLO
15.	Equipment maintenance	MLO
16.	New Equipment maintenance	MLO/JLO
17.	Orientation training for marine officers	JLO
18.	Dredging and hydrographic survey	SLO/MLO
19.	Pollution control techniques	SLO/MLO
20.	Pilotage and berthing at ports	PILOTS
21.	Materials Management	MLO/JLO
22.	Hospital Management	Medical Officers
23.	Management information systems	MLO/JLO
24.	Estate Management	MLO/SLO

(contd) Annexe D - 9 (contd.)

LIST OF TRAINING PROGRAMMES SUGGESTED IN CASE OF CLASS III & IV EMPLOYEES

Sl.NO.	Training Programme
(A)	**TRAFFIC DEPARTMENT**
1.	Port Operations
2.	Job analysis and job scheduling
3.	Rules and Regulations
4.	Disciplinary procedures
5.	Safety rules/dock safety
6.	Supervision of cargo handling
7.	Office Management
8.	Documentation procedure
9.	Port and Customs procedure
10.	Man Management
11.	Work motivation and work ethics
12.	Types of cargoes and handling procedures
13.	Cargo handling gear and their use
14.	Tallying
15.	Work study and method study
16.	Basic Accounting
17.	Supervision in container terminal
18.	Railway procedures
(B)	**MECHANICAL ENGINEERING DEPARTMENT**
19.	Supervision of work
20.	Man Management
21.	Preventive and need based maintenance
22.	Operations and machines
23.	Knowledge of materials
24.	Work motivation
25.	Wastage minimisation
26.	Safety at work
27.	Knowledge of materials and cargoes
28.	Signalling
29.	Working principles of various assemblies
30.	Modern maintenance techniques
31.	Operations and maintenance of conveyors and equipment
32.	Human relations
33.	Machine maintenance and repairing
34.	Work study and job scheduling
35.	Maintenance of vehicles
36.	Ore handling equipment maintenance
37.	Assembly and dismantling of equipment
38.	Maintenance scheduling and planning
(C)	**ALL DEPARTMENTS**
39.	Rules and regulations
40.	Disciplinary procedures
41.	Office equipment
42.	Documentation personnel
43.	Human relations
44.	Basic accounting

ANNEXE D-9 (Contd.)

(ccodii)

CATEGORISATION AND DISTRIBUTION OF TRAINING PROGRAMMES

S.NO.	Training Programme	Priority Category	Earmarked Institute
1.	2.	3.	4.
(A)	**FOR MANAGERS**		
1.	Overview of Ports	A	IIPM
2.	Industrial Relations	A	IIPM
3.	Planning	A	NIPM
4.	Operational Planning/Breakbulk terminals	A	NIPM
5.	Container Terminal Operations & Management	A	NIPM
6.	Bulk Handling Systems	A	NIPM
7.	Equipment Maintenance	A	NIPM
8.	Interpersonal skills	B	IIPM
9.	Computer concepts and appliances	B	IIPM
10.	Finance Budgets and Financial Control	B	NIPM
11.	Documentation	B	IIPM
12.	Handling of hazardous cargoes	B	NIPM
13.	Tanker terminal operations	B	NIPM
14.	Contract Administration	B	NIPM
15.	Pollution Control Techniques	B	IIPM
16.	Materials Management	B	IIPM
17.	Estate Management	B	NIPM
18.	Management Information Systems	C	IIPM
19.	Port Users	C	IIPM
20.	Port pricing	C	IIPM
21.	Orientation training for marine officers	C	IIPM
22.	Dredging and hydrographic survey	C	IIPM
23.	Hospital Management	C	IIPM
(B)	**FOR WORKERS & STAFF**		
24.	Port Operations	A	IIPM
25.	Procedures & Documentation in cargo operations (including railways) and customs	A	IIPM
26.	Tallying/out-turn	A	IIPM
27.	Man-Management/work ethics/motivation/supervision, etc.	A	IIPM
28.	Stores Management	A	IIPM
29.	Handling procedures/gear, etc.	A	NIPM
30.	Container Operations	A	NIPM
31.	Workshop Management	A	NIPM

ANNEXE D-10 (Contd.)
(Para 4.8.5)

(cxxxiv)

NAVIGABLE WATERWAYS IN INDIA

State	Navigable Waterways* in Kms. Rivers	Canals	Total	Density of Navigable Waterways (per 100 sq. kms. of area)
1	2	3	4	5
Andhra Pradesh	309	1,690	1,999	0.72
Assam	1,983	—	1,983	2.53
Bihar	937	325	1,262	0.73
Goa, Daman & Diu	317	25	342	9.00
Gujarat	286	—	286	0.15
Jammu & Kashmir	200	—	200	0.09
Karnataka	284	160	444	0.23
Kerala	840	708	1,548	3.98
Maharashtra	501	—	501	0.16
Orissa	761	224	985	0.63
Tamil Nadu	—	216	216	0.17
Uttar Pradesh	2,268	173	2,441	0.83
West Bengal	1,555	782	2,337	2.66
ALL INDIA TOTAL	10,241	4,303	14,544	0.44

SOURCE: Government of India, Ministry of Shipping & Transport, Report of the Committee on National Waterways, 1974, p. 58.

These include all waterways navigable by country boats.

(cccxv)

Port-wise information relating to Demurrage/Desinat. received.
Demurrage/Despatch - 1000 Rupees

Cargo Handled — 1000 Tonnes

	1983-84				1984-85				1985-86			
	No. of Ships	Demurrage	Despatch	Cargo	No. of ships	Demurrage	Despatch	Cargo	No. of ships	Demurrage	Despatch	Cargo
Kandla	43	1435	4477	613	49	13932	2355	1135	33	4880	4430	1436
Bombay	138	21389	3324	1194	126	71261	1016	7451	77	27146	4909	3548
Mormugao	104	3090	4902	3241	132	7253	2515	3454	75	2980	1359	1958
New Mangalore	14	43	1521	156	10	2430	288	107	6	—	672	80
Cochin	28	1382	772	203	39	1000	341	341	11	2024	1056	518
Tuticorin	34	144	2292	174	32	511	1152	189	16	—	3528	204
Madras	141	6557	5024	4258	164	8891	4172	5528	131	9756	4827	4483
Visakhapatnam	104	7485	6197	5931	102	10791	5798	6720	115	41025	3888	5610
Paradip	—	—	—	—	—	—	—	—	6	492	228	71
Calcutta	147	14710	4070	988	48	9920	1203	1277	24	1125	1224	151
Haldia	3	—	588	61	7	2816	588	192	28	3637	90	731
Total	756	56235	33247	16819	709	128805	19428	26394	522	93065	26211	18790

— The statement does not reflect the complete picture as a number of user agencies expressed their inability to vouchere accurate data

(Contd)

Information relating to Demurrage/Despatch
for different canalising agencies at Kandla
Port during 1983-84, 1984-85 and 1985-86

Demurrage/Despatch - 1000s.
Cargo Handled - 1000 Tonnes.

Canalising Agency/ Commodity.	Flag	1983-84 No. of Ships	Demurrage	Despatch	Cargo Handled	1984-85 No. of ships	Demurrage	Despatch	Cargo Handled	1985-86 No. of ships	Demurrage	Despatch	Cargo Handled
Hindustan Petroleum Corporation Ltd.													
— Crude Oil	I	...	...	...	...	6	4608	—	676	5	4547	—	1034
Food Corporation of India													
— Wheat	I	17	139	1993	386	2	246	169	58	—	—	—	—
	F	1	—	120	22	1	1296	—	29	1	—	26	7
Indian Farmers Fertilizers Cooperative Ltd.,													
— Import of Amonia	F	11	1188	—	49	23	5004	—	131	...	...	...	...
State Trading Corporation of India Ltd.,													
— Cement	I	...	...	...	...	2	814	398	56	...	...	...	...
	F	...	...	...	...	2	740	—	30	...	...	...	...
— Edible Oil	F	—	—	—	—	—	—	—	—	1	285	—	55
— Sugar	I	2	—	528	22	1	—	444	10	...	...	...	...
	F	12	108	1836	134	12	1224	1344	145	26	48	4404	340
TOTAL		43	1435	4477	613	49	13932	2355	1135	33	4880	4430	1436

I — Indian Flag. Rate of Conversion $ 1 - Rs. 12/- has been taken.
F — Foreign Flag.
— Nil
... Not available

Information relating to Demurrage/Despatch for different canalising agencies at Bombay port during 1983-84, 1984-85 and 1985-86.

Demurrage/Despatch - '000 Rs.
Cargo handled - '000 Tonnes.

Canalising Agency/ Commodity	Flag	1983-84				1984-85				1985-86			
		No. of ships	Demu-rrage	Des-patch	Cargo handled	No. of ships	Demu-rrage	Des-patch	Cargo handled	No. of ships	Demu-rrage	Des-patch	Cargo handled
Food Corporation of India													
–Wheat	I	21	916	1040	212	3	14	464	39		—	—	—
	F	11	—	972	122	2	492	48	33	1	—	37	8
State Trading Corporation of India Ltd.													
—Cement	I	...	...	...	...	1	—	60	14	...	...	...	...
	F	...	...	...	...	4	2855	—	57	...	...	...	...
—Edible Oil	I	3	—	540	38	—	—	—	1	1			
—Sugar	F	7	—	768	67	6	204	252	66	24	—	4476	307
—Caster Oil	F	1	—	—	29	1	53	—	52	1	—	—	24
Rashtriya Chemicals Fertilizers Ltd.,													
— Import of Amonia	F	22	1144	—	91	13	1308	—	49	...	...	...	...
Total		138	21389	3324	1194	126	71261	1016	7451	77	27146	4909	3548

I — Indian Flag * Not Yet finalised.
F — Foreign Flag
Rate of conversion $ 1 = Rs. 12 has been taken.
— Nil ... Not available.

Information relating to Demurrage/Despatch for different canalising agencies at Mormugao port during 1983-84, 1984-85 and 1985-86.

Demurrage/Despatch - '000 Rs.
Cargo handled - '000 Tonnes.

Canalising Agency/ Commodity	Flag	1983-84				1984-85				1985-86			
		No. of ships	Demu-rrage	Des-patch	Cargo handled	No. of ships	Demu-rrage	Des-patch	Cargo handled	No. of ships	Demu-rrage	Des-patch	Cargo handled
The Minerals and Metals Trading Corporation of India Ltd.,													
— Iron Ore	I	34	1650	1098	1262	36	1971	340	1022	21	831	233	557
	F	57	1008	2292	1866	91	4970	1875	2360	50	2149	607	353
Food Corporation of India													
— Wheat	I	1	—	106	14	...	...	...	...	...	...	...	...
	F	...	...	...	...	2	—	288	36	1	—	15	7
State Trading Corporation of India Ltd.,													
— Sugar	I	3	—	670	36	—	—	—	—	—	—	—	—
	F	12	432	816	63	3	312	12	36	3	—	504	41
		104	3090	4982	3241	132	7253	2515	3454	75	2980	1359	1958

I — Indian Flag
F — Foreign Flag
Rate of Conversion $ 1 + Rs. 12/0 has been taken

— Nil ..... Not available

(cccdx)

Information relating to Demurrage/Despatch for different canalising agencies at New Mangalore port during 1983-84, 1984-85 and 1985-86.

Demurrage/Despatch - '000 Rs.
Cargo handled - '000 Tonnes.

Canalising Agency/ Commodity	Flag		1983-84				1984-85				1985-86			
			No. of ships	Demu-rrage	Des-patch	Cargo handled	No. of ships	Demu-rrage	Des-patch	Cargo handled	No. of ships	Demu-rrage	Des-patch	Cargo handled
Food Corporation of India														
— Wheat	I	6	43	448	88	2	—	204	38		...	...	...	...
	F	1	—	60		2	—							
— Rice	—	1	—	197	13	1	1697	—	19		...	...	...	...
Mangalore Chemicals & Fertilizers Ltd.,														
— Import of Ammoniia	F	...	...	...	...	1	—	—	5		...	...	...	...
State Trading Corporation of India Ltd.														
— Cement	F	...	...	...	...	2	433	—	21		...	...	...	...
— Sugar	F	6	—	816	55	2	300	84	24		6	—	672	80
		14	43	1521	156	10	2430	288	107		6	—	672	80

I — Indian Flag
F — Foreign Flag
Rate of Conversion $ 1 + Rs. 12/- has been taken.
— Nil ... Not available.

(ccccc)

Information relating to Demurrage/Despatch for different canalising agencies at Cochin port during 1983-84, 1984-85 and 1985-86.

Demurrage/Despatch - '000 Rs.
Cargo handled - '000 Tonnes.

Canalising Agency/ Commodity	Flag	1983-84				1984-85				1985-86			
		No. of ships	Demu-rrage	Des-patch	Cargo handled	No. of ships	Demu-rrage	Des-patch	Cargo handled	No. of ships	Demu-rrage	Des-patch	Cargo handled
Hindustan Petroleum Corporation Ltd													
— Crude Oiul	I	...	...	...	...	4	329	—	136	4	2024	—	428
Food Corporation of India													
— Wheat	I	2	722	—	31	...	...	...	...	...	...	...	...
	F	1	—	72		...	...	...	...	...	...	...	...
— Rice	I	4	—	700	72	3	503	101	33	...	...	...	...
	F	—	—	—	—	1	—	84		...	...	...	...
Fertilisers & Chemicals Travancore Ltd.													
— Import of Ammonia	F	21	660	—	100	27	168	—	175	...	...	...	...
State Trading Corporation of India Ltd.													
— Cement	F	...	...	...	...	2	—	—	22	...	...	...	...
— Import of Sugar	F	...	...	...	...	2	—	156	25	7	—	1056	90
		28	1382	772	203	39	1000	341	341	11	2024	1056	518

I — Indian Flag
F — Foreign Flag
Rate of Conversion $ 1 = Rs. 12/— has been taken.
— Nil ... Not available.

(Contd)

Information relating to Demurrage/Despatch for different canalising agencies at Tuticorin Port during 1983-84, 1984-85 and 1985-86

Demurrage/Despatch - 1000s.
Cargo Handled - 1000 Tonnes.

Canalising Agency/ Commodity.	Flag	1983-84				1984-85				1985-86			
		No. of ships	Demurrage	Despatch	Cargo Handled	No. of ships	Demurrage	Despatch	Cargo Handled	No. of ships	Demurrage	Despatch	Cargo Handled
State Trading Corporation of India Ltd.													
— Cement	F	...	...	...	...	2	511	—	26	...	...	...	...
Southern Petrochemicals Industrial Corporation.													
— Import of Ammonia	F	20	144		85	23	—	—	90	...	...	...	...
State Trading Corporation of India Ltd													
	I	2		252	13								
	F	12	—	2040	76	7	—	1152	65	16	—	3528	204
		34	144	2292	174	32	511	1152	189	16	—	3528	204

I = Indian
F = Foreign
Rate of conversion $ 1 — Rs. 12/- has been taken.
— = Nil .... Not available

(ccccxvii)

Information relating to Demurrage/Despatch for different canalising agencies at Madras Port during 1983-84, 1984-85 and 1985-86

Demurrage/Despatch - 1000s.
Cargo Handled - 1000 Tonnes.

Canalising Agency/ Commodity.	Flag	1983-84 No. of Ships	Demurrage	Despatch	Cargo Handled	1984-85 No. of ships	Demurrage	Despatch	Cargo Handled.	1985-86 No. of ships	Demurrage	Despatch	Cargo Handled
Hindustan Petroleum Corporation of India Ltd.													
— Crude Oil	I	...	...	...	...	6	2916	—	413	5	6199		487
Minerals & Metals Trading Corporation of India Ltd.													
— Iron Ore	I	19	598	696	593	28	1744	464	1030	19	653	329	685
	F	58	1281	623	2886	74	1705	787	3571	58	1537	454	2889
Food Corporation of India Ltd.													
— Wheat		17	6	2415	469	4	1643	120	115	...	...	...	...
— Rice		5	—	510	57	7	—	1250	79	...	...	...	...
State Trading Corporation of India Ltd.													
— Edible Oils	F	34	4650	...	172	35	883	...	201	19	707	...	100
— Cement	I	...	...	...	...	1	—	90	9	...	...	...	...
— Sugar	I	3	—	432	34	1	—	96	13	...	...	...	...
	F	5	22	348	47	6	—	780	71	30	660	4044	322
Total		141	6557	5024	4258	164	8891	4172	5528	131	9756	4827	4483

I — Indian Flag
F — Foreign Flag
Rate of conversion $ 1 — Rs. 12/- has been taken.
Nil .. Not available

(cccccdii)

Information relating to Demurrage/Despatch for different canalising agencies at Visakhapatnam Port during 1983-84. and 1985-86

Demurrage/Despatch - 1000s.
Cargo Handled - 1000 Tonnes.

Canalising Agency/ Commodity.	Flag	1984-85				1985-86							
		No. of Ships	Demurrage	Despatch	Cargo handled	No. of ships	Demurrage	Despatch	Cargo handled	No. of ships	Demurrage	Despatch	Cargo handled
Hindustan Petroleum Corporation Ltd													
— Crude Oil	I	...	...	...	...	2	2234	—	149	5	7948	—	504
The Minerals & Metals Trading Corporation of India Ltd.													
— Iron Ore	I	11	1062	47	111$	16	2023	13	1579	16	14752	—	1678
	F	40	6351	47	3854	42	5921	24	4120	23	17206	10	2336
Food Corporation of India.													
— Wheat		19	72	438	346	6	565	260	127	...	...	...	...
— Rice		...	...	...	...	3	48	545	35	...	...	...	...
Steel Authority of India Ltd.													
— Import of Cooking Coal.	I	3	—	148	75	—	—	—	—	15	135	62	293
	F	15	—	1944	361	22	—	2784	588	33	192	1356	552
State Trading Corporation of India Ltd.													
— Sugar	I	4	—	1077	48	—	—	—	—	2	—	156	11
	F	...	...	...	...	11	—	2172	112	21	792	2304	236
Total		104	7485	6197	5931	102	10791	5798	6720	115	41825	3888	5610

I — Indian Flag
F — Foreign Flag
Rate of Conversion $ 1 = Rs. 12/- has been taken.
— Nil ... Not available.

(concld)

Information relating to Demurrage/Despatch for different canalising agencies at **Paradip** Port during 1983-84, and 1985-86

Demurrage/Despatch - 1000s.
Cargo Handled - 1000 Tonnes.

Canalising Agency/ Commodity.	Flag	1983-84			1984-85			1985-86			
		No. of Ships	Demurrage	Despatch	Cargo handled	No. of ships	Demurrage	Despatch	Cargo hand'ed	No. of ships	Demurrage	Despatch	Cargo hand'ed
State Trading Corporations of India Ltd.													
— Import of Sugar	I	...	...	...	...	...	...	...	...	2	—	132	21
	F	...	...	...	...	...	...	...	...	4	492	96	50
	Total	...	...	...	...	...	...	...	...	6	492	220	71

I = Indian
F = Foreign
Rate of conversion $ 1 = Rs. 12/- has been taken.

— Nil ... Not available

(ccccv)

Information relating to Demurrage/Despatch for different canalising agencies at Calcutta Port during 1983-84, and 1985-86

Demurrage/Despatch - 1000$.
Cargo Handled - 1000 Tonnes.

Canalising Agency/ Commodity.	Flag	1983-84				1984-85				1985-86			
		No. of Ships	Demurrage	Despatch	Cargo handled	No. of ships	Demurrage	Despatch	Cargo handled	No. of ships	Demurrage	Despatch	Cargo handled
Food Corporation of India													
— Wheat		108	11235	3368	733	16	3814	247	132	...	...	...	...
— Rice		15	2112	606	156	9	3117	260	967	...	...	...	...
State Trading Corporation of India Ltd.													
— Edible Oils	F	16	1207	—	75	13	1394	—	84	7	885	—	43
— Cement	I	...	...	...	..	2	384	—	13	..	...	...	...
	F	...	...	...	...	4	1211	—	31	...	...	...	...
— Sugar	I	1	156	—	12	...		...	...	2	...	156	14
	F	7	—	96	12	4	—	696	50	15	240	1068	94
Total :		147	14710	4070	988	48	9920	1203	1277	24	1125	1224	151

Note: I — Indian Flag
F — Foreign Flag
Rate of Conversion $ 1 = Rs. 12/- has been taken.
Nil ... Not available.

Information relating to Demurrage/Despatch for different canalising agencies at Haldia port during 1983-84, 1984-85 and 1985-86.

Demurrage/Despatch - '000 Rs.
Cargo handled - '000 Tonnes.

Canalising Agency/ Commodity	Flag	1983-84				1984-85				1985-86			
		No. of ships	Demu-rrage	Des-patch	Cargo handled	No. of ships	Demu-rrage	Des-patch	Cargo handled	No. of ships	Demu-rrage	Des-patch	Cargo handled
Hindustan Petroleum Corporation Ltd.													
— Crude Oil	I	...	...	...	...	2	2816	—	115	4	3486	—	311
Steel Authority of India Ltd.													
— Import of Cooking Coal	I	...	...	...	...	...	...	...	...	7	113	49	102
	F	3	—	588	61	5	—	588	77	17	38	41	310
Total		3	—	588	61	7	2816	588	192	28	3637	90	731

I — Indian
F — Foreign
Rate of Conversion $ 1 = Rs. 12/- has been taken.
— Nil ... Not available.

Annexe E - 2
(Para 5.3.4)

(cccxxvii)

STEVEDORING

MODEL REGULATIONS

In exercise of the powers conferred by section 126 of the Major Port Trusts Act, 1963 (38 of 1963 the,Central Government hereby makes the following regulations, namely:—

1. **Short title and commencement** (1) These regulations may be called the————Port Trust (licensing of Stevedores) Regulations, 1986.
(2) They shall come into force on the date of their publications on the Official Gazette.

2. **Definitions**—In these regulations, unless the context otherwise requires:

(i) "Act" means the Major Port Trusts Act, 1963;
(ii) "Board" means the Board of Management of the Port of————as constitued under the Act;
(iii) "Chairman" means the Chairman of the Board;
(iv) "Form" means form annexed to these regulations;
(v) "Stevedore" means a person to whom a stevedoring licence has been given under regulation 3;
(vi) "Traffic Manager" means the Officer for the time being in charge of the Traffic Department of the————Port Trust and includes the deputies and assistants to the Traffic Manager and any other Officer acting under the authority of the Traffic Manager.

3. **Issue of Stevedoring Licence** (1) The Board may issue stevedoring licences for a period of two years, on application to persons to act as stevedores at the port to perform the work of landing and shipping of goods between vessels in the port and the wharves, piers, quays or docks belonging to or in the possession of the Board and any other work involved in the stevedoring of vessels within the Port.

(2) No stevedore shall be allowed to work on board any vessel in the port except under a licence issued by the Board under these regulations.

4. **Production of evidence of stevedoring work done**

No licence to work as a stevedore shall be granted unless the applicant,—

(a) Produces evidence that a Shipping Company, Charterer of ship, owner of cargo has entered into or is prepared to enter into a contract for stevedoring with him;
(b) (i)produces evidence that he has stevedored or he would have stevedored not less than such tonnage proportionate to the throughput as the Port Trust may fix with due regard to its annual throughput, care being taken to see that while preventing on the one hand the emergence of monopolies on the other the economic viability is not endangered. The vessel owners including container and steamer agents who have been operating in a port for five years or more and handling annually not less than 20% of the Break Bulk cargo and/or dry bulk cargo throughput would be eligible for grant of a licence;

(ii) produces evidence that he has maintained/would maintain the input/output norms of handling different commodities as may be laid down by the Board from time to time;

(c) produces evidence of his financial standing to meet the obligations to the workers and staff employed on account of wages and compensation under the Workmen's Compensation Act, 1923, Payment of Wages Act 1936, Industrial Disputes Act 1947, or any other law for

the time being in force; and makes a deposit of Rs. one lakh in cash or any other acceptable security which will be refunded/discharged after the termination/expiry of the licence;

(d) undertakes to have in his employment such minimum staff and have in his possession such minimum gear as may be prescribed by the Board for undertaking stevedoring efficiently.

(e) undertakes to maintain proper books of account at the proper place which will be open to inspection by the Port Trust Board or any officer authorised by it.

5. **Duties and responsibilities of stevedore** — Every Stevedore, shall be subject to the following duties, obligations and responsibilities during the currency of stevedoring licence issued to him by the Board, namely:—

(a) he shall ensure due compliance by all the staff and the workers employed by him during the operation of landing and shipping or transhipping goods or work incidental thereto, of the provisions of the Indian Dock Labourers Act, 1934, the Indian Dock Labourers Regulations, 1948, the Dock Workers' (Safety Health and Welfare) Scheme, 1961 and notifications issued thereunder, the Industrial Disputes Act, 1947, the Payment of Bonus Act, 1965, and rules, regulations and schemes issued thereunder, relating to such operations and for the time being in force;

(b) he shall carry out the operations with the gear owned or hired by him;

(c) he shall be solely responsible for any accident or damage resulting from the use of any gear used by him;

(d) he shall comply with all accepted safe practices in relation to operations performed by him;

(e) he shall indemnify the Board against all third party claims arising out of operations performed by him;

(f) Whenever the Port Trust Board has to pay compensations to any of its employees or workers or his dependents under the provision of the Workmen's Compensation Act, 1923, in consequence of any accident arising out of, and during the course of, work performed by a Stevedore or any employee or worker employed by him, the Stevedore shall reimburse the Board any sum so paid for any such purpose, the quantum of compensation as determined under the Workmen's Compensation Act, 1923, shall be taken as binding and conclusive between the Board and the Stevedore;

(g) If any gear, plant and other property of the Port Trust Board is damaged in the course of any such operation, the Stevedore shall compensate the Board for such loss or damage, the extend of which shall be decided by the Chairman after carrying out a proper enquiry;

(h) he shall agree to refer any dispute or difference between him and the————Port Trust as to the payment of comensation, its quantum or any connected question to an Arbitrator nominated by the Port Trust Board;

(i) he shall be responsible to employ at least one experienced person to supervise every vessel in respect of which he has undertaken the stevedoring operations;

(j) he shall submit promptly any information asked for by the Port Trust or any officer of the port from time to time;

(k) he shall ensure that all the dues of the Port Trust Board are paid on the appointed dates, failing which his licence shall not be renewable and be liable to be cancelled under these regulations;

(l) he shall provide for adequate supervision over the workers employed by him in order to ensure maximum productivity consistent with the requirements of safety;

(m) he shall provide all the necessary gear, equipment duly tested for the respective type of cargo;

(n) he shall produce the gear, equipment, with necessary annealing and test certificates, for inspection periodically or whenever demanded by the Inspector, Dock Safety or the Traffic Manager;

(o) he shall provide the workers necessary protective safety appliances appropriate for the type of cargo;

(p) he shall ensure that the workers are available at the worksite throughout the shift period, except during the recess hours and render the normal output and shall take effective steps to improve the performance whenever output falls below normal;

(q) he shall make adequate arrangements for ancillary operations such as filling, stitching and breaking of cargo, stacking of cargo, stowage of cargo, etc. on board the vessels;

(r) he shall undertake to pay to workers engaged by him wages in accordance with the terms of wage settlement arrived at between the Central Government and the Federations of Port and Dock Workers from time to time;

(s) he shall not assign, transfer or in any manner part with any interest or benefit in or under the licence to any other person without the prior approval in writing of the Chairman;

(t) he shall comply with such instructions as may be issued from time to time by the Traffic Manager in the interest of safety, improved productivity and labour discipline;

(u) he shall maintain proper books of account at the proper place which will be open to inspection by the Port Trust Boards or any officer authorized by it.

6. **Application for grant/renewal of licence**

(1) The application for grant or renewal of a stevedoring licence shall be made in **Form-A** to the Traffic Manager.

(2) The applicant shall pay a licence fee of **Rs.4500** before the licence is issued or renewed. Every licensed stevedore shall deposit a sum of Rs. 5000 as earnest money for the proper performance of work permitted under the licence. The earnest money will not carry any interest and will be refunded when the licence ceases to operate after adjusting the claims, if any, of the Board.

(3) Every licence granted or renewed under these regulations shall be in Form "B".

(4) The application for renewal of stevedore licence shall be made at least one month before the expiry of the licence. If the application for renewal is not received within the stipulated period of one month, such applications may be accepted on payment of Rs. 50/- by the Board.
Provided that the application for renewal together with the late fee is received by the Traffic Manager before the actual date of expiry of the licence.

(5) In the event of loss or defacing of the original licence, a duplicate licence may be obtained on an application made to the Traffic Manager on payment of rupees one hundred.

7. **Change in name, constitution etc. to be communicated**

(1) Where the Stevedore is a firm or a Company, it shall immediately communicate to the Chairman any change in the Director, Managing Director of Partners, as the case may be, with a copy of the document in support of the such change.

(2) Any change in the name, title or constitution of a firm or a Company holding a Stevedoring Licence shall be communicated to the Chairman forthwith. The firm or Company undergoing such a change shall submit a fresh application for the grant of new licence; Provided that the Chairman may allow such firm or Company to carry on business till a decision it taken on such fresh application.

8. **Power of Chairman to suspend a licence pending enquiry**

The Chairman shall report any violation of the terms and conditions of the stevedoring licence by the Stevedore to the Board and may, pending enquiry, suspend for a period not exceeding three months, the licence issued to a Stevedore, if he finds it expedient and necessary to do so in the interest of the port.

9. **Suspension of Licences**

(1) The Board may at any time suspend for such period as it may deem fit, or cancel the licence issued to a Stevedore for violation of any of the terms of the licence or for any of the reasons listed below:

(i) Violation of safety precautions.
(ii) Low productivity.
(iii) Lack of supervision over stevedoring workers.
(iv) Improper and unsafe handling of packages.
(v) Mis-representation or mis-statement of material facts.
(vi) The stevedore being adjudged insolvent or going into liquidation.
(vii) Causing obstruction to any work in the port.
(viii) Sub-letting of work to any other individual or parties.
(ix) Any mis conduct which in the opinion of the Board warrants such cancellation or suspension.

(2) No stevedoring licence shall be cancelled or suspended until the stevedore has been given a reasonable opportunity for showing cause why his licence should not be cancelled or suspended and after recording reasons for such cancellation or suspension.

Appeal

10. (1) Any person aggrieved by any order under these Regulations may prefer an appeal in writing to the Central Government within thirty days of the Communication of the order appealed against.

(2) The Central Government shall pass such order on the appeal as it deems fit after giving an opportunity of being heard to the appellant.

(3) Notwithstanding anything contained in sub-regulation (1), an appeal may be admitted after the period of thirty days if the appellant satisfies the Central Government that he had sufficient cause for not making an application within such period.

Annexe E-2 (contd.)

FORM—A

PORT TRUST

TRAFFIC DEPARTMENT

To

The Traffic Manager,
————————Port Trust.

APPLICATION FORM FOR THE GRANT/RENEWAL OF STVEDORING LICENCE

1. Name of the applicant:

2. Whether individual, firm, or company:
(Article of Partnership/Company to be produced)

3. Full Address:

4. Year/s for which licence is required:

5. Name/s of the Steamship Company/Charterer of Ships/Owner of cargo, with whom the contract for stevedoring their vessel/cargo subsists or is proposed to be entered: (Proof of Contract for the period covered is to be appended. The approximate tonnage for each party is to be indicated).

6. Previous experience in the field: (The cargo and tonnage stevedored in the previous 3 years to be furnished).

7. Amount of financial ability to meet the obligations on account of wages, compensation under Workmen's Compensation Act etc. (acertificate from the Bankers as to the financial ability and Income Tax Clearance Certificate to be produced).

8. Whether the applicant has/is willing to acquire adequate gear for atevedoring the contracted vessel/cargo? (List of gear with necessary certificate to be furnished).

9. Whether the applicant has/is willing to have in his employment adequate staff with experience and conversance with Rule and Regulations (A list of theStaff and their experience to be furnished).

10. Whether the applicant has cleared all dues, if any, on account of transactions he had with the port Trust?

ANNEXE-E-2 (Contd.)

11. Whether the licence fee and the earnest money deposit has been made?
(The receipt for the payment is to be attached. The licence fee and the deposit will be refunded if the licence is not issued/renewed.)

I affirm that the particulars given are true to the best of my knowledge and belief.

I agree to furnish any other information/produce any record for inspection as may be required to consider the request for grant of licence.

I agree to abide by the----------Port Trust (Licensing of stevedores) Regulations, 1985, and to comply with the directions made by the----------Port Trust, from time to time, if the licence is issued/renewed.

Place:
Date:

Signature of applicant.

'FORM — "B"
(Emblem of Port Trust)

'Licence. for undertaking stevedoring operations at the Port

1. Name of the Licence _____
2. Address _____
3. Period for which the licence is granted _____
4. Any other particulars required to be mentioned _____
5.
6.

SEAL Licensing Authority _____
Designation _____
Place _____

Conditions

1. This licence is granted subject to the provisions of the Major Port Trust Act, 1963 and the ———————— Trust (Licensing of Steveaores) Regulations, 1985.
2.
3. (Here print the conditions subject to which the licence is given. e.g. the duties and responsibilities enlisted in Regulation 5 of the draft Regulations).

ANNEXE — F (Para 7.2.2)

DETAILS OF RECOMMENDATIONS INVOLVING SUBSTANTIVE CHANGES TOGETHER WITH THEIR IMPLICATIONS ON THE MAJOR PORT TRUSTS ACT

A. New Provisions

	Recommendation	Existing provision	Nature of amendment	Remarks
1	2		3	4
1.	**Board of Management** A new Chapter (Para 3.32 of the Interim Report)	—	A new Chapter II-A may be added to provide for a Board of Management. The composition, functions and powers to be specified.	
2.	Creation of major Ports Development Board. (Para 1.4.42)	—	Creation of a Major Ports Development Board will not require an amendment of the Act. The Board can be set up by a Notification or Resolution of Government.	The Planning Commission, the Atomic Energy Commission etc. have been set up under Resolution of the Government.
3.	Centralized Recruitment of all class I officers (Para 1.3.19)	—	No amendment to the Act will be necessary as the arrangement would be informal.	
4.	Posts of Heads of Deptts. falling vacant hereafter being thrown open to selection from amongst eligible officers of all ports etc. (Para 1.3.14)	Section 24	Since the appointing authority for posts of Heads of Departments and for other posts, is the Central Government, no amendment to the Act will be required. The appropriate recruitment rules of the various ports should clearly provide for recruitment in the manner suggested in the report.	
5.	Port Development Fund (Para 2.2.4)	Borowing powers etc. of Board	Amendment of the Act will be required for (a) creation of a Port Development Fund; (b) enabling the Central Government to contribute to the fund; (c) obligatory transfer of surplus funds by ports to the PDF; (d) enable PDF to raise funds in the capital market in the form of bonds and debentures; (e) leasing of equipment; (f) specifying the authority for administering the fund and to provide for assistance by a body of competent professionals to give expert advice; and (g) undertaking other functions incidental thereto.	The powers of individual Port Trusts to raise loans by issue of debentures etc. should be removed (see S. No. (23).

ANNEXE-F (Contd.)

	Recommendation	Existing provision	Nature of amendment	Remarks
	1.	2.	3.	4.
6.	Depreciation (Para 2.4.1)	—	The Act should provide specifically for the quantum of depreciation on replacement cost basis.	—
7.	Government assuming liability for dredging expenditure both capital and maintenance (Para 2.2.6)	—	A suitable provision will have to be made in the Act, for Central Government assuming liability for maintaining dredging of the channel and turning basin.	—
8.	To regulate the working of stevedores (Para 5.3.4)	—	The present model rules in this regard have been made under section 126 of the Act. This, in a way is resorting to an escape provision in the Act. If regulation of the work of stevedores is to be a regular feature, a suitable provision would be required in the Act. This could be in the form of an enabling provision, in the Act, to frame rules for carrying out the various purposes of the Act.	— —
9.	Arrangement for settlement of disputes involving recovery from port users & setting up of a judicial machinery (Para 5.5.8)	—	The setting up of a Central Ports Tribunal delineating its jurisdiction and its powers will require an amendment to the Act.	—
10.	Organisation of the work in the Port Trust grouping of subjects for division of work etc. (Para 1.2.3)	—	These will require no amendment to the Act.	—
11.	Abolition of Dock Labour Boards. (para 3.2.2)	—	This will require repeal of the Dock Workers' (Regulations of Employment) Act.	
	B-Other changes required in the Act to make it a more meaningful instrument Consistent with the new Philosophy			
12.	Constitution of Board of Trustees. (Paras 3.24 and 3.25 of Interim Report) (Paras 3.16 and 3.29 of Interim Report)	Section 3 Sub-Section (1) (c) (ii)	Sub-Section 1(c) to be amended to provide (i) for a ceiling of 17 Members for Calcutta Port Trust, 16 Members for Madras and Bombay Port Trust and 12 for all other Major Ports (13 for the Ports of Cochin, Vizag and Mormugao if it is decided to give representation to Navy on these Port Trust Boards). (ii) that the representatives of user interests groups would be selected from a panel of three names to be elected by such bodies. The suitability of the nominee to be judged by the Government with reference to his willingness and ability to contribute his knowledge of experience in any one of the specialised	

	Recommendation	Existing provision	Nature of amendment	Remarks
	1.	2.	3.	4.
			fields, Finance, Operations, Personnel and Industrial Relations, Engineering or Marine etc.	
13.	Disqualification for Office of Trustees. (Paras 3.16 and 3.27 of Interim Report)	Section 6	The following Sub-Sections may be added as (e), (f) and (g): (e) is of un-sound mind and stands so declared by a Competent Court; (f) has been removed or dismissed from the service of the Government or a Corporation owned and controlled by the Government or port or (g) is found working to the detriment of the integrity Or image of the organisation or in any other manner found misusing his office as a Trustee to further his group or individual interests.	
14.	Term of Office of Trustees. (Para 3.26 of the Interim Report)	Section 7	Section 7: Sub-Section 2(a) — the term of 2 years to be changed to 3 years. In order to make the position unambiguous and to ensure that if for some reason, a vacancy is filled up during the middle of the term of the Board or trustee is appointed after the date of notification about the Constitution of the Board, such person would hold office only till the unexpired period of the Board, subsection 2(a) may be suitably reworded as below: "every person elected or appointed by name to be a Member of the Board of Trustees shall hold office, to which, he is elected or so appointed, for a term of three years, commencing from the date on which his appointment is notified in the official Gazette or until the reconstitution of the Board after the expiry of the specified period whichever is earlier. Provided that the term of office of a Member elected to represent any body of persons shall come to an end as soon as he ceases to be a member of that body.	
15.	Filling of vacancies in Office of Trustees (Para 3.16 of Interim Report).	Section 10	This should be amended in consonance with the amendment to Section 3(1) (c) (ii) i.e. the body	

	Recommendation	Existing provision	Nature of amendment	Remarks
	1.	2.	3.	4.
			would have to send a panel of three names to fill up such vacancies.	
16.	Term of Office in case of certain Trustees. (Para 3.26 of Interim Report)	Section 13	This Section may be amended in line with the proposed amendment to Section 7.	
17.	Fees and allowances payable to Trustees. (Para 3.16 of Interim Report)	Section 18	To provide for payment of fees to official trustees i.e. who is a servant of the Government, other than the Chairman and Deputy Chairman. Provision to Sub-Section (i) to be suitably amended. The words "with the prior approval of the Central Government" appearing in the provisio to Sub-Section (2) of 18 may also be deleted.	
18.	Delegation of Powers (Annexure IV of the Interim Report)	Section 21	The Section may be amended broadly as below: "The Board may be general or a special order in writing, after due approval in the Board, delegate to the Chairman or Deputy Chairman or to any Officer of the Board subject to such conditions and limitations, if any; as may be specified in the order, such of its powers and functions under this Act as it may deem necessary." Sub-Section (b) may remain as it is. The chairman should be enabled to delegate his powers to any authority below him without going to the Board.	Approval of the Central Government which is now required for the Board to delegate its powers to Chairman should not be necessary.
19.	Staff of Board Chapter III	Sections 23 to 28.	(1) These Sections may be amended as under: The Port Trust may, for the purpose of enabling it efficiently to perform its functions or exercise its powers under this Act, appoint such number of employees as it may consider necessary. (2) The functions and the term and conditions of service of such employees shall be such as may be provided by regulations made under this Act.	The staff regulation can be made comprehensive as in the case of LIC or Air Corporations Act in order that all matters relating to staff can be brought conveniently under one regulation. The regulation will be issued by the Board with the approval of the Govt. and after its notification in the offical gazette. There appears to be a practice in the Ministry of Surface Transport (probably because of a commitment given by the Ministry to a Parliament Committee) that all regulations are submitted to Parliament

Recommendation	Existing provision	Nature of amendment	Remarks
1.	2.	3.	4.
			and only thereafter they take effect. As a consequence finalisation of regulations take 2-3 years. From a perusal of the provisions of various other Acts, it is seen that only the rules are required to be placed in Parliament and that autonomous authorities are free to frame their regulations in conformity with the provisions of the relevant Act and Rules and these take effect after notification by the Central Govt.
			The Ministry may, however, fram model regulations for adoption by the ports on a uniform basis. In so far as disciplinary matters are concerned, appeals should rest with one level above the appointing authority, only such appeals should come to the Govt. where appointment is made by the Chairman of the Board. In respect of other categories the appeals should end with the Board or Chairman or even the next lower level as may be considered necessary. A suitable provision may be included in the regulations as has been done in the case of regulations framed under the — LIC, Air Corporations Act, etc.
20. Porperty & Contracts Chapter IV-(Annexe IV) of the interim report	Sections 29 to 34	Section 29: Section 29 may be amended as under: "All property, assets, funds, and all rights there in respect of the Major Port, are held absolutely by the Central Govt." The present section 29 may be renumbered as 29-A. The words "for the exercise of powers and duties under	

Recommendation	Existing provision	Nature of amendment	Remarks
1.	2.	3.	4.
		the Act" may be added to the proposed Section 29-A(1)(a). Sub-Sections (2) and (3) may be deleted.	
	Section 34(1) Every contract shall, on behalf of a Board, be made by the Chairman or by any such officer of the Board not below the rank of the Head of a Department as a chairman may, by general, or special order, authorise in this behalf and shall be sealed with the common seal of the Board. Provided that no contract whereof the value of amount exceeds such value or amount as Central Govt. may from time to time fix in this behalf shall be made unless it has been previously approved by the Board. Provided further that no contract for the acquisition or sale of immovable property or for the lease of any such property for a term exceeding thirty years and shall contract whereof the value or amount exceeds such value or amount as the Central Govt. may from time to time fix in this behalf, shall be made, unless it has been previously approved by the Central Govt. (2) Subject to the provisions of sub-section (1), the form and manner in which any contract shall be made under this Act shall be such as may be prescribed by regulations made in this behalf. (3) No contract which is not made in accordance with the provisions of this Act and the regulations made		

	Recommendation	Existing provision	Nature of amendment	Remarks
	1.	2.	3.	4.
	thereunder shall be binding on th Board.			
21.	Works and Services to be provided at Ports. Chapter V Annexe IV of the interim report.	Sections 35 to 47.	Various provisions in chapters V and VI can appropriately be clubbed and brought in one chapter titled "Functions and powers of the Board."	
22.	Imposition and Recovery of Rates at Ports Chapter VI (Annexure IV of Interim Report)	Sections 48 to 65		
23.	Borrowing Powers of Board: Chapter VII (Annexe IV of the Interim Report)	Sections 66 to 86.	These should be repealed.	
24.	Revenue and Expenditure. Chapter VIII	Sections 87 to 105	Chapter VIII may be brought under a new chapter called "Finance, Accounts and Audit" as in many Acts like, ONGC Act, Air Corporations Act, etc.	
25.	Power of Central Govt. to issue directions to Board. (Chapter IX)	Section 111	Proviso to sub-section (1) may be amended to provide for the Chairman (instead of the Board) being given an opportunity to express his views, before directions are issued.	
26.	Penalty for contravention. (Chapter X)	Sections 113, 114, and 117.	More stringent punishments may be provided for repeated contraventions.	
27.	Limitation of proceedings in respect of things done under the Act. (Chapter XI)	Section 120	The limitations imposed under the Act adversely affect users when there are delays attributable to the port management. For example some port trusts take a year to finalise the vessel out-turn statement and consequently the short-landing certificate is not available earlier. In such cases the limitation of six months should run from the date of finalisation of the out-turn.	

	Recommendation	Existing provision	Nature of amendment	Remarks
	1.	2.	3.	
28.	Power of Central Government to make rules. (Chapter XI)	Section 122	Sub-sections (1) and (2) be changed as below: (1) The Central Government may, by notification in the Official Gazette make rules to given effect to the provisions of this Act. (2) In particular, without prejudice to the generality of the foregoing power, such rules may provide for all or any of the following matters, namely: (b) reports which should be submitted by the Boards and intervals within which they should be submitted.	
29.	Power of Central Govt. to make first regulations. (Chapter XI)	Section 126	Three should be an enabling provision in the Act to frame rules for carrying out the various purposes of the Act not otherwise specified elsewhere.	
30.	Powers to evict certain persons from the premises of the Board. (Chapter XI)	Section 130	There should be provision in the Major Port Trust Act for over-riding the local laws to the extent there is any conflict of interest.	

(cLxdl)

GLOSSARY

Anchorage	That portion of harbour (or designated area outside harbour) in which ships are permitted to lie at anchor.
Bailee	The holder of goods in trust.
Barge	A flat bottomed vessel used in commercial ship canals and in ports where ships are unable to load or unload on the quays to shallow draft.
Bill of Entry	Document filed with the customs by the importer or the Customs House Agent for the purpose of assessment and clearance of goods imported.
Bill of Lading	Document signed by the Master/Captain, agents or owners of a vessel, furnishing written evidence for the conveyance and delivery of merchandise sent by sea to a certain destination.
Box	Slang term for 'container'.
Bunkers	Water, or coal/oil consumed by the vessels.
Bulk Cargo	Cargo shipped loose like coal, grains, iron ore etc
Bulk Carrier	Ship carrying ore, coal, cement etc. in bulk.
Buoys	To mark channels along which ships are approaching the ports and near lighthouses.
Cargo	Merchandise transported on ship. Cargo is accepted on production of a bill of lading as a form of Contract of affreightment showing the details of cargo carried, including freight charges.
Cellular Container Ship	A container vessel so designed to have each hold fitted with a service of vertical angle guides adequately cross-braced to accept the container. This system obviates lashing of containers.
Chandler	A supplier of ship stores.
C.I.S.F.	Central Industrial Security Force.
Container	A large rectangular or square container/box of a strong structure opening from one side to allow cargoes to be stacked and stowed into at at ease. It is fitted with lugs or hooks or brackets on every corner so that it can easily be lifted up and shifted on from ship to shore and/or carriage on trailers or trucks and vice-versa.
Containerisation	Process of stowing and sending cargo in containers.
Container Freight Station	Where containers are assembled or collected and where distribution takes place prior to shipments or withdrawals. Operated usually by container carriers.
Container Ship	A ship that is constructed in such a way that she can easily stack containers near and on top of each other as well as on deck.

Container Terminal	A terminal where containers are handled and stored on a large scale.
Demurrage	Charges on cargo left uncleared after the prescribed free period, on the quays, transit area, transit sheds, back up areas etc.
Draught	Depth or height of the submerged part of a ship from the bottom part upto the water line.
Dredging	Removal of mud or sand from the harbour or channel to make them deeper.
D.W.T.	Deadweight Tonnage.
Freight Forwarder	Firm engaged in arranging, forwarding parcels of cargo by sea, land or air.
Hatch	The access on the deck of ships where cargoes are passed through to be stowed into the holds.
Lighter	A Barge or other small craft used in trasnsferring cargo from ship to ship, ship to shore or vice-versa.
Liquid Cargo	Cargo of a liquid nature which in most cases is carried in bulk.
Mooring	The act of using two or more anchors or other attachments on the sea floor or/and to a berth.
P.O.L.	Petroleum & Oil Products.
Portainer	Trade name for quayside container crane.
Roll-on/Roll-off Vessel (Ro/Ro)	It is frequently called a vehicle FERRY. It is designed for the conveyance of road haulage vehicles and private cars. At each terminal port, a ramp or link span is provided enabling vehicles to drive on or off the vessel, thereby eliminating cranage and cargo handling (also pilferage) and permitting quick turn round of the ship.
Tonnage of Vessel	(a) DWT (Dead Weight Tonnage) — It expresses the number of tons (or tonnes) of all consumables and cargo that a ship can carry; (b) GRT (Gross Registered Tonnage). It is the weight or the volume occupied by the closed-in-spaces of a ship, taking 100 cubic feet of such closed-in-space as equivalent to one ton. (c) NRT (Net Registered Tonnage) — It refers to the earning space capacity of a ship, available for the storage of cargo and accommodation of passengers.
TRANSCHART	Chartering Wing of the Ministry of Surface Transport. Wharf structure or short-term storage of merchardise in transit.
Transit Shed	A crane running on rail tracks or rubber tyre Wheels usually spanning an open area, roadways, railtracks for the purpose of handling containers/ trailers within a given area.

Unitisation	The consolidation of a number of individual uniform items into one large unit usually on a pallet or skids.
Very Large Crude Carrier	A tanker Carrying crude oil having a capacity of over 1,75,000 tons dead weight (VLCC).
Wreck	Any object, including a ship abandoned at sea, either drifting or afloat or sunk or washed ashore.
Wreckage	Abandoned goods at sea resulting from a wreck which are driven onto the shores by the waves of the sea; (2) the reamins of wrecked ship.
Wharf	Wall or stage and any part of the land or foreshore that may be used for unloading goods.

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