

REPORT
OF
THE COMMISSION ON MAJOR PORTS

JUNE, 1970



GOVERNMENT OF INDIA
MINISTRY OF SHIPPING & TRANSPORT

REPORT

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VOL. I REPORT

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GOVERNMENT OF INDIA
MINISTRY OF SHIPPING & TRANSPORT

PLANNING COMMISSION,
NEW DELHI.
July 21, 1970.

R. VENKATARAMAN,
Member.

Dear Shri Raghu Ramaiah,

I am submitting herewith the Report of the Commission on Major Ports constituted by the Government of India by a Resolution No. 19-PG(101)/67 dated the 14th February 1968, together with the minutes of dissent. The main conclusions and recommendations of the Commission are embodied in Chapter 18 of the Report.

I wish to thank the Secretary and other officers of the Ministry of Shipping and Transport for the unfailing courtesy extended to the Commission and I shall thank you to kindly convey the same to them.

With kind regards.

Yours sincerely,
Sd. (R. VENKATARAMAN)

Shri K. Raghu Ramaiah,
Minister of Shipping and Transport,
Government of India,
New Delhi.

COMMISSION ON MAJOR PORTS

Appointed on 14 February, 1968

Composition

Chairman

Shri R. Venkataraman

Members

Shri M. P. Bhargava

Shri M. N. Naghnoor

Shri B. B. Ghosh

Shri V. V. Ramanadham

Dr. (Smt.) Maitreyee Bose

Shri Vasant J. Sheth

Shri P. A. Narielwala

Shri M. V. Bhadram

Shri Makhan Chatterjee

Shri L. M. Nadkarni

Shri S. R. Kulkarni

Shri P. N. Jain

Secretary

Shri D. Sridharan

Report signed on 17th June, 1970

Approximate Expenditure on the Commission: Rs. 3.60 lakhs.

SECRETARIAT OF THE COMMISSION

Secretary

Shri D. Sridharan

Consultant

Prof. L. A. Natesan

Research Staff

Shri Narain Das	...	...	Research Officer
Smt. Padra Venkataraman	...	...	Research Officer
Shri Anil Kumar	...	...	Senior Investigator
Shri M. M. Sharma	...	...	Junior Investigator

Secretariat Staff

Shri B. K. Amba	...	...	Section Officer
Shri Kalyan Singh	...	...	Assistant
Shri K. K. Sethi	...	...	Stenograher
Shri N. R. Peswani	...	...	Steno-typist
Shri Krishan	...	...	Lower Division Clerk
Kumari Chander Kanta Khurana	...	...	Lower Division Clerk
Shri Dharam Bir Jhamb	...	...	Lower Division Clerk

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CHAPTER 1

INTRODUCTION

The Commission was constituted by the Government of India Resolution No. 19-PG(101)/67 dated 14th February 1968 by the then Ministry of Transport and Shipping, New Delhi with the following terms of reference:—

- (i) to examine the methods of working of Major Ports with a view to improve their operational efficiency;
- (ii) to consider broadly their development programmes in the context of present and future national needs with special reference to the changing shipping and port technology;
- (iii) to examine specifically the following aspects of port working;
 - (a) management;
 - (b) financing; and
 - (c) personnel;
- (iv) to consider in the light of the above, the capacity of the ports to enhance the current rate of *ex gratia* payment; and
- (v) to review the arrangements that exist for co-ordination among the different ports; and
- (vi) to make recommendations on the above and other ancillary matters.

1.2. The original composition of the Commission underwent the following changes: (i) Dr. (Shrimati) Maitreyee Bose, Sarvashri Indrajit Gupta, Vasant J. Sheth and P. A. Narielwala were subsequently appointed by the Government of India Resolution No. 19-PG(101)/67 dated 21 September 1963; (ii) Sarvashri N. Dandekar and S. R. Kulkarni resigned from the Commission in October 1968; (iii) Sarvashri M. V. Bhadram, Makhan Chatterjee and L. M. Nadkarni were appointed and Shri S. R. Kulkarni was re-appointed on the Commission *vide* Resolution No. 15-PG(1)/69 dated 17 April 1969; (iv) Shri Indrajit Gupta, however, did not attend any meeting of the Commission and finally ceased to be a member of the Commission from April 1969 with the appointment of Shri M. V. Bhadram in his place *vide* Resolution No. 15-PG(1)/69 dated 24 April 1969. The Resolution of the Government of India referred to above setting out the terms of reference and the composition of the Commission are reproduced at Appendix I. The composition of the Commission at the time of signing the report is given in Appendix II.

Earlier Committees

1.3. It was for the first time in the century-old history of Major Ports that a comprehensive study was required to be undertaken by the Commission. There have been occasional inquiries which related either to specific ports or to selected issues. Examples of the

former category are the reports of Sir Godfrey Armstrong, West Coast Port Development Committee, Desai Committee on service conditions of marine services at the ports, initially for Bombay and then for the remaining ports. The reports (July 1968) of the International Association of Ports and Harbours (I.A.P.H.) Study Team as also the Ports and Shipping Statistics Committee (1955) fall under the latter category. There have also been a few inquiries into the wage structure, categorization of labour, etc. at the ports undertaken by such Committees as P. C. Chaudhuri Committee (1957) and the Central Wage Board for Port and Dock Workers (1969). The Commission had, therefore, to undertake the task of examining all aspects of integrated working and development of Major Ports.

Time Schedule

1.4. The Commission was initially required to submit its report within a period of six months. Considering the volume of work involved in such a comprehensive enquiry the time schedule prescribed proved to be inadequate. Moreover the work of the Commission could not be started in full swing for the first six months because of delay in the appointment of the Secretary and staff and a number of factors.

1.5. A copy of the terms of reference was circulated to the shippers, shipowners, exporters, associations of Port and Dock Workers, Dock Labour Boards, academic institutions, maritime State Governments, user Ministries, Public Sector Undertakings, etc. in March 1968. Out of 632 Organizations/Associations addressed 127 submitted memoranda. A list of the organizations which submitted memoranda is given at Appendix III. There was some delay in the submission of the memoranda by these organizations and experts.

1.6. The work of the Commission was further complicated in the absence of codified data on a uniform pattern with the various Major Port Authorities. It took considerable time to cull out on a comparable basis the detailed information pertaining to port accounting, finances, operations and investment, etc. from the annual reports of the ports and also to obtain them from the ports wherever not available in the published port accounts. In view of the divergent practices followed by the ports, particularly as regards financial and accounting procedures, the Commission has had to embark on a process of reconstructing the accounts on a uniform basis to come to meaningful conclusions.

1.7. The Commission also requested the port authorities to submit comprehensive papers on the various aspects of port working as detailed below:—

- (i) the working of the port at present, the traffic handled, special problems and the manner in which they are being tackled;
- (ii) traffic projections for next ten years with detailed projections for the next five years;
- (iii) the structure of port management distinguishing features, if any, with their advantages and disadvantages, any

studies undertaken in relation to the management and suggestions for the future;

- (iv) port charges, the criteria for fixing them, the sensitivity of export-import trade through the port to increase in port charges.
- (v) the existing labour organizations, current rates of wages, *ex gratia* payments, allowances, welfare amenities, incentive schemes, machinery for tackling labour disputes, etc;
- (vi) relationship between the Major and Minor Ports, the role that Minor Ports can play in relieving congestion at Major Ports; and
- (vii) impact of technological changes in shipping and cargo handling, measures already taken to cater to these changing requirements and further measures necessary.

1.8. Valuable information regarding the recent technological developments in the spheres of shipping and ports were also gathered through our Missions abroad.

1.9. The Chairman of the Commission, during his visits abroad in 1969 on other assignment, utilized the opportunity to visit the ports of New York and London to study various facets of port working such as port management, port finances and port development programmes etc., and circulated a report on his visit to the Commission for its consideration. He also visited the ports of Tokyo Bay in Japan and Honk Kong in May 1970 and circulated his tour notes.

1.10. In the course of its enquiry the Commission visited all the Major Ports including the Major Ports of Mangalore and Tuticorin under construction and heard the evidence of the parties interested such as shipowners, Export Associations, Labour, Chambers of Commerce, etc. A list of the various organisations which tendered evidence before the Commission is given at Appendix IV. The Commission interviewed the user Ministries and Organisations such as Ministries of Food and Agriculture, Petroleum and Chemicals, Minerals and Metals Trading Corporation, State Trading Corporation, the Railway Board, etc.

1.11. The Commission discussed with the Ministry of Finance the financial policies relating to ports including more specifically the terms of Government lending to ports.

1.12. To facilitate the study in depth of various aspects of port working, the Commission constituted the following three Study groups:—

- (a) Study-group on utilization of existing port facilities headed by Shri B. B. Ghosh, then Chairman of Calcutta Port Commissioners and a member of the Commission;
- (b) Study-group on port finances headed by Shri D. A. Screwvala, Chief Accountant, Bombay Port Trust; and
- (c) Prof. V. V. Ramanadham, a member of the Commission was asked to undertake a detailed study of port rating policy.

The reports of these Study-groups have been of considerable help to the Commission and we have had occasions to refer to their recommendations in the appropriate chapters. As these reports contain valuable data, many of them not made available earlier, we are publishing these reports in full separately as companion volumes. We are also publishing a monograph on history and development of Major Ports.

1.13. The Commission secretariat prepared working papers on the various aspects covered by the terms of reference which were considered at the meetings of the Commission and decisions taken thereon. The Commission held twenty sittings and signed the Report at the twenty-first sitting.

1.14. The Commission acknowledges with thanks the immense assistance rendered by the very many organizations like Chambers of Commerce, shipowners, trade unions, Port Trusts and State Governments who took considerable trouble to provide the Commission with all the information it sought. Without their unfailing courtesy and cooperation it would have been impossible to gain an insight into the complexities of the subject.

1.15. The Commission is particularly grateful to Sarvashri B. B. Ghosh, D. A. Screwvala and V. V. Ramanadham and the members of the Study-groups for their detailed and analytical reports which enabled the Commission to reach appropriate conclusions on such highly technical matters as port facilities, port finances and port rating policy.

1.16. Finally, the Commission wishes to place on record its warmest appreciation and thanks for the work of the Secretary of the Major Ports Commission, Shri D. Sridharan, I.A.S. and the members of his staff. The preparation of the Report involved enormous amount of detailed study, analysis, checking and cross-checking of statistics necessitating long and tedious hours of work. During all this period, the Secretary and his staff showed unflagging enthusiasm and unfailing interest. We wish to refer to the useful contribution made by our Consultant, Prof. L. A. Natesan. The Commission could hardly have been served better.

CHAPTER 2

HISTORY OF THE MAJOR PORTS

Before proceeding to the principal terms of reference, we would like to give a brief account of the history and development of the Major Ports in India. The Major Ports have come into existence at various points of time and have been subjected to influences and characteristics of the regions and of the economic developments of the times. It is necessary to appreciate these in order to understand the nature of the development of the ports, their growth and the type of the traffic that has developed and the facilities they have had to be equipped with. The Major Ports dealt with here are:—

- (a) Calcutta, Bombay and Madras, the older ports;
- (b) Cochin and Visakhapatnam, which were developed during inter-War period; and
- (c) Kandla, Mormugao and Paradip which came in since Independence.

We shall first consider the history of these Major Ports upto the year 1950-51 when the programmes of development of the ports were integrated in the national Plans.

Calcutta

2.2. Although the origins of the Port of Calcutta could be traced to the British Settlement and the East India Company's settlement, its location and geography influenced considerably the subsequent growth of the Port. (The approaches to the port which is about 198 km. from the Sandheads are difficult to navigate on account of the task of maintaining adequate depths, the length of the navigable channel amounting to 203 km. from the set-mark limit, the existence of 14 bars and a number of sharp bends on the river, necessitating restrictions on the size of the vessels. Almost from the very beginning a regular Pilot Service was provided to reduce the hazards of navigation on the Hoogly.

2.3. The trade of the port steadily increased over the years. Originally this was due to the facilities and advantages for trade given to the English merchants by the then Government of Bengal, and a further expansion came with the abolition of custom duties. The emergence of Calcutta as a modern port came about in the second half of the last century, with a tremendous impetus to its traffic brought about by the introduction of the Railways which served a vast expansion of the hinterland and the opening of the Suez Canal in 1863 which promoted the commercial relations between the U.K. and India.)

2.4. The increase in the volume of traffic reacted on the capacity to handle it at the port. Government considered that the time was ripe to entrust the task of systematically improving the facilities to

a proper responsible body. Accordingly, a Calcutta Port Commission was established with nine Trustees under the Act V of 1870, which came into effect on 17 October 1870. The number was increased to twelve later when the Indian mercantile community also got representation. From this time onwards the requirements of the Port received proper attention. The number of jetties was increased to six, the construction of the Howrah Bridge was taken up in 1875, and the Port Trust buildings were completed in 1877. The first stretch of the Port Trust Railways connected Bagh Bazar and Meerbhur Ghat. Other important developments about this period were the introduction of night working, the opening of the Budge Budge Petroleum Wharf, and the Tea Warehouse. A dock system, complete with a lock entrance, turning basin, dry docks, transit sheds, etc., was completed and opened to traffic in 1892. In the succeeding years, there were further improvements, namely, extensions to the Port Commissions' Railways, opening of the ferry service, lighting of the river, and enlargement of storage and warehousing accommodation. }

2.5. The next important event was the outbreak of World War I which dislocated and adversely affected the normal trade of the Port. There was also in addition a change in the direction of trade and imports shifted from the belligerent countries to the U.S.A. and Japan.

2.6. The Constitutional changes after the war transferred the ports to the control of the Governor General in Council and the Indian Legislature, and the Ports of Calcutta, Bombay and Madras were declared Major Ports. Although the control was vested in the Central Government, the Government of Bengal continued to exercise all the statutory powers as before under the local Acts and the Indian Ports Act, 1908.

2.7. In the immediate post-War years, Calcutta recovered its traffic, and in anticipation of its long-term needs, the Commissioners decided on a large-scale expansion of the facilities. Besides four additional berths, three large docks were connected to the Kidderpore Docks system. A new dock, called "King George's Dock", one of the most modern at the time, was opened in 1929. The expansion programme was almost immediately thereafter interrupted by the world-wide depression which led to a great decline in the traffic, and consequently a large portion of capacity was left unutilized. The revival was slow.

2.8. The onset of World War II had a severe impact on the port and its traffic, and with Japan's entry into the War and the closure of the Bay of Bengal to traffic, the Port was for a time almost closed. The Port also lost considerable equipment which had been commandeered for war work. The Japanese bombing also led to serious shortage of labour. Conditions became easier by the end of 1943 and there was a perceptible improvement thereafter as a result of better co-ordination of the activities of all interests till the end of the War.

(2.9. The post-War rehabilitation programme had to be revised almost immediately as the Partition of the country deprived the

Port of a large part of its hinterland. The restoration of the Port to a state of satisfactory working required a considerable amount of investment and the rehabilitation programme of the Port was integrated into the First Five Year Plan which started at the end of 1950-51. The deterioration of the Port had already begun to make its influence felt and this called for dredging operations. As the river conditions precluded vessels drawing a draft of 8.5 to 8.8 metres leaving the Port, special measures appeared to be called for to correct the deterioration.

Bombay

2.10. The development of Bombay as a Port started when, on 27 March 1668, it was transferred from the Crown to the East India Company. The construction of a customs house, a warehouse and a mole station capable of berthing small ships, was put in hand immediately by the East India Company. Sir Gerald Aungier, President of the Surat Council and the Governor of Bombay described the Port as "certainly the fairest, largest and securest in all these ports of India where a hundred sail or tall ships may rise all the year safe with good anchorage." He carried out measures to develop the trade of Bombay which became the Headquarters of the Company. (Bombay's first dry dock was constructed in 1748 on the site of the present Government Dockyard. Its success led to two more dry docks being laid down and completed by 1750.

2.11. Bombay developed regular trade with the principal sea ports of India, the Persian Gulf and East Africa. Apart from being the chief emporium of Western India, Bombay had a larger share of the trade with England than either Calcutta or Madras. The Port afforded facilities for repairs of ships of different sizes. There were also ship-building activities undertaken at Bombay by the middle of the 18th century.

2.12. With the abolition in 1813 of the monopoly of the East India Company, the commerce of India was thrown open to the merchants of other ports and further expansion of trade set in. Within another decade, steam navigation had started and the first steam vessel "Enterprise" sailed from Falmouth to Calcutta via Cape of Good Hope. The "Hugh Lindsay" of 411 tonnes, built in Bombay and launched in October, 1829, was the steamship to operate from Bombay to Suez and Alexandria was thereafter established, the duration of the voyage being brought down to 43 to 46 days. The voyage time was later reduced to 30 days by 1845. a fortnightly mail service was also introduced via Suez and via Colombo.

2.13. The port had serious disabilities and owing to lack of transport facilities, the traffic of the hinterland could not be exploited. This raised the cost of transportation and limited considerably the import and export trade of the port. (The breakthrough came with the introduction of railways in 1853 and their rapid extension into the interior. The opening of the Suez Canal in 1869 was the next major development which cut down the voyage time between Bombay and England from 100 days to 25 days and, later with faster vessels, to even less than three weeks. These

changes led to a striking increase in the volume of the trade of the port. In order to safeguard the interests of trade which might be seriously affected by private companies holding monopoly of the land and shipping facilities of the Port, (Government set up a Board of Trustees for the administration of the affairs of the Port of Bombay under the Bombay Port Trust Act, 1873.) The Board consisted of not less than nine and not more than twelve in number, with a Chairman appointed by the Government of India. The Board was given powers to levy dues at rates approved by the Government of India on all goods passing over their wharves, to exercise control of the pilots and to look after the conservancy and lighting of the Harbour. Not less than three Trustees were to be Indians residing in Bombay.

2.14. Under the management of the Board, new facilities were added to the Port. The Princess Dock was opened on 1 January, 1880. Improved finances in the following years led to considerable reductions in the wharfage charges, and appropriation of large amounts from the revenue to meet capital expenditure. The Victoria Dock was opened in 1888 and the Mere-Wether Dry Dock in 1891. Prior to World War I, the Alexandra Dock was completed in 1914 and the accommodation for berthing ships was practically doubled. During World War I, there was a large increase in Government traffic, and the Port was able to deal with it satisfactorily.

2.15. The cumbersome and expensive method of handling cargo between the ships and rail terminal by bullock carts was replaced by the Port Trust Railway on 1 January 1915, affording direct connection with the two railways serving Bombay, namely, the G.I.P. Railway (now part of the Central Railway) and the B.B.C.I. Railway (now part of the Western Railway). The Port was, thereafter, able to handle the rail-borne goods with greater speed and efficiency.

2.16. With the end of the War, there was a sharp decline in the traffic but after the initial decrease, the value of imports and exports picked up rapidly, exceeding even the pre-War levels. During the 'twenties, the volume of imports well exceeded three million tonnes a year, but exports tended to be lower. The traffic of the Port was adversely affected during the depression of the 'thirties.

2.17. With the gradual gearing up of defence effort and the revival of industrial activity the volume of the traffic picked up during World War II. The Bay of Bengal was virtually closed to shipping owing to the threat of Japanese hostilities and the sea-borne trade of the country was diverted to Bombay and Cochin on the West Coast, which caused acute congestion and serious delays to shipping. A number of improvements were carried out in 1943-44, as recommended by the Anglo-American Mission, and more would have been done but for the major disaster from the two explosions in the ammunition ship berthed in the Victoria Dock in 1944, resulting in heavy loss of life and severe damage to Port installations and its property.

2.18. Relief from the severe strain came with the termination of the War in May 1945. In anticipation of post-War requirements, several schemes were prepared for the rehabilitation and development of the port, the more important among these being the modernization of the Princess and Victoria Docks, reconstruction of transit sheds and warehouses and housing for port labour. When on the Partition of the country in 1947, Karachi went to Pakistan, part of the trade of India formerly handled at Karachi was diverted to Bombay necessitating a total reassessment of the Port's schemes for rehabilitation, expansion and modernization. The long-term schemes for these were integrated with the First and subsequent Five Year Plans starting from 1951-52.

2.19. The Bombay Port was also handling a large volume of passenger traffic in view of its long and old connection with passenger service with Britain and the continent of Europe, with Australia, Japan and East and South East Asia as well as East Africa and the Persian Gulf. Bombay has been on the World's main routes of passenger shipping. It is also the main centre for the Haj pilgrim traffic between India and the Hedjaz. (The Port also handles a fair volume of coastal passenger services.) The development of air service with the advantages of speedier travel has in recent years, severely cut down the passenger traffic.

Madras

2.20. The first Madras Harbour was Fort St. George founded by Francis Day in 1639 on a sand bank as the mouth of the Cooum River to afford a safe haven for the ships of the East India Company. The site was only a very small beach. In fine weather the ships lay at anchor outside the surf, and goods and passengers were landed by *masulah* boats on the strip of beach in front of fort. Goods were piled up in the open as there was no sheltered place to store them till they could be carried through sea Customs and stored in the Company's warehouses. During the monsoon ships avoided the Port and there was no trade.

2.21. The trade of the Port steadily increased in the succeeding two centuries. In the first half of the last century, the value of exports far exceeded that of imports. Until the harbour was built, ships were at the mercy of the vagaries of weather and the traders suffered extortion at the hands of the boatmen. A plan of the Harbour was adopted by the then Government of Madras, as drawn up by Mr. Williams Parkes, a harbour engineer, for the construction of a pier of break-waters about 914 metres apart, stretching out eastward parallel to one another to a length of about 914 metres and curving towards each other, leaving an opening of 168 metres between the pier heads. The work started in 1876 was wrecked by a storm in 1881, and it was not resumed till the turn of the Century. Till then, the beach continued to be littered with all types of cargo in confusion, there was no place for small craft to lay in shelter, and lighters alongside broke loose and got lost during the monsoon.

2.22. It was only after Sir Francis Spring became Chairman of the Port that a serious effort was made to give Madras for the first time in 1910 calm waters inside the harbour with a line of quays replacing the jetty. Other improvements were a boat basin on the south side, a timber pond and slipway, railway lines, provision of cranes and other facilities which enabled speedy loading and discharge of cargo, warehouses and three hectares of first class shed space. Facilities for third class steamer passengers were also provided. By the end of 1916, the Port Trust took over the operation of the railway within the port limits, the linking of which with the adjoining railway systems was a great convenience to the users of the Port.

2.23. The traffic which was a little over half million tonnes in 1903-04 increased steadily. \Despite a fall in the Port's trade during World War I, traffic picked up and by 1924-25 it exceeded a million tonnes.

2.24. The depression of the 'thirties affected the trade of the Port which dropped by 1932-33 to less than half of the earlier peak figures. It was only during the Second World War that the volume of traffic began to increase. The influx of war material for maintaining the eastern theatre of the war taxed the Port beyond its capacity. In 1944-45, the traffic touched the two million-tonne mark.

2.25. On the eve of Independence, the Ports (Technical) Committee, 1946, stated that the Port's access to the sea, though exposed to rough and cyclonic weather, was excellent and that its level of traffic would be doubled. It also found that the Port could take ships of any length up to 183 metres or even more and of 9.1 metres draft. It was fortunate that the problems of the Port had been subject to a close study and a fair appreciation of its basic requirements was readily available when the development programme under the First Five Year Plan was formulated.

Cochin

2.26. The ports on the Malabar coast had been frequented from very early times by merchant ships from the West and the East in search of spices and valuable products of the country. The emergence of Cochin as a port dates back to 1341 A.D. The port was built on the southern side of the entrance of the Periyar river. The merchant community who had from time immemorial been in Cranganore (Muziris) now shifted to Cochin. The natural advantages of Cochin consist of the unique network of backwaters and lagoons, fringed with palms and coconut trees, permitting easy access to its hinterland region. The calm waters of the port afford shelter to ships throughout the year. Till 1795, the trade and activities of the port were controlled by the Portuguese and the Dutch. With the decline of Dutch power, Cochin passed into the hands of the English in 1795.

2.27. The trading interest at Cochin, largely British, mooted in 1858 the idea of improving the Port. Steamers used to lay in anchor in the open sea about 5 kilometres away from the harbour

mouth. It was only at the close of World War I that the idea of siting an all-weather harbour at Cochin was revived. The development of the port was dependent on the goodwill and consent of the Cochin State to which it belonged. Negotiations were carried on, and in 1925, the Governments of the two States of Cochin and Travancore, the South Indian Railway and the Government of Madras reached an agreement to develop Cochin as a Major Port. It had already the advantage of the South Indian Railway system and of the excellent inland waterways which connected the port to the hinterland of the States of Cochin and Travancore. The construction work was entrusted to a harbour engineer of remarkable vision, ability and initiative, Sir Robert Bristow, and under his direction the work of the dry dock, the creation of the man made Willingdon Island, covering an area of about 321 hectares, was completed. The new Port has thus a fine natural harbour affording access to about 325 square kilometres of navigable waterways. Even in the worst of monsoon weather, vessels could lie comfortably in the harbour and carry on their loading and unloading operations without any interruptions. The broad gauge railway extended to the Willingdon Island, where adequate space was provided for warehouses. A metre gauge connection was later provided connecting the Port to the mainland and Trivandrum, further south. The Port has a low wharf as well as lighterage jetties for handling the rail-borne traffic. When Cochin was declared a Major Port, the Harbour Administration was taken over from the Government of Madras by the Government of India in 1936, and Sir Robert Bristow was appointed the first Administrative Officer of the Port in 1940. As compared with 1935-36, the traffic in 1950 had increased five-fold under imports and almost six-fold under exports.

Visakhapatnam

2.28. The need for a Major Port on the east coast between Madras and Calcutta had long been felt and the choice fell on Visakhapatnam. The Bengal Nagpur Railway Company (now part of the South Eastern Railway) was also interested in the development of what was a roadstead here into a Minor Port by the Madras Government. Construction started in 1925 and the comparatively unimportant calling port of Visakhapatnam was converted into a Major Harbour with quay, berths, sheds and port facilities. The port was connected by rail to the Bengal Nagpur Railway and declared open to ocean-going vessels in 1933.

2.29. The Port serves an extensive hinterland comprising the neighbouring States which are rich in agricultural produce and mineral ores, like manganese and iron. In 1926, the Port's (Technical) Committee strongly recommended that Visakhapatnam should be developed as a sheltered deep sea port, capable of accommodating ships up to 198 metres in length and draft up to 9.1 metres. After Independence, as a result of the policy of rapid industrialization, an all round growth in traffic was expected.

2.30. The post-Independence developments were mainly the transfer of the day-to-day control of the Port to the Port Trust and a phenomenal increase in the volume of iron ore exports.

Kandla

2.31. Kandla is the first Major Port built after Indian Independence. Before it became a Major Port, it was a small port of the erstwhile State of Kutch, built largely for handling solar salt for export to Calcutta and the markets served by it. With the loss of Karachi to Pakistan after the Partition, the Government felt the need for a Major Port to serve the growing requirements of North India. The Government of India sanctioned the construction of the Port of Kandla and work on the construction started in 1952. By 1957, four deep water berths together with ancillary structures, like transit sheds and double-storeyed warehouses were completed. By 1959, the Port had been equipped with the requisite facilities and connected with a metre gauge railway which enabled the transportation of cargo right up to Delhi, Punjab, Kashmir, Uttar Pradesh and Bihar as well as to other parts covered by the metregauge network.

Mormugao

2.32. The port of Mormugao became one of the Major Ports of the country when Goa was liberated from Portuguese control by the Government of India in December 1961. It was declared a Major Port on 22 December 1963. Goa is endowed with a magnificent natural harbour and a beautiful coast line permitting access to the navigable waters of two rivers, namely, the Mandovi and the Zuari. Panaji, the capital of Goa, is situated on the Mandovi river. It was already a flourishing trading centre even before the Portuguese came to India. The two rivers are navigable for a distance of 60 kilometres and five other rivers of the Goa river system are navigable for small lengths of 3 to 35 kilometres. More than 90 per cent of export of ore in recent years was brought over the river system in self-propelled barges. The Port provided an outlet for a hinterland beyond the original Portuguese territory.

2.33. The Port and its connected railways started operation in 1888 and since 1902 were worked as part of the Indian Railway system till the end of 1955. They were managed since 1 April 1961 by an autonomous "Junta Autonoma dos Portos e Caminhos de Ferro", but in 1963 the line was transferred to the India Railway system. The Port has its own marshalling yard, permanent way, harbour wagons, locomotives, workshops and staff for operation. As from July 1964, the provisions of the Major Port Trusts Act 1963 were made applicable to it and a Board of Trustees was constituted.

2.34. The principal traffic of the Port in recent years is the export of iron ore. A special feature of the Port's operations is that the major portion of the traffic is handled in the stream, and the available shore facilities deal with only a very limited volume of the total traffic. As to iron ore, only about 24 per cent is mechanically handled and the rest in stream. With an extensive harbour which can accommodate 50 or more working ships and serving a hinterland of growing importance, Mormugao has great potentialities.

Paradip

2.35. Until the Port of Paradip was constructed, there was no port of consequence on the long East Coast between Calcutta and Visakhapatnam over a length of coast of about 840 kilometres. The need for an outlet for the vast mineral resources of Orissa was felt by Government of Orissa which took the initiative to develop a port. Construction started in November 1962 for a deep draft port with a designed depth of 12.8 metres and 11.9 metres draft, and the port was commissioned in 1966. A mechanized iron ore berth was built first for the export of iron ore. The ore berth and the installation of the ore handling plant were completed in 1966. The plant has a designed capacity to handle 2,500 tonnes of iron ore per hour with two bucket-wheel reclaimers to feed the ore from stacks into the belt conveyor and shiploader to load the ore into the hatches of ships. There are besides, a mooring berth for handling the general cargo, a wooden jetty for dealing with small cargoes.

2.36. Even while the construction was in progress, the Government of India took over the Port at the request of the Orissa Government in the middle of 1965 and agreed to its development as a Major Port.)

2.37. The post-War port rehabilitation programmes, their integration into the Five Year Plans and the progress of the Major Ports during 1951-52 to 1968-69 are dealt with in the succeeding chapter.

CHAPTER 3

DEVELOPMENT OF MAJOR PORTS UNDER THE PLANS

At the time of Partition of the country, the Major Ports were in a war-worn and dilapidated condition as a result of the intensive use, lack of proper maintenance and inadequate replacement of the assets during the period of World War II. The loss of the Port of Karachi, which was serving the needs of the areas now covered by the Punjab, Haryana, Jammu and Kashmir, Rajasthan, Uttar Pradesh, Madhya Pradesh and Gujarat further aggravated the situation. The remaining Major Ports of Calcutta, Bombay, Madras, Cochin and Visakhapatnam were not in a state to cope with the then existing traffic volumes.

3.2. At the commencement of the first Five Year Plan in 1951-52, there were five Major Ports, namely, Calcutta, Bombay, Madras, Cochin and Visakhapatnam. A new Major Port at Kandla was developed during the First and the Second Plan periods. The Port of Mormugao became the country's seventh Major Port when Goa was liberated from Portuguese control in December 1961. Paradip was developed as the eighth Major Port and commissioned in November 1966. In addition to these, two Major Port Projects—one at Mangalore and another at Tuticorin—are under construction.

3.3. With the rapid industrial development generated during the successive Five Year Plans, there has been a steady growth of traffic at the various Major Ports in the country. The traffic at Major Ports which was 19.2 million tonnes at the beginning of the First Plan increased to 55.1 million tonnes by 1968-69 as will be observed from Table 1.

TABLE 1
Traffic at Major Ports

		(In million tonnes)				
Port		1950-51	1955-56	1960-61	1965-66	1968-69
Calcutta		7.6	8.0	9.4	9.7	8.0
Bombay		7.0	9.4	14.3	17.9	16.4
Madras		2.2	2.3	3.0	4.9	5.4
Cochin		1.4	1.6	2.0	2.9	5.2
Visakhapatnam		1.0	1.3	2.8	4.4	8.1
Kandla	. . . . .	..	..	1.6	2.5	2.0
Mormugao	. . . . .	..	..	6.4	7.9	8.8
Paradip	. . . . .	..	..	..	..	1.2
Total	.	19.2	22.6	39.5	50.2	55.1

Source—

- (1) India Ports and Shipping Statistics—1969.
- (2) Port Authorities for 1968-69 data.

3.4. A study of the changing composition of the traffic at various Major Ports is revealed from Table 2.

TABLE 2
Composition of traffic at Major Ports

Commodity	(In million tonnes)				
	1950-51	1955-56	1960-61	1965-66	1968-69
Mineral Oil	3.1	6.2	12.0	15.7	18.0
Iron ore	..	0.3	6.7	11.0	15.1
Coal	2.7	2.5	2.2	2.0	1.0
Fertilizer/rock phosphate, sulphur	0.3	0.4	0.6	1.8	3.7
Foodgrains	3.4	0.8	5.2	7.2	4.9
Other cargo	9.7	12.4	12.8	12.5	12.4
Total	19.2	22.6	39.5	50.2	55.1

Source—

(1) India Ports and Shipping Statistics—1969.

(2) Port Authorities for 1968-69 data.

It will be observed from the foregoing table that there have been significant changes in the composition of the traffic during the 18 years of planning. Of the 35.9 million tonnes of increase in traffic in 1968-69 over 1950-51, about 33.4 million tonnes is accounted for by three main commodities only, namely, iron ore P.O.L. and fertilizers. The traffic in foodgrains also increased slightly from 3.4 million tonnes in 1950-51 to 4.9 million tonnes in 1968-69. On the other hand, there was a decline in the traffic in coal from 2.7 million tonnes to 1.0 million tonnes in the same period. The compounded growth rate of other cargo traffic (which covers all commodities other than those specifically mentioned above), which increased from 9.7 million tonnes in 1950-51 to 12.4 million tonnes in 1968-69, works out to less than 1.5 per cent. In other words, the share of the group 'other cargo' which formed about 50.5 per cent of the total traffic in 1950-51 came down to 22.5 per cent in 1968-69.

3.5. Table 3 gives the distribution of the traffic by commodities between different ports in 1950-51 and 1968-69:

TABLE 3

Distribution of traffic by commodities between the Major Ports
(In million tonnes)

Port & Year			Mineral oils	Iron ore	Coal	Fertili- zer/ rock phosphate/ sulphur	Food grains	Other cargo	Total
1			2	3	4	5	6	7	8
1. Calcutta									
1950-51	.	.	0.7	..	2.1	0.1	0.6	4.1	7.6
1968-69	.	.	1.2	0.5	0.9	0.5	1.1	3.8	8.0
2. Bombay									
1950-51	.	.	1.6	..	0.1	0.1	1.8	3.4	7.0
1968-69	.	.	9.0	..	..	1.2	1.4	4.8	16.4
3. Madras									
1950-51	.	.	0.5	..	0.4	0.1	0.5	0.7	2.2
1968-69	.	.	0.8	2.0	0.1	0.8	1.0	0.7	5.4
4. Cochin									
1950-51	.	.	0.3	..	0.1	..	0.5	0.5	1.4
1968-69	.	.	3.7	..	N	0.2	0.5	0.8	5.2
5. Visakhapatnam									
1950-51	.	.	..	..	..	..	..	1.0	1.0
1968-69	.	.	2.4	3.4	..	0.5	0.4	1.4	8.1
6. Kandla									
1968-69	.	.	0.7	..	..	0.4	0.6	0.3	2.0
7. Mormugao									
1968-69	.	.	0.2	8.0	..	0.2	N	0.4	8.8
8. Paradip									
1968-69	.	.	..	1.2	..	..	N	N	1.2
Total									
1950-51	.	.	3.1	..	2.7	0.3	3.4	9.7	19.2
1968-69	.	.	18.0	15.1	1.0	3.7	4.9	12.4	55.1

(NOTE—N=Negligible)

(slight variations in totals for 1968-69 are due to rounding errors.)

Source—

(1) India Ports and Shipping Statistics—1969.

(2) Port Authorities for 1968-69 data.

A detailed study of the growth of traffic at various Major Ports reveals that the traffic at the Calcutta Port, which was the premier Port of the Country in terms of quantum of traffic handled in 1950-51, has been more or less static, even registering a decline in the case of certain commodities. The Bombay Port, on the other hand, has emerged as the premier Port of the country in terms of quantum of traffic handled, which increased from 7 million tonnes in 1950-51 to 16.4 million tonnes in 1968-69. There has also been a substantial growth of traffic at the Ports of Madras, Cochin and Visakhapatnam from 2.2 to 5.4 million tonnes, 1.4 to 5.2 million tonnes and 1.0 to 8.1 million tonnes respectively. The traffic handled by the remaining three Ports of Kandla, Mormugao and Paradip was of the order of 2.0, 8.8 and 1.2 million tonnes in 1968-69 respectively.

3.6. In the first three Five Year Plans, no systematic approach of estimating the growth of traffic at various Major Ports on an all-India basis and correlating the investments with traffic estimates appears to have been made. It is only towards the end of 1963 that a beginning was made for the first time to give a rational basis to the schemes of development to be included in the Fourth Plan by constituting a Working Group on Major Ports with representatives from the Port Authorities, the Planning Commission, the user Ministries, etc. The Group reviewed the growth of traffic in different commodities in the past years and formulated a development programme for inclusion in the Fourth Plan period based on port-wise, commodity-wise traffic estimates up to the year 1970-71. It also drew up a picture of perspective growth traffic up to the year 1975-76. Since the Fourth Five Year Plan, which was originally to commence from April 1966, was postponed to April 1969, the annual programmes for the inter-Plan period were approved by the Planning Commission on the basis of the Working Group's proposals. A comparative statement showing port-wise investment proposed in the various Plans (including annual Plans) and the actual expenditure incurred is given in Appendix I.

3.7. The principal objective of the development programmes for Major Ports in the First Five Year Plan was to rehabilitate and modernize facilities at the existing Major Ports, especially those which had suffered heavy wear and tear during the war; and to provide a Major Port at Kandla to handle the traffic which was previously catered to by Karachi and also a modern Marine Oil Terminal with three berths at Butcher Island in Bombay to cater to the needs of two oil refineries at Trombay. Due, however, to the delays in finalizing the development programmes of the various ports, the progress during the First Plan was rather slow. The major works completed during the First Plan were the commissioning of two berths of the Marine Oil Terminal at Bombay in February and July 1955 respectively. The third berth was commissioned in the first year of the Second Plan.

3.8. In the Second Five Year Plan, the projects which had remained unfinished in the First Plan were taken up. In addition,

new investments were provided for modernizing, equipping and providing additional berthing facilities at the docks of Calcutta, Madras, Cochin and Visakhapatnam. In the first two years of the Plan, there was severe congestion at the ports on account of large scale imports of heavy cargo. Several measures were taken up to increase the capacity at the Major Ports and to enable them to handle the increased traffic. Due to deteriorating draft conditions in the River Hooghly, special programmes were taken up at the Calcutta Port providing for extensive river training works and dredging of the difficult bars. Besides these, the Major works undertaken during the Second Plan period were the construction of the Jawahar (Wet) Docks consisting of six berths at Madras and the construction of four additional general cargo berths in the Ernakulam Channel at Cochin. The progress in the Second Five Year Plan, however, was far from satisfactory as may be seen from the port-wise allocation and actual expenditure shown in Appendix I. As against the approved investment of Rs. 64.3 crores and Rs. 98.0 crores during the First and Second Plans, the actual expenditure was only Rs. 26.3 crores and Rs. 45.5 crores respectively.

3.9. Apart from the completion of the projects which were carried forward from the earlier two Plans, the programmes for the Third Plan included the modernization and expansion of the docks at Bombay and a start on the construction of the Haldia Dock System at Calcutta. Development of Paradip, Mangalore and Tuticorin was also projected during that Plan period.

3.10. The important projects undertaken during the three Annual Plans related to Haldia Dock Scheme, Dock Expansion and Ballard Pier extension and dredging of main harbour channel of the Bombay Port, oil-cum-ore dock at Madras, improvement and modification to the iron ore handling plant at Visakhapatnam Port, construction of an open berth and execution of additional dredging to tackle siltation problem at Cochin Port, intensive dredging work at Paradip Port and the development of two new Major Ports of Mangalore and Tuticorin. As will be observed from Appendix I, the actual expenditure incurred during the years 1966-67, 1967-68 and 1968-69 was Rs. 23.66, Rs. 25.49 and Rs. 39.67 crores as against a Plan provision of Rs. 37.38, Rs. 43.48 and Rs. 42.72 crores respectively. The main reasons for the shortfall in expenditure in 1966-67 and 1967-68 were the slow progress in respect of important projects, such as the Haldia Dock Scheme at Calcutta, the dock expansion and the Ballard Pier Extension Scheme at Bombay and the Outer Harbour Project at Madras; the delay in the ordering of new dredgers for the Cochin Port; and the erection of the ore handling plant at Visakhapatnam Port as also the change in the construction plan of railway lines in the reception-cum-despatch yard at that Port.

3.11. The Ministry of Shipping and Transport has assessed the capacity of the Major Ports to handle traffic at the commencement and the end of the Third Five Year Plan (1961-62 and 1965-66) and

at the commencement of the Fourth Plan (1969-70) as indicated in the following table:

TABLE 4
Traffic Handling Capacity of Major Ports

(In million tonnes)			
Port	Beginning of Third Plan (1961-62)	End of Third Plan (1965-66)	Beginning of Fourth Plan (1969-70)
1	2	3	4
1. Calcutta	12.16	12.20	12.50
2. Bombay	14.50	15.00	15.60
3. Madras	3.20	5.00	7.00
4. Cochin	3.25	4.20	5.70
5. Visakhapatnam	3.60	8.00	10.30
6. Kandla	1.06	1.80	2.10
7. Mormugao	..	8.00	8.60
8. Paradip	..	..	2.00
Total	37.77	54.20	63.80

The capacity of the port during 1965-66 was placed at 54.2 million tonnes as against 50.2 million tonnes of traffic handled by the Major Ports.

3.12. In April 1968, a Planning Sub Group on Ports was constituted with representatives of the Planning Commission and of the Ministries of Transport and Shipping, Finance, Commerce, Railways, Defence, Food and Agriculture, Petroleum and Chemicals, Steel, Mines and Fuel and the Chairman of the Calcutta, Bombay and Madras Ports, to formulate afresh proposals for the Fourth Five Year Plan for the Major Ports on a more rational basis and with due regard to economy in costs.

3.13. The Planning Sub Group on Ports worked out the traffic projections at various Major Ports up to the year 1973-74 and also made its recommendations for inclusion of various port development programmes in the Fourth Five Year Plan. These were further scrutinized by the Working Group on Transport and the Planning Commission. In the subsequent chapters, traffic projections at the various Major ports and also the development programmes of these Ports are discussed in detail.

CHAPTER 4

TRAFFIC PROJECTIONS

The capital intensive character, the long period of construction and the comparative durability of port facilities call for a realistic assessment of growth of traffic in different commodities at various ports in India, at least in the next 15 to 20 years. This is all the more important, particularly in a developing economy on a rational basis where the limited resources have to be allocated among different sectors of the economy.

4.2. For planning ahead the provision of the right type of facilities at the various Major Ports, it is necessary to have as firm a forecast of commoditywise composition of traffic at these ports as possible. For this purpose, the Commission has relied on the estimates of traffic offerings at various Major Ports worked out by different agencies like the Working Group on Transport and the Planning Commission, and the user Ministries/organizations such as the Ministries of Food and Agriculture and Petroleum and Chemicals and the Minerals and Metals Trading Corporation.

4.3. In Chapter 3, an attempt has been made to trace the growth and composition of traffic at various Major Ports since 1950-51. It was observed in that Chapter that the share of general cargo has been declining steadily and that it formed only 22 per cent of the total traffic handled at various Major Ports in 1968-69 as against 43 per cent in the year 1950-51. Two tables giving the projected growth of traffic at the various Major Ports in 1973-74 over the actual traffic in 1968-69, the commoditywise gains in traffic handled by various Major Ports and the distribution of increased traffic at these ports, based on the Planning Commission's estimates dated 31 March 1970 are given in subsequent pages.

TABLE 1

Actual Traffic for 1968-69 and Projected Traffic for 1973-74 at the Various Major Ports

(In million tonnes)											
Year	Cal- cutta	Bom- bay	Mad- ras	Co- chin	Vishak- apat- nam	Kan- dla	Mor- mu- gao	Para- dip	Man- ga- lore	Tuti- corin	Total
1973-74	.. 14.64	17.11	8.55	5.65	10.35	2.65	10.58	4.20	1.35	1.60	76.68
1968-69	.. 7.95	16.40	5.38	5.19	8.12	2.04	8.78	1.24	..	..	55.10
Tonnage gain	.. 6.69	0.71	3.17	0.46	2.23	0.61	1.80	2.96	1.35	1.60	21.58

Source—Major Ports/Planning Commission.

TABLE 2

Commoditywise traffic for 1968-69 and projected traffic for 1973-74 and their distribution of projected tonnage gain among the Major Ports.

(In million tonnes)								
Year		Petro- leum products	Iron ore	Coal	Fertili- zers in- cluding raw material	Food- grains	Others	Total
1		2	3	4	5	6	7	8
1973-74	.. ..	23.67 (30.9)	25.50 (33.2)	1.80 (2.3)	6.71 (8.8)	1.00 (1.3)	18.00 (23.5)	76.68 (100.0)
1968-69	.. ..	17.95 (32.6)	15.08 (27.3)	1.00 (1.8)	3.73 (6.8)	4.95 (9.00)	12.39 (22.5)	55.10 (100.0)
Tonnage gain	.. ..	5.72	10.42	0.80	2.98	(—) 3.95	5.61	21.58
<i>Gain by ports</i>								
Calcutta	.. ..	3.05	2.54	0.59	0.93	(—) 0.73	0.31	6.69
Bombay	.. ..	(—) 0.68	(—) 0.05	..	1.87	(—) 1.36	0.93	0.71
Madras	.. ..	2.50	1.01	0.02	(—) 0.18	(—) 0.66	0.48	3.17
Cochin	.. ..	0.35	..	0.09	0.11	(—) 0.45	0.36	0.46
Vishakhapatnam	.. ..	(—) 0.57	2.60	..	(—) 0.06	(—) 0.14	0.40	2.23
Kandla	.. ..	0.73	..	..	0.39	(—) 0.56	0.05	0.61
Mormugao	.. ..	0.34	1.53	..	(—) 0.08	(—) 0.04	0.05	1.80
Paradip	.. ..	..	2.79	..	..	(—) 0.01	0.18	2.96
Mangalore	.. ..	..	..	..	..	..	1.35	1.35
Tuticorin	.. ..	..	..	0.10	..	..	1.50	1.60

Figures within brackets indicate the percentages.

Source—Major Ports/Planning Commission.

4.4. It will be observed from Table 2, that out of the 21.58 million tonnes of increase in traffic, the bulk cargo comprising P.O.L., iron ore, coal and fertilizers (including raw materials) amounts to 19.92 million tonnes. There is a reduction of about 3.95 million tonnes in traffic in foodgrains while the increase in traffic of "Other cargo" is 5.61 million tonnes. The Group "Other cargo" also includes commodities like salt, manganese ore, oil cakes, etc., which, with their increase in the tonnage, require specialized bulk-handling facilities. The share of 'general cargo' in the total traffic will, therefore, be even smaller in the years to come. The broad conclusions that emerge are:—

- (i) the predominance of the bulk cargo traffic in India's overseas trade necessitating the provision of specialized facilities in the ports;
- (ii) the emergence of iron ore as the largest single commodity in the India's overseas trade constituting about 33 per cent of the estimated total traffic and 48 per cent of total dry cargo traffic to be handled by the various Major Ports, the continued importance of P.O.L. traffic in absolute terms which would increase from the existing level of about 18 million tonnes to 23.7 million tonnes and the growth of traffic in fertilizers and fertilizer raw materials

to the level of 6.7 million tonnes constituting about 9 per cent of the total traffic in 1973-74; and

- (iii) the relative decline in the proportion of the general cargo traffic in the years to come.

4.5. The Perspective Planning Division of the Planning Commission has projected India's overall foreign trade up to the year 1981. The detailed volume of foreign trade of India for each of the Major Ports has, however, not been worked out. Moreover, for a number of commodities, the Planning Commission has indicated the value of the trade without specifying the quantities. In some other cases the imports/exports have been given in terms of units, namely, metres (of cloth), pair (of shoes), etc. Nevertheless, they have indicated the anticipated dimension of traffic in certain major commodities such as 47 million tonnes of iron ore, 2.4 million tonnes of oil cakes, 1.5 million tonnes of manganese ore, 0.9 million tonnes of jute manufactures, 0.5 million tonnes of foodgrains, 0.6 million tonnes of sugar, which are anticipated to be exported in 1980-81. The imports, among other things, will comprise 37.5 million tonnes of crude oil, 10.8 million tonnes of fertilizers and fertilizer raw materials, 1.1 million tonnes of iron and steel and non-ferrous metals and metalliferous ores and scraps. A brief summary of the principal imports and exports envisaged in 1980-81 in terms of value is shown below:—

TABLE 3*

(Rs. Crores)

Sl. No.	Group of commodities	1980-81
Imports		
1	Metals including metalliferous ores and scrap	450
2	Machinery and transport equipment and metal products	1,080
3	Crude oil and petroleum products	330
4	Fertilizers and fertilizer raw materials	430
5	Others	660
6	Total non food imports	2,950
7	Food grains	..
8	Total Imports	2,950
Exports		
1	Agriculture and allied products	958
	(i) Tea	190
	(ii) Marine products	116
	(iii) All other products	652
2	Minerals	316
	(i) Iron Ore	252
	(ii) Other minerals	64
3	Manufacturers	1,639
	(i) Cotton textiles and jute manufactures	380
	(ii) Engineering goods including metals	400
	(iii) All other manufactures	859
4	Other exports unspecified	107
5	Total Exports	3,020

* The detailed tables are shown in Appendices I and II.

Source—Fourth Five Year Plan—1969-74.

4.6. It will be noticed that traditional items like jute manufactures, tea, cotton textiles, and unmanufactured tobacco, have continued to dominate the export list. However, the year 1968-69 was significant because of the breakthrough achieved in our export effort and also for the diversification of the commodities exported. Non-traditional items, such as iron ore, engineering goods, iron and steel, chemicals and allied products have come to occupy prominent positions in the list of export commodities. The total exports registered an increase of 13.5 per cent in the year 1968-69 over the 1967-68 level. The pace of growth and change in the structure of Indian exports may be seen from the following table giving the composition of our exports in the years 1967-68 and 1968-69:

TABLE 4
Composition of Exports

	(Rs. in crores)			
	1967-68		1968-69	
	Value	Percentage	Value	Percentage
1. Jute textiles	234.1	19.53	218.0	16.03
2. Tea	180.2	15.03	156.5	11.51
3. Cotton textiles	71.2	6.52	84.3	6.20
4. Iron ore	74.8	6.24	88.4	6.50
5. Leather & Leather manufactures	53.5	4.46	72.7	5.34
6. Iron & Steel	51.9	4.33	74.5	5.48
7. Oil cakes	45.5	3.80	49.5	3.64
8. Engineering goods	32.6	2.72	67.4	4.95
9. Cashew kernels	43.0	3.59	60.9	4.48
10. Tobacco	35.6	2.97	33.8	2.49
11. Fish & fish preparations	18.4	1.54	22.7	1.67
12. Coffee	18.2	1.52	18.0	1.32
13. Chemicals & allied products	11.9	0.99	17.5	1.29
14. Others	320.8	26.76	395.8	29.10
Total	1,198.7	100.00	1,360.0	100.00

Source—Economic Survey—1969-70.

4.7. In order to sustain the growth of our exports, particularly of the non-traditional commodities, it is necessary to minimize the overall cost of transportation by providing the right type of facilities at each port. For example, export of fish and fish preparation need cold storage facilities, mobile cold storage containers, trawlers, mechanized boats, landing strips, etc., at the port of exit. In order to develop export markets of high grade salt, the costs of export have to be kept down by providing fast mechanical loading and other facilities at Tuticorin and Kandla.

4.8. The future trend under imports is linked up with programmes of further import substitution and industrial expansion. Import substitution has already been successfully implemented in a number of industrial sectors and efforts in this direction will be intensified in other fields. There are certain priority sectors like fertilizers, non-ferrous metals, oil and sophisticated equipment where imports will need to continue. Currently, we import nearly 51.2 per cent (1.19 million tonnes) of finished fertilizers, 63.9 per cent (10.73 million tonnes) crude oil, 65 per cent (0.36 million tonnes) mild steel, 73.6 per cent (0.04 million tonnes) copper and 29.5 per cent (valued at Rs. 516 crores) of machinery and equipment of our total requirements. Imports of these commodities are likely to persist during the next decade.

4.9. The Director of Transport Research in the Ministry of Shipping and Transport has, in an exercise on the "Perspective growth of traffic at Major Indian Ports up to 1985-86", estimated commoditywise traffic offering at various existing and future Major Ports for the years 1975-76 and 1985-86. These estimates have been worked out with the help of modern techniques of economic analysis, including input-output analysis, programming models and electronic computers. A sketch of Indian economy in 1975-76 and 1985-86 has been attempted, including its location pattern. A summary table indicating the changes in traffic expected to take place by 1985-86 is presented below:—

TABLE 5
Expected changes in traffic through Major Ports by 1985-86
(In million tonnes)

	1975-76	1985-86
Crude oil	18.80	42.00
P.O.L. products	5.81	16.75
Foodgrains	..	..
Fertilizer rock phosphate, Sulphur and potash	12.89	36.93
Phosphoric acid & liquid ammonia	1.44	1.44
Oil cakes	2.89	5.45
Vegetable oils (Imports & exports)	1.47	3.99
Sugar	1.16	1.81
Salt	8.17	13.31
Cement/clinker	6.90	11.84
Coal	7.00	22.00
Iron ore	31.00	45.00
Manganese ore	2.14	3.14
Iron & steel	2.00	4.50
Machinery	1.63	2.21
Other general cargo	10.39	12.98
Total	113.69	223.35

A statement giving portwise allocation of the above traffic may be seen at Appendix III.

4.10. It is not strictly possible to make a comparative analysis of the growth of traffic at the various Major Ports based on the estimates of traffic offering worked out by different authorities, because of differences in the assumptions. There is, however, a definite trend towards predominance of bulk commodities like iron ore, P.O.L. fertilizers, manganese ore, salt, oil cakes, etc., in the total traffic to be handled by Major Ports which would require specialized facilities for handling. The mechanical handling facilities for General Cargo traffic are no less important as helping to minimize the total cost of transport. The degree of specialization to be provided at the various Major Ports will depend on the rational allocation of projected traffic to the various ports, the technological development taking place in the world shipping and ship building and their impact on costs, such as in reducing the overall costs of transportation from the place of loading to the place of destination. The impact of the current technological developments in the spheres of ports and shipping are discussed in the subsequent Chapters.

CHAPTER 5

UTILIZATION OF PORT FACILITIES

The high capital cost of providing new port facilities and equipment render it necessary to ensure that the existing facilities at the ports are utilized to the best advantage. The Commission set up a Study-Group under the chairmanship of Shri B. B. Ghosh, then Chairman, Calcutta Port Commissioners and a member of our Commission, to make a detailed study of the facilities available at the ports and the extent of their utilization; to suggest measures for their better utilization with a view to increasing the capacity of the ports to handle the anticipated additional volume and changed pattern of traffics; and to make recommendations for improving the cargo handling capacity at the ports.

5.2. We wish to point out that the data furnished by the Port Authorities in many cases are neither complete nor compiled on a uniform basis.

Berth Capacity

5.3. The capacity of a general cargo berth is dependent on a wide range of factors, such as the length of the berth, the draft available, the rate of occupancy, the workers out-put, the area of the shed adjoining the berth, the rate of shed clearance, the nature of the cargo and its packing and the cargo handling equipment employed. The capacity of bulk or mono-commodity berths (for example, iron ore, P.O.L. fertilizer raw materials, etc.), on the other hand, can be determined more readily by the availability of mechanical handling equipment and the speed at which it operates.

5.4. In the Continental ports of Europe, on a broad rule of thumb, two tests are applied for assessing the performance of general cargo berths. The first is the length of the quay; the second is the area of the shed and its layout. According to the first, a figure between 590 and 656 tonnes per annum per metre of quay is considered a good performance. An average general cargo berth of 150 metres length could, on this basis, be expected to take care of 90 to 100 thousand tonnes of general cargo per annum. This method of assessing the capacity of a berth is, however, not always reliable as the length of a quay is only one of the determinants of the capacity of the berth.

5.5. According to the second rule, the area of the transit shed along with proper layout and proper operating methods determine the capacity of the berth. Under this formula one square metre of shed area is equated to 1,076 tonnes per annum on an average for general cargo per berth. If, therefore, the area of a transit shed is 8,360 square metres, the capacity of the berth would be about 90 thousand tonnes per annum. At Bombay, for example, the shed areas are about 6,688 square metres per berth and the berth capacity would be assessed under this formula at 72,000 tonnes per annum.

5.6. The Study Group, after considering all the factors for determining the capacity of the general cargo berths, came to the conclusion that an average output of 150,000 tonnes with 75 per cent occupancy rate would be a suitable norm for the Indian ports. Incidentally, it may be mentioned that the International Association on Ports and Harbours (I.A.P.H.) Study Team had assumed in its Report that "depending on local conditions each berth can handle approximately 250,000 tonnes of general cargo annually."

Berth Utilization

5.7. In Japan, the berth utilization rate is very high and the annual throughput of a berth 150 metres long worked out to over 300,000 tonnes per annum based on metre/tonnage ratio of 2,200 and 2,040 tonnes achieved at the ports of Yokohama and Kobe respectively in 1966. In contrast, the throughput of a berth at New York has been taken at only 75 thousand tonnes. A comparative table indicating the performance of general cargo berths at some of the major Indian Ports with those of the leading ports of the U.S.A. and Europe is given in Table 1.

TABLE 1

Country/Port	No. of general cargo berths	Total annual traffic of general cargo	Average traffic per berth in 1966-67
('000 tonnes)			
<i>U. K.</i>			
London	217	6,261	*Shore side 49 } 71
		4,908	22 }
<i>U. S. A.</i>			
1. Baltimore	69	4,500	65
2. Chicago (Navy Pier)	6	223	37
3. Delaware River Ports	110	4,329	44
4. Long Beach	44	3,872	88
5. Los Angeles	70	5,394	77
6. New York Port Authority	253	15,536	61
<i>West Germany</i>			
Hamburg	150	12,200	81
<i>India</i>			
1. Bombay†	27	4,532	168‡
2. Calcutta	30	4,491	150‡
3. Madras	7	1,615	231‡

NOTES—

(i) *Includes 872,000 tonnes bulk grains discharged by elevators and 446,000 tonnes meat discharged by conveyors

(ii) There are 550 quay cranes and 709 fork-lifts, tractors and trailers at London.

(iii) There are 900 quay cranes and 1,000 fork lifts and trailers at Hamburg.

(iv) There are 193 quay cranes and 178 mobile cranes, tractors, fork lifts and platforms trucks at Bombay.

†Excluding bulk cargoes such as foodgrains, sulphur, fertilizers, P.O.L. and vegetable oils (3,179,552 tonnes) and the berths allotted to them.

‡1967-68 data.

Source—A study of cargo operations and port management in Bombay Port by P. S. Rangnokar, Assistant Manager, Docks, Bombay Port Trust and Study Group on utilization of port facilities.

Taking into account the conditions prevailing at the ports and the absence of cushion in the port capacity, we think that this estimate is somewhat on the high side. Nevertheless, we feel that the ports should endeavour to handle about 200,000 tonnes of general cargo annually, once the port facilities are created for that purpose which are dealt with later in this chapter.

5.8. The optimal berth occupancy of the general cargo berths in various U.S.A. and European ports lies between 40 per cent and 70 per cent depending upon the average tonnage worked by the vessels. In India, on the other hand, the berth occupancy in some cases is as high as 95 per cent to 97 per cent which creates numerous problems. The high rate of occupancy has resulted in considerable waiting for the ships in the stream, neglect of maintenance dredging at the berths delays in the sheds. The high turn-round time of ships in 1967-68 at the various ports in India is set out in the Table below:—

TABLE 2

Turn-round time of ships carrying general cargo at the Major Ports in 1967-68

Port											No. of days
(i)	Calcutta	.	.	.	.	.	.	.	.	.	15.9
(ii)	Bombay	.	.	.	.	.	.	.	.	.	4.5
(iii)	Madras	.	.	.	.	.	.	.	.	.	6.6
(iv)	Cochin	.	.	.	.	.	.	.	.	.	4.4
(v)	Visakhapatnam	.	.	.	.	.	.	.	.	.	5.0
(vi)	Kandla	.	.	.	.	.	.	.	.	Imports	11.64
		.	.	.	.	.	.	.	.	Exports	6.33

Source—Study Group on utilization of port facilities.

5.9. It would be seen that the longest turn-round time of the ships was in Calcutta where it was as high as about 16 days. For liner ships where costs depend upon the speed with which a ship is cleared from the docks, the deleterious effect of a slow turn-round only adds to the cost of shipping and raises the freight rates to and from the Indian ports. It was reported that in 1961, 20 per cent of the number of ships calling at the six representative ports of Japan were kept at anchor for more than 4 days; this was characterized as an abnormally high rate for any leading port of the advanced countries. Even though the throughput at our berths is lower as compared with Japan, the detention to ships is more acute than the Japanese figure quoted above. In contrast, in Bombay, during 1966-67, nearly 500 of

the general cargo vessels representing over 30 per cent of the number of vessels that called at the port were detained on an average for 6.6 days on account of the non-availability of berths. In 1967-68 the number of ship-days lost thereby amounted to 3,951 at Calcutta and 5,977 at Bombay. Noting that the standing charges for the various sizes of vessels range from Rs. 10,000 to Rs. 18,800 per day, it will be realized how expensive it is for a ship to be detained at our ports and how much the detention charges go towards increasing the freights of our foreign trades.

5.10. Another factor which is to be borne in mind, as it is likely to affect the existing capacity of the berths at our Major Ports, is the growing size of ships. Although this trend is more marked in relation to bulk carriers which require specialized berths, even general cargo ships are getting longer. General cargo ships with lengths of 160/170 metres are becoming more common as compared with the length of 140/150 metres of the older ships. Since the existing general cargo berths were designed for the smaller ships, the gradual introduction of the bigger and more modern ships might well reduced the number of available berths and also affect the quay space. The consequent reduction in berthing capacity needs to be off-set by improvements in the cargo handling methods.

5.11. The difficulties arising from the prevailing systems of cargo handling work at some of the ports and the other limitations at the ports have been analysed by the Study Group and were considered by it under the following heads—

- (i) bulk cargo handling facilities;
- (ii) cargo handling rates and methods; and
- (iii) clearance of import and export cargo.

Bulk cargo handling facilities

5.12. An analysis of the traffic figures shows that in 1967-68 and 1968-69, bulk cargo formed approximately 78 per cent of the total traffic handled at the Major Ports and its share is expected to remain constant in the future. Since adequate facilities were not created for the loading and unloading of increasing quantities of bulk cargo, commensurate with the size of the ships, the ports used the general cargo berths for handling imported bulk cargo like foodgrains and fertilizers. Even though bulk discharge equipment has been used in certain ports it can only be termed as temporary expedients. The maximum quantity of foodgrains handled in any year was about 3 million tonnes at Bombay and about 2.5 million tonnes at Calcutta. This would have been within the capacity of only one or two mechanized bulk cargo berths in the absence of which as many as three to six general cargo berths and at times even eight were used at Bombay while at Calcutta 12 to 14 such berths were used. This resulted in reduced availability of berths for other cargo and led to an

abnormal detention of the ships at these ports as shown in Table 2 earlier.

5.13. To avoid such detentions in future there is an urgent need to put in specialized bulk cargo handling facilities at all the ports where traffic forecasts indicate the need for them. It must also be ensured that the speed of loading/unloading cargo through mechanical equipment is adequate and comparable to those in use in the more advanced countries. It may be mentioned that specialized deep water berths are under construction in various ports and they should be completed as early as possible so that the cargo handling capacity is substantially improved.

5.14. Special mention may also be made here of the coastal bulk cargo, such as salt, coal and oil. The size of ships for such cargo is likely to increase in future as the older coastal ships are replaced by more modern ones which would be more pronounced in the years to come. It should be ensured that both the loading and unloading ports have the necessary and matching facilities. As an interim measure, we recommend that all ships which are acquired for the coastal coal/salt traffic are equipped with shipborne cranes and grabs rather than derricks.

General cargo handling rates and methods

5.15. In the western countries the average rate of general cargo loading/unloading is 800/900 tonnes per ship per day which is achieved by working generally in one shift and occasionally in two shifts. As against this, the overall per day loading/unloading rate at the Bombay Port, which is the highest in India, is only about 700 tonnes; at Calcutta the per day average is below 500 tonnes per day. Even the Bombay Port's labour output for general cargo, which is the highest in the country, compares unfavourably with the average performance in the Western Countries. The absence of proper piece-rate schemes for the stevedore labour is said to be one of the main reasons for this lower handling rate at Calcutta. There is, no doubt, considerable scope for improvement on these rates and it is essential that suitable piece-rate schemes should be introduced for cargo handling workers at all the ports wherever they do not exist at present. We have dealt with the need for an extensive coverage of the incentive schemes and the changes necessary in the existing schemes in another chapter. We, however, recognize that the introduction of incentive system of payment alone will not bring about the improvement in handling rates. The present largely manual methods of handling break-bulk general cargo also affect the rate of throughput. It is also essential that the ports should be equipped with suitable mechanical equipment to aid the workers as indicated below—

- (i) the large use of forklift trucks in conjunction with suitable pallets for cased and bagged cargo;
- (ii) to use high capacity short cranes and portable or mobile cranes for slinging and unitizing items like steel in order to increase the per-hook load;
- (iii) to bring into use suitable machines like pneumatic equipment front-end loader (Pay loader) with a bucket for handling parcel loads and bulk cargoes.

A statement indicating the portwise requirements of cargo handling equipment during the Fourth Plan will be found in Appendix I.

Clearance of import and export cargoes

5.16. There appears to be a general complaint that importers do not promptly clear their cargo from the docks. This is particularly so in Calcutta and Bombay. The large income derived from demurrage by some of the Major Ports indicates that their transit sheds are often used as warehouses by the importers. This practice affects adversely the discharge rate of a ship and leads to a delay in the turn-round of the ship.

5.17. On the other hand, the importers have complained to us that the clearance of cargo is often impeded by the procedural delays at the ports. One method of improving the rate of clearance may be to extend the hours of delivery. The rigid Customs and Import Control formalities have also been stated to be one of the main reasons for the delay in the clearance of cargo. The Study Team on the Customs Department in their Report, Part I—Clearance of Cargo, April 1967, has made recommendations for speedy clearance of the cargo. The Commission recommends that the Team's recommendations should be actively pursued.

5.18. In view of the considerable increase in road deliveries from the ports it becomes necessary to rearrange the yards, roads and railway tracks within the dock area to quicken the clearance of the goods from the docks. It may be even possible to dismantle some of the redundant railway tracks and utilize the land made available thereby for widening the existing roads and building new ones. The improvement of road facilities by widening the existing roads and providing new roads and suitable parking areas for the trucks should be examined by the Port Authorities in the interest of a quicker clearance of the cargo as also of improved arrivals in the docks of the goods meant for export.

5.19. In the case of export cargo, it is necessary that it should be brought to the transit sheds in the docks in a planned manner and co-ordinated with the arrival of ships. Unplanned arrivals of export cargo only cause confusion and prolong the detention of the ships in the ports. It is recommended that definite dates should be fixed for every ship for opening and closing of exports taking into consideration the nature of the cargo, the frequency of the availability of ships and shipping space, etc. Where an exporter is habitually late in bringing his goods for shipment, he should be required to pay a stiff rent for the days the cargo remains in the transit sheds waiting for the next ship to arrive and take it away. Very often, the country has also lost valuable export orders because cargo was not available for loading in the port; and where the frequency of shipping to distant ports of the world is limited, there is a needless loss of export and the valuable foreign exchange which goes with it. There is also an undesirable practice, prevailing in the jute exports from Calcutta, of making shipment of gunnies only towards the end of a month. This leads to a temporary congestion in the transit sheds, a scramble for shipping space and loss of exports by the

shutting out of cargo. This practice is also responsible for the price fluctuations in the gunny trade. The jute industry is long established and should be able to organize its shipments on a more regulated basis all through the month and not only in the last week of each month. We invite the attention of the Jute Commissioner, the industry and the Ministry of Foreign Trade to the present method of shipment and recommend that all these parties sit together and modify the pattern of shipment in the interest of jute exports which have been declining in recent years. Every impediment to our export trade should be removed as early as possible in the interest of ensuring quicker turn-round of ships and promoting larger exports.

Transit sheds

5.20. The existing transit sheds in the ports were built in most cases many years ago. Because of technical changes in shipping and in cargo handling methods, it is necessary that wherever possible these sheds should be modified and redesigned so as to have a minimum number of columns and proper floor space to enable free movement of forklifts. The doors should be large enough to permit of an easy access and ingress of cargo. It is also desirable to provide specific lorry-loading bays with loading platforms which are on level with the bed of the trucks. The width of the quay should be between 22.86 and 45.72 metres and should have a back-up area between 4.57 and 6.10 metres across for each berth, for quick discharge from a ship and quicker dispersal of the cargo from the port and the docks.

Warehouses

5.21. At all Major Ports, open as well as covered accommodation is available for the storage of cargo pending shipment or delivery. There are also proposals for construction of new warehouses under the Fourth Plan at most of the Major Ports. It is important that these facilities which have been or are being provided at considerable capital cost should be made full use of and economic rents charged.

Utilization of cargo handling equipment

5.22. This may be divided broadly into three groups, namely, (i) derricks and winches on ships; (ii) mobile and fixed cranes on the wharf; and (iii) mobile equipment like forklifts, slings, tractors, trucks and wagons.

5.23. Modern ships are being increasingly equipped with winches and derricks for the lifting of cargo from the ships, holds, particularly heavy cargo. Light cargo on the other hand is hauled out by forklifts which can move inside the holds with ease and operate conveniently for lifting utilized and palletized cargo. With these facilities cargoes are discharged much quicker than by using manual methods.

5.24. The cargo berths at our Major Ports are provided with quay cranes. Several of these are fixed on the wharf, while a few are mobile and can be shifted along the wharf for lifting heavy cargoes. There is no uniformity in the number and capacity of the cranes in use, but at general cargo berths the number varies from three to

five, and of capacity from three to six tonnes. The practice of using quay cranes is no longer in vogue in more than half of the Major Ports of the world. In several ports of America, Japan and the European Countries, quay cranes are no longer employed. Their place is being taken to an increasing extent by forklifts and ship's derricks. This has led to a quickening of the ship-handling rates which are generally faster than what they are in countries where the docks bristle with quay cranes. In view of the high cost of installing and operating quay cranes, we recommended that our ports should also get away from the practice of using cranes and go over to using more mobile equipment. With derricks on ships of 2½ tonnes and above, shore cranes serve a very limited purpose. However, for high loads per hook and for handling unitized loads of bigger weights which cannot be lifted by derricks or carried by forklifts, shore cranes would still be useful, but their number should be strictly limited. On an average two or at the most three cranes are all that would be required in the future at a berth. These cranes should also be on common tracks so that they could be shifted whenever required for use from one berth to another. Also the capacities of the shore cranes should be of the order of 10 tonnes and have an outreach capable of serving large ships. In many ports, particularly where heavy engineering goods are handled in large quantities, it would be advisable to equip a selected number of berths with a few cranes of capacities between 15 and 20 tonnes.

5.25. If the recommendation made above is implemented by the ports it will render about 250 cranes surplus in all the Major Ports taken together. Most of the existing hydraulic cranes in Calcutta and Bombay are not only obsolete but have served their useful life. Their number is as much as 155. If the number of quay cranes is reduced as suggested, it will not be necessary to replace the hydraulic cranes; instead a few shore cranes of high capacity could be acquired with profit and would prove useful. There will also be a surplus of electric cranes but they could be utilized to the extent necessary at the new berths that are under construction at the ports or could be shifted with advantage to the new ports under construction.

5.26. For the methods of handling that are now being employed, the mobile equipment available may be on the whole sufficient but to change over to the more mechanized methods indicated, every port will require a substantial investment in cargo handling machinery. This question has been examined by the Study Group and a general indication has been given in its report of the additional equipment that would be needed at the ports during the Fourth Plan period. The Commission trusts that the ports will implement the recommendation of the Study Group in this respect to the fullest extent possible. It was reported to us that owing to the time taken on repairs and maintenance of the mechanized equipment at the ports, the percentage of available equipment works out on an average to about 66½ per cent. This calls for a detailed probe by the port authorities as keeping expensive equipment idle for long periods of time is wasteful and unremunerative. In fact, if, a system of pre-maintenance check was established at all the ports, a good deal of

the equipment could be kept in good condition and breakdowns avoided.

Dredgers

5.27. The docks and harbours at all our Major Ports require to be dredged regularly and the navigable approaches to the ports have to be maintained to the required depths. The extent of dredging varies from port to port, and in a port like Calcutta with a 203 km. channel and 14 bars, maintenance dredging is a difficult problem indeed. Before World War II the draft requirements at the ports were generally within the available depths but with the sizes of ships being progressively increased, particularly since World War II, the drafts in the port have to be deepened to enable the bigger size ships to enter the ports.

5.28. There are five different types of dredgers available at our ports, namely, drag suction hopper, cutter suction, bucket, grab and dipper dredgers. The last two, namely, grab and dipper dredgers are primarily employed in dredging alongside the wharves and berths, and restricted to the space around the docks; their utilization is, however, severely conditioned by the state of congestion at the ports. The drag and cutter suction dredgers are heavy capacity dredgers primarily employed for dredging in places where there are no constraints on the movements of the dredger itself. The size of the dredging fleet that we should possess will have to take into view the siltation characteristics of our coastline, the number of ports to be served by the dredgers, the age of the existing fleet and the period of their utilization. A comparative statement giving the agewise composition of the dredgers at the ports is given in Appendix II. It will be observed that out of 29 dredgers, six have outlived their normal life of 30 years and require to be scrapped.

5.29. The I.A.P.H. Study Team has criticized the poor utilization of existing dredging fleet by the Ports and pointed out, for example, how dredgers have been tied up because of lack of sufficient crew. This has resulted in the dredgers working for only eight hours per day where even round-the-clock operations would hardly be sufficient to meet the dredging problems at the ports. The Study Team also pointed out that the dredgers were taken out of service for maintenance on other than a normal day off, a practice which was detrimental and unwarranted. There is no uniformity in regard to the working hours of the dredgers and only in a few cases round-the-clock work is carried on. Costly equipment like dredgers should not be kept idle for two days in a week. It would be more appropriate to engage additional crew for longer utilization of the dredgers and also for maintenance during the running of the dredger.

5.30. The optimal utilization of dredgers should be assessed both in terms of days worked and the quantity dredged. Taking into account the Indian conditions and the time normally needed for maintenance and overhaul, the Commission's Study Group has considered that a dredger should normally be available for work for about 220 days in a year. The Group took into account a total period

not exceeding 90 days in a year, for laying up the dredger for overhaul and repairs including also the holidays. Out of 29 dredgers, the annual availability of 21 dredgers was over 90 per cent while for three dredgers the annual availability was less than 60 per cent. In quite a few ports it is the practice not to work the dredgers on two days in a week to enable maintenance and for the weekly holiday to the dredger crew.

5.31. Even more than the number of days a dredger is operated, the output as adjudged by the quantity of material dredged, is a better index of the efficiency of dredging of operations. It was pointed out that it was not always possible to operate a dredger fully owing to various difficulties, like narrowness of channel which limits hours of operation, time taken in putting special navigational dredging markers, time lost owing to distance between dredging areas and the base area, and the dumping ground. Even taking all these factors into consideration, the performance of quite a few dredgers is far from satisfactory even though the number of days utilized may appear to be reasonable. For example, although the annual availability of a dredger at Kandla in the year 1967-68 was 90 per cent, its average daily output was only 25 per cent. Similarly in the case of dredger 'Visakha' at Visakhapatnam, the annual availability of which was 93 per cent but its average output was hardly 30 per cent. As many as six dredgers with the Calcutta Port Commissioners were found to have given an output of less than 50 per cent. Since dredgers are very costly equipment and are expensive to operate, it should be ensured that a maximum output is obtained from them. It is necessary, therefore, to adopt such techniques as would yield the best results. It is equally important to maintain detailed information of the dredging work done to enable a comparative study to be made of the previous performances. At some of the ports, the recording and analysis of dredging data do not appear to have received the consideration they deserve. We recommend that it is necessary to use the dredging fleet on a round-the-clock basis or at least on a two-shift basis, which would have the effect of raising the output of the dredgers and also bring down the unit cost of dredging.

5.32. There is also no uniformity at our ports in regard to the manning scale of the dredgers nor of the training facilities for dredging officers. Generally, more men are employed on our dredgers than in foreign countries or even by foreign dredging contractors operating in our waters. Apart from the higher operating cost, more men on a dredger require increased accommodation which in turn necessitates building larger vessels. The Study Group, after going into this question and taking into account the various requirements under Indian conditions, has drawn up schedules of staff which are indicated in Appendix III. We recommend that this schedule be adopted by all the ports with as little delay as possible.

5.33. The optimum utilization of dredgers is also handicapped by the non-availability of spare parts. The Commission, therefore, recommends that the delay in procuring the spare parts should be avoided by forward planning.

5.34. It seems also desirable to overhaul the system of training so that officers with adequate knowledge and experience of modern methods of dredging and of different types of dredgers are employed on the dredgers. It is suggested that a refresher course in intensive training, for a period of at least three months, be organized for all the existing dredging officers. Since the Port of Calcutta has a long and varied experience of dredging, and has also a permanent dredging section, it would be well suited to organize the training courses for dredging officers. The training course should also include a period of study of the proper methods of collecting the dredging data and their analysis. Hydrographic survey is a necessary concomitant of dredging. Unfortunately, the frequency with which hydrographic surveys are carried out at some of the ports does not provide sufficient guide-lines or data to the dredging operators. The suggested training course should cover this aspect as well.

Tugs

5.35. The tugs, unlike the dredgers, are not required to work continuously; consequently, wear and tear on the machinery is comparatively low. The requirement of tugs also varies from port to port. This would depend not only on the shipping movements but also on local conditions. For instance, in a tidal port ships can enter or leave only during high tides and therefore the maximum number of ships has to be attended to during such restricted times. The Study Group's estimate of lay-up periods for overhaul and repairs has been taken as a total period of 60 days annually. Tugs should, therefore, be available for work for 305 days in a year on the basis of a 100 per cent availability. In some ports, tugs are kept idle one day every week to permit the granting of a weekly holiday to the crew. This practice should be discontinued by engaging relieving crews so that the tugs could be utilized throughout the week.

CHAPTER 6

PORTS MODERNIZATION AND EXPANSION PROGRAMMES AND CONTAINERIZATION

(i) Ports modernization and expansion programmes

In Chapter 4, we discussed the future trends of traffic which the ports would be called upon to handle in the next decade or so. In planning the port facilities, it would be essential to take note of the latest technological developments in the sphere of shipping and their impact in reducing generally the overall cost of transportation.

6.2. The enormous changes that have taken place in the bulk cargo shipping during the last 15 years, especially during the last decade, amount to a veritable 'revolution' in shipping. Larger and larger sizes of ships in the bulk cargo trades (both oil as well as dry cargo) made possible by the progress in the shipbuilding techniques and necessitated by the requirements of world trade and in turn stimulating the flow of trade, have progressively lowered the cost of carriage per unit of cargo carried. The giant tankers and mammoth bulk carriers, due to economies of scale, have lesser capital costs per tonne and reduced operating costs per tonne. There has, therefore, been a progressive reduction in the cost of transport of bulk commodities carried in large-sized bulk carriers and tankers. In an aggressively competitive world, it would be essential to minimize overall cost of production and transportation so as to survive in the international markets. Here right type of port facilities will go a long way in drastically reducing our ocean freight rates and these are discussed in the subsequent paragraphs.

6.3. For purpose of studying the impact of recent changes in shipping on port facilities and techniques, we have divided the commodities into following three broad categories, namely—

1. bulk mineral oil;
2. dry bulk cargo; and
3. general cargo.

Bulk mineral oils

6.4. We observed in Chapter 4 that the traffic in P.O.L. will increase from 17.95 million tonnes in 1968-69 to 23.67 million tonnes in 1973-74 and the import of crude oil may be of the order of 37.5 million tonnes by 1980-81.

6.5. The sizes of the tankers carrying mineral oil and mineral oil products to Indian ports at present can be assessed from the following available particulars about the average size of those cargoes at the various ports. To some extent, the average size of cargoes is slightly lowered in these figures because these include coastal shipments of refined mineral oil products which are bound to be carried in smaller tankers. This slight distortion does not, however, detract

from the conclusion that mineral oil is imported into India by tankers of less than 50,000 d.w.t. each. The turn-round time at various Major Ports is also given below—

TABLE 1

Average size of tanker cargoes and average turn-round time of tankers at various Major Ports in 1967-68

Port	Average size of cargo per ship	Average turn-round time per ship
	(tonnes)	(days)
Calcutta	6,035	5.2
Bombay	21,032	3 to 4 days
Madras	8,369	5.2
Cochin	22,654	2.7
Visakhapatnam	17,832	2.0
Kandla	8,660	3.3

Source—Report of the Study Group on Utilization of Port Facilities.

6.6. There has been a continuous trend towards higher sizes of the tankers on order. The average size of tanker on order in 1961 was 44,845 d.w.t. which increased to 149,390 d.w.t. in 1969. In regard to oil tankers economies of scale have assumed still greater importance since the closure of the Suez Canal and the adoption of the Cape route from the Persian Gulf to ports of destination in Europe. The cost of transport of crude oil from Mena-al-Ahmadi to Rotterdam falls from 60 shillings per tonne of oil carried in a 25,000 d.w.t. tanker *via* Suez Canal both ways to slightly more than 20 shillings per tonne in a 150,000 d.w.t. tanker reaching the port of destination with loaded cargo *via* the Cape and the return voyage in ballast *via* the Suez Canal. For a 300,000 d.w.t. tanker using the Cape route both ways (involving far greater voyaging distance), the cost is under 20 shillings per tonne.¹ The Commission, therefore, recommends that right type of port facilities for handling mineral oil traffic should be provided at various Major Ports taking into consideration their cost and also the investments required in other infra-structure such as storage facilities, internal transportation facilities etc.

Dry bulk cargo

6.7. We observed in Chapter 4 that the traffic in dry bulk cargo mainly comprising iron ore, coal, fertilizers (including raw materials) and foodgrains is expected to increase from 24.76 million tonnes in 1968-69 to 34.01 million tonnes in 1973-74. It would, therefore, be essential to review the latest trends in the sphere of ship building in the world.

¹ "Review of Maritime Transport 1968" Report by the United Nation Conference on Trade and Development. p. 14.

6.8. There has been a tremendous growth both in bulk carrier sizes and tonnage in the world. From a mere 6.6 million tonnes d.w.t. in the beginning of 1960, the fleet of bulk carriers has increased ten times that size by the beginning of 1970 and there has also been a gradual trend towards acquisition of higher and higher capacity bulk carriers. The average size of bulk carriers on order has also increased from 21,373 d.w.t. in 1961 to 59,100 d.w.t. in 1970.

6.9. As far as the economies of scale are concerned, it is gathered that a four-fold increase in the bulk carriers from 10,000 d.w.t. to 40,000 d.w.t. or equally from 15,000 d.w.t. to 60,000 d.w.t. brings about a fall of approximately 40 per cent in the capital cost per d.w.t. In addition, operating cost of bulk carriers also falls as larger ships are used.

6.10. The largest single commodity in India's sea-borne trade is iron ore. Total iron ore exports from India increased from 0.3 million tonnes in 1955-56 to 15.1 million tonnes in 1968-69. In terms of value, iron ore exports in 1968-69 valued at Rs. 88 crores ranked third among India's exports after jute and tea. It has been planned to increase the iron ore exports to about 25.5 million tonnes per annum in the year 1973-74. Increase in iron ore exports during the next five years is expected to constitute over 48 per cent of the contemplated increase in traffic at the Major Ports during the same period. In view of the great importance of iron ore exports, it must be ensured that we are not priced out of our export markets by our competitors. Lowering of transportation costs by the use of large-sized ships can play a significant role in ensuring the competitive character of Indian iron ore.

6.11. The sizes of the ships carrying iron ore from the Major Ports in India can be assessed from Table 2 giving the average size of iron ore cargoes per ship and average turn-round time at various Major Ports in 1967-68—

TABLE 2

Average size of iron ore cargoes per ship and average turn-round time at various Major Ports in 1967-68

Port	Average size of cargo per ship	Average turn-round time
	(Tonnes)	(Days)
Calcutta	15,598	7.2
Madras	10,249	9.3
Visakhapatnam (at mechanical berth)	28,973	2.5
Mormugao		
(i) at mechanical ore berth	18,013	8.9
(ii) at other alongside berths	7,610	9.6
(iii) in stream	17,808	11.3
Paradip	N. A.	N. A.

(N. A. : Not available)

Source—Report of the Study Group on Utilization of Port Facilities.

As against this, the share of bulk carriers over 18,000 d.w.t. each in the total world shipments of iron ore rose from about 30 per cent in terms of weight and about 37 per cent in terms of tonne-kilometres in 1960 to about 80 per cent in terms of weight and 84 per cent in terms of tonne-kilometres in 1968 as will be observed from the following table—

TABLE 3

World sea-borne shipments of iron ore and their carriage by bulk carriers of over 18,000 d.w.t. 1960—68

	1960	1961	1962	1963	1964	1965	1966	1967	1968
Total shipments in million tonnes	101	98	102	107	134	152	153	164	188
Shipments carried by bulk carriers over 18,000 d.w.t. in million tonnes	31	38	47	54	80	98	107	127	151
Total shipments in thousand million tonne-kilometres	425	479	505	560	734	848	925	1,047	1,247
Shipments carried by bulk carriers over 18,000 d. w. t. in thousand-million tonne-kilometres	158	198	240	296	447	573	682	827	1,050

Source—'Trades of World Bulk Carriers in 1968' by Fearnley & Egers Chartering Co. Ltd.

6.12. It is necessary to examine the composition of world sea-borne trade in iron ore on the basis of the importing and exporting countries and area. A statement giving the sea-borne iron ore trade in 1968 is at Appendix I.

6.13. A careful study of the sea-borne trade in the world indicates that Japan is the single largest buyer and that 80 per cent of our export is to Japan.

6.14. Australia is our main competitor in regard to iron ore exports to Japan. Total iron ore exports of Australia in the year 1966 were about 2.1 million tonnes. In two years these increased to about 16 million tonnes. Although Australia came in the field later, her exports to Japan in 1968 at 13.8 million tonnes exceeded those of India to Japan which totalled 12.8 million tonnes. Australia, by the employment of very large-sized ships for carriage of iron ore, has managed to secure the freight advantage over India. The freight for transportation of one tonne of iron ore from Australia to Japan is U.S. \$2.25 whereas the freight from India to Japan is U.S. \$4 per tonne. It is, therefore, recommended that immediate steps should be taken to lower the freight of India's iron ore exports to enable it to compete effectively in overseas market by providing deep drafted ports.

6.15. A statement giving the percentage distribution of iron ore shipments from exporting areas on the basis of the carriage of these shipments by the different sizes of the ships is given in Appendix II.

6.16. During 1968, 76 per cent of Japan's iron ore imports were carried by bulk carriers of over 25,000 d.w.t. each. About 60 per cent of Japan's total iron ore imports were carried in bulk carriers of over 40,000 d.w.t. Bulk carriers of over 60,000 d.w.t. carried 24 per cent or almost one-fourth of the Japan's total imports. On the contrary, India's iron ore exports to the extent of 51 per cent were carried in ships of less than 25,000 d.w.t., 40 per cent in the range of 25,000 d.w.t. to 40,000 d.w.t. and only 9 per cent in ships of 45,000 d.w.t. It follows that unless we use very large-size bulk carriers which require deeper drafts at loading ports and we equip the ports with mechanized loading facilities we cannot achieve the projected expansion in our ore exports.

6.17. The figures relating to turn-round of bulk carriers in some of the principal ore ports of the world are set out in Appendix III. It may be observed from it that average days per call spent by bulk carriers at Indian ports of Mormugao, Madras and Visakhapatnam in 1967 were 10.4, 4.9 and 2.5 respectively. At the Australian ports of Port Hedland and Dampier, larger quantities of iron ore were loaded in bulk carriers which were larger than bulk carriers loading at Indian ports and the average time per call was only 2.4 days in Port Hedland and 1.1 days in Port Dampier.

6.18. How the employment of larger ships would bring out a reduction in the freight costs on carriage of iron ore from Visakhapatnam to Japanese ports has been worked out as under—

TABLE 4
Ocean Freights to Japan—U.S. Dollars per Ton

	Average ship sizes			
	30,000 d. w. t.	45,000 d. w. t.	60,000 d. w. t.	80,000 d. w. t.
<i>Stage I</i>				
6 million tons exports/year	3.79	3.25	2.74	2.40
8 million tons exports/year	3.81	3.26	2.76	2.39
<i>Stage II</i>				
10 million tons exports/year	3.78	3.20	2.60	2.36
12 million tons exports/year	3.80	3.22	2.50	2.34

Source—Visakhapatnam Port Trust—Addl. Ore Export Facilities—Feasibility Study April 1968 by HIPL Consulting Engineers.

TABLE 5

Average Turn-round Time—Visakhapatnam Outer Harbour

Rated Loading Capacity Ton/Hour	Annual Ore Exports Millions of tons	Turn-round time in hours				
		Average ship sizes—d. w. t.				
		30,000	45,000	60,000	80,000	100,000
6000 TPH	6	21.9	26.9	32.4	40.0	47.6
	8	27.4	32.4	38.1	46.4	54.9
	10	36.7	40.4	46.4	55.3	64.6
	12	55.6	53.8	58.9	68.4	78.8
	14	106.0	80.0	80.9	89.4	100.6
9000 TPH	6	16.5	19.9	23.6	28.8	33.7
	8	19.4	22.7	26.4	31.9	37.2
	10	23.6	26.4	30.1	35.6	41.6
	12	30.3	31.4	35.0	40.7	47.0
	14	42.4	38.9	41.7	47.4	59.0
12000 TPH	6	14.1	16.8	19.7	23.7	27.7
	8	16.3	18.7	21.7	25.8	30.1
	10	19.2	21.2	24.1	28.4	32.8
	12	23.3	24.4	27.1	31.5	36.1
	14	29.8	28.6	31.0	35.3	40.2

Lines indicate the maximum acceptable time for the quoted freights.

Source—Visakhapatnam Port—Addl. Ore Export Facilities—Feasibility study—April, 1968 by HIPL Consulting Engineers.

Appendix IV gives the present and anticipated port conditions at some of the important iron ore loading ports in the world and gives comparative data on the drafts, maximum size of ships that can be berthed and average loading rate per day.

Fertilizers (including raw materials)

6.19. Traffic in fertilizers (including raw-materials), which was of the order of 3.7 million tonnes in 1968-69, is expected to increase to 6.7 million tonnes in 1973-74 constituting about 8.8 per cent of the traffic which the Major Ports will be called upon to handle. Specialised facilities for handling fertilizers and fertilizer raw-materials at various ports will have to be provided. In this connection, it will be worthwhile to draw attention to an agreement signed by the Coromandel Fertilizers Limited with the Visakhapatnam Port Trust in December 1964 for the construction of a deep drafted berth for discharging imported fertilizer raw-materials such as rock

similar receptacles. In recent years, a beginning has been made in agreement the firm has assured the port and guaranteed minimum import of raw-materials of 2.1 lakh tonnes a year which is expected to go up to 3.14 lakh tonnes when the plant operates at full capacity. The port is required to construct the berth and ancillary works for berthing large vessels and bulk carriers drawing ten metres at all states of tide. The port has to dredge and maintain the wharf as well as the approach channels. The Coromandel Fertilizers Limited is to erect on the wharf its own ship unloading equipment. We recommend that such agreements should be encouraged as they assure adequate return on capital invested by the Port Trust and also ensure uninterrupted handling facilities to users. During the course of evidence at various Major Ports, the idea of reserving berths for specific users was put by the Commission but, in the absence of users forthcoming with an assured traffic, the Port Trusts are finding it difficult to provide such facilities. The State Trading Corporation, Minerals and Metals Trading Corporation, Food Corporation of India etc., should particularly take steps to enter into similar arrangements for some of the commodities highly suited for handling at earmarked berths. Import of sulphur and rock phosphate, export of salt from Kandla and Tuticorin are instances in this regard.

6.20. The type of facilities to be provided for bulk handling at various Major Ports has to be related not only with the technological developments taking place elsewhere but also the quantum of traffic in that commodity. The cost of providing the port facilities and other infra-structure such as storage facilities, internal transportation facilities etc., should also be taken into account. For example, for an annual import of about three million tonnes of crude for Madras Refinery, it may not prove worthwhile to provide deep drafted facilities for handling tankers of two lakh tonnes or so because this would escalate the cost of providing the deep drafted berth and corresponding storage and transportation facilities from the port to refinery site.

6.21. General cargo is more difficult to handle mechanically than bulk cargo because of the considerable variety in the nature of the commodities covered by the term, as also in the nature of the packaging used and the dimensions of the packages. The term "general cargo" mainly comprises cargo packaged in cases, cartons, bags, drums, bales and also certain commodities which are not packaged, such as iron and steel, structurals and heavy consignments like locomotives, railway wagons, boilers, earth-moving appliances, etc. At present 'general cargo' is handled from ship to shore, and *vice versa* by manual labour in conjunction with wharf side and floating cranes or ships derricks with the use of net slings, pans, trays and similar receptacles. In recent years, a beginning has been made in some ports in employing pallets in conjunction with forklifts for loading and unloading operations on a limited scale. We note that the handling rates of general cargo in our ports are still far below those in the developed countries. Even our best overall handling rate of about 17 tonnes per gang hour for general cargo at Bombay compares very unfavourably with the average performances in the

ports using modern methods in the developed countries today, which are:—

TABLE 6
Handling Rates of General Cargo in Developed Countries

Cased cargo	22/25 tonnes
Bagged cargo	40/45 tonnes
Steel	70/75 tonnes
Bales	35/45 tonnes

Source—Indian Ports *vis-a-vis* those in the United States, Canada and other European countries by R. Roy (mimeograph paper).

As a result of low handling rates, our shipping turn-round is slow. The standing cost would naturally be reflected in the freight rates. Break-bulk loading at the port of origin necessitates break-bulk unloading at the port of destination, and this fact, together with high labour and stevedoring costs in the developed countries, on whose markets our exports predominantly depend, makes for high freight rates. This underlines the necessity of improving the handling rates of general cargo in the Indian ports, particularly at ports where a considerable volume of general cargo is handled. The handling rates of general cargo in the Indian ports should be improved. It is only by mechanization that any satisfactory measure of improvement can be attained. We recommend that steps in that direction should be taken urgently in view of the considerable increase in general cargo traffic anticipated in the next five to ten years.

6.22. Having regard to the investment required in mechanization and the impact of mechanization on labour, it would seem that palletization and pre-slinging, which can be described as 'intermediate technology', would be the most suitable for adoption at the Indian ports. Palletization consists of strapping together standardized loads on a wooden pallet of a size which can be conveniently handled by a forklift, and lifting and stowing the entire unit load in a single movement. Palletization improves the stowage rate in the ship's hold by permitting block stowage; it also permits dunnage work being done while stowing is in progress. As an illustration of the improvement in handling rate that can be achieved by palletization, it may be mentioned that a recent experiment in loading tea chests at the Calcutta Port by palletization showed that the loading rate of 600 chests per hook shift by manual handling can be raised to 2,500 chests by palletizing the cargo and using one forklift on the shore and one in the hold. The investment required in palletization and also the displacement of labour are far smaller than those involved in other forms of sophisticated methods of mechanization such as containerization or 'roll-on and roll-off' etc. Palletization is eminently suitable for commodities which can be packaged in standard units, such as cases, cartons, boxes, drums, tins, etc. The general cargo handled at the ports of Calcutta, Bombay, Madras and Cochin is substantial and most of it is suitable for palletization. However, palletization has not so far been introduced in these ports, except

on a limited and experimental scale at Madras. The main reasons for slow progress of palletization at Indian ports appear to be the lack of matching facilities with the Railways. For making palletization an economic proposition, the railways must provide wagons with sufficient wide boards to cater to the originating/destination traffic.

6.23. In Madras, at present pallets are used mainly as substitutes for net slings for purposes of loading and unloading and do not travel with the ship as should be the case in palletization in the full sense of the term. Moreover, forklifts are used mainly on the shore and occasionally in the ship's hold. The number of forklifts available in the various ports in India is meagre (150), the break-up being 35 in Calcutta, 36 in Bombay, 64 in Madras, 6 in Cochin, 2 in Visakhapatnam, 3 in Kandla and 4 in Mormugao. The forklifts are now mainly used for transporting cargo within the port premises. It has been estimated that for the introduction of palletization at the ports of Calcutta, Bombay, Madras and Cochin, the additional requirement of forklifts in the next five years would be 18, 18, 12 and 12 respectively, the investment involved being Rs. 13.5 lakhs each in the ports of Calcutta and Bombay and Rs. 9 lakhs each in the ports of Madras and Cochin. It has been further estimated that with the total investment of Rs. 45 lakhs the cargo handling capacity of ten general cargo berths in these ports would be more than doubled, apart from permitting a much more effective use of the space in the transit sheds. We, therefore, recommend that the above mentioned ports acquire the additional forklifts necessary to introduce palletization as soon as possible. Forklifts are now being manufactured in India and this substantially reduces the problem of finding foreign exchange. At the other ports, the traffic in general cargo is small and the forklifts already possessed by the Port Authorities are not fully used. These ports may consider the introduction of palletization at a future date, if the volume and nature of the cargo lend themselves to such handling.

6.24. A simpler method of unitization is pre-slinging. Commodities suitable for pre-slinging are those packed in bales such as cotton, wool, jute, etc. and those packed in bundles, such as iron and steel bars, rods, angles, rails etc. It is reported that although pre-slinging does not result in any marked advantage at the port of loading, it significantly increases the rate of discharge and thus reduces the overall transportation cost. We, accordingly, recommend the pre-slinging of suitable commodities.

6.25. The Fourth Five Year Plan for Major Ports provides for an outlay of about Rs. 280 crores with a foreign exchange component of Rs. 53.55 crores. Some of the major works and facilities that will be provided during this period are as under:—

- (i) creation of a satellite port at Haldia which will cater to bulk cargo traffic and eliminate the shortcomings of the present port of Calcutta in respect of permissible drafts of ships etc. The port of Calcutta cannot cater to vessels of more than 7.9 metres draft and 172 metres in length, whereas the Haldia port will be able to cater to vessels of 10.7 metres draft to start with. With training works

and dredging in river Hooghly, it is hoped that vessels of 12.8 to 13.4 metres draft can be taken into the docks at Haldia at a later stage;

- (ii) an outer harbour at Visakhapatnam capable of receiving and loading bulk carriers of 100,000 to 150,000 d.w.t. for the export of 10 to 12 million tonnes of iron ore per annum. The harbour will be capable of being improved to receive 200,000 d.w.t. vessels at a later date. The present inner harbour can take vessels not more than 193.5 metres in length and a draft of 10 metres at mid-tides;
- (iii) an outer harbour at Madras capable of catering to large sized vessels of 70,000 d.w.t. in the first stage for the import of crude for Madras Refinery and the export of iron ore, and ultimately to be developed for 100,000 d.w.t. vessels. The outer harbour as being constructed can take initially vessels upto 12.8 metres draft and can be deepened subsequently to cater to 100,000 d.w.t. vessels which have a draft of about 14.9 metres. The existing harbour can take vessels upto 10.7 metres draft in the Jawahar Dock but the beam of the vessel that can enter the dock is restricted by the width of 33.5 metres;
- (iv) creation of a major harbour for 9.1 metres draft vessels with four alongside berths at Tuticorin;
- (v) the creation of major harbour initially for 9.1 metres draft vessels at Mangalore capable of being expanded later to take in bulk carriers of 100,000 d.w.t. with a draft of about 14.9 metres for export of iron ore;
- (vi) modernization of ore handling facilities at the port of Mormugao by installation of a high-rated loading plant and facilities for receiving deep draft vessels of 60,000 d.w.t. in the initial stage and 100,000 d.w.t. in the future. The draft of the vessels which can be taken in at the moment at the port is only 7.9/9.1 metres whereas the developments contemplate vessels drawing 12.2 metres of water initially and upto about 14.9 metres later on;
- (vii) completion of the dock schemes at Bombay and the creation of additional port facilities on the eastern side at Nhava-Sheva for berthing ships of 80,000 d.w.t. with a draft of 13.7 metres; and
- (viii) formation of a central dredging pool with large-size dredgers to take up the capital dredging work under the development projects.

6.26. As the cost of providing new facilities has become heavy, it is very essential that before providing new facilities, a detailed cost-benefit study is undertaken covering the following points:—

- (i) the cost of providing the new facilities;
- (ii) the cost of obsolescence of existing facilities;
- (iii) additional cost of internal transportation in order to divert the traffic from the existing ports to the port where specialized facilities are being provided;

- (iv) additional cost to be incurred in inventories, storage facilities etc.;
- (v) estimates of the growth of traffic for which specialized facilities are being created; and
- (vi) the benefits resulting from the economies of bulk carriers and the quicker turn-round time of ships reflected in the lower freight rates etc.

(ii) Containerization

6.27. Transportation of general cargo has been revolutionized by various methods of unitization of cargo developed in recent times such as placing the cargo in a container, fastening it on a platform or pallet, and by pre-slinging, so that, while discharging, the sling can be directly put on to the hook. Essentially, containerization exploits the ultimate principles of the unitized-load system to provide faster, safer, more economical door-to-door delivery. Cargo loaded into boxes or vans at the manufacturer's plant, is shipped to its destination as a single unit. It is a system of moving goods by first consolidating them into boxes or containers made of steel, wood, plastic, aluminium or combinations of these and transporting them as a single unit. The main advantages flowing from containerization are rational cargo handling, easy storage, minimization of pilferage and damage to the cargo and ultimate reduction of the over-all cost of transportation.

6.28. Even though containerization in international field has been applied only in the last three or four years, its economics and advantages have already been proved for more than a decade in the captive trade of Mainland United States with Puerto-Rico on the one side and Hawaii Islands on the other and later between Australia and Tasmania. The marked rise in container potential can be gauged from the estimates of the port of New York which suggest that as much as 80 per cent of traffic between New York and Central European ports is expected to go in containers by 1975. Even the percentage of movement to other ports in Europe and to Far East is not below 60. Similarly the London Port Authority estimates that the containerized general cargo trade may go upto 55 per cent by 1975 and nearly 70 per cent by 1980. It is time India noted these significant developments the world over and provided matching facilities at our ports lest we should be excluded from the mainstream of world trade in general cargo.

6.29. However, in providing the container facilities at Indian Ports, it would be essential to have a fair estimate of traffic at various Major Ports which could be containerized. It is understood that the Working Group of the Ministry of Shipping and Transport has established, by adopting universally accepted methodology in classifying all the general import and export cargoes passing through the four main general cargo ports of India, namely, Calcutta, Bombay, Cochin and Madras, that a substantial portion of their general cargo would lend itself for containerization. Based on present commodity break-up, traffic forecasts carried out by the

Director, Transport Research of the Ministry of Shipping and Transport show that out of the total volume of general cargo that would pass through those ports, the volume that could be containerized would be as shown below:—

TABLE 1

Port	(in lakh tonnes)					
	1975-76			1985-86		
	Import	Export	Total	Import	Export	Total
1	2	3	4	5	6	7
1. Calcutta . . .	5.38	15.94	21.32	8.40	24.89	33.29
2. Bombay . . .	6.23	3.07	9.30	9.30	5.65	14.95
3. Cochin . . .	2.96	3.78	6.74	3.91	5.89	9.80
4. Madras . . .	1.93	1.58	3.51	2.07	1.74	3.81
Total . . .	16.50	24.37	40.87	23.68	38.17	61.85

6.30. The statement above deals with the expected traffic in 1975-76 and 1985-86 but even today we have a lot of containerizable cargo. The studies that were carried out for the Container Seminar at Bombay held in December 1968 showed that even in 1964-65, containerizable cargo available in India was well over 3.5 million tonnes.

Economics of Containerization

6.31. The annual throughput capacity of a modern full-fledged container berth is estimated at 1 to 1.5 million tonnes as against the conventional berth capacity of 1.5 to 2 lakh tonnes per annum. The cost of construction of a container berth will be higher by about 25 per cent over that of a conventional general cargo berth. Although, considerable additional investment will be called for in container ships, internal transport facilities between the port and destination point and point of origin of the container, on a balance, the reduction in the loading and unloading cost for general cargo, quicker turn-round of ships and low ratio of per tonne investment in container berth will more than off-set the additional investments referred to above. A table giving the comparison of loading and unloading cost for normal (break-bulk), palletized and containerized general cargo is given at Appendix V.

6.32. The Operations Research Group of Baroda in its Report on 'Survey of Overseas Transport & Freight Structure in India's Export Trade' (June 1969) has estimated the costs and revenues in the container trades from India to USA/Canada and U.K./Continent based on 1967 trade data for the ports of Calcutta and Bombay, which are set out in Appendix VI. In making this exercise, the Operations Research Group has excluded the excess cost of construction of the container berths as compared to the cost of the conventional berths. This is because the excess cost is expected to be more

than compensated by the higher throughput possible at the container berths. Similarly the Operations Research Group has not reckoned the cost of obsolescence of conventional ships which is expected to be higher with the passage of time when these will be increasingly replaced by container vessels.

✓ 6.33. The quantum of containerizable cargo even in 1964-65 was such as to justify investment on full-fledged container facilities in Calcutta (Haldia) and Bombay (Nhava-Sheva).

6.34. Apart from the economics of such operations, it would be very essential to provide container facilities at least on one port each on the east and west coasts of India so as to be in consonance with the world trend. The Commission, therefore, recommends that Haldia on the east coast and Bombay (Nhava-Sheva) on the west coast should be developed immediately as full-fledged container ports with all modern facilities. The Commission notes that the Haldia Dock Project, which is expected to be completed by 1971, provides for a container berth. Similarly the master plan for the development of Nhava-Sheva also contains a provision for container berth. The Commission wishes to stress the urgency of completing these projects.

6.35. We have noticed a tendency on the part of almost all the Major Port authorities to ask for full-fledged container facilities at their ports. The handling of occasional containers does not call for any significant increase in investment nor any change in the method of cargo handling. But the provision of full-fledged facilities at ports other than Calcutta and Bombay should be undertaken only after a detailed cost benefit analysis is made and the investment justified on merit.

✓ 6.36. As regards the development of internal transport to cope with container traffic, it may be mentioned that the Indian Railways are and will continue to be the predominant transportation system in the country. The fact that the I.S.O. standard $6 \times 2.435 \times 2.435$ cubic metres ($20' \times 8' \times 8'$) and $12 \times 2.435 \times 2.435$ cubic metres ($40' \times 8' \times 8'$) containers are almost the same size as the Indian Railway's 4-wheeler and 8-wheeler stock would in itself point to the immense capability of our Railway system to cope with this kind of traffic. The Indian Railway trucks and bogies which are in everyday use to-day may be able to carry I.S.O. standard containers to almost any part of the country and certainly to all the main trade centres of the country. The six metres container can also be carried by road in fairly large numbers to the main trade centres of the country.

6.37. The introduction of containers has its impact on the employment levels at the ports. The extent would, however, vary with the phase of containerized handling. Broadly speaking, we could divide into three categories, namely, (i) odd container ships, (ii) part container ships; and (iii) fully containerized ships. The first two phases would not necessitate any significant change either in the pattern of deployment of labour or in the manning scales. However, when fully containerized ships are handled at our ports, the unit demand for labour for cargo handling *per se* would go down

significantly. But then, the redundant labour could be expected to be absorbed in stuffing and unstuffing the containers in the port premises itself which is the practice in respect of a substantial portion of the containers handled at the foreign ports.

6.38. Moreover, the projected growth in general cargo particularly at the ports of Calcutta and Bombay would be of such dimensions that the existing levels of employment would hardly be affected. The general cargo traffic of 3.79 and 4.82 million tonnes at Calcutta and Bombay, respectively, in 1968-69 is expected to go up to 13.22 and 14.83 million tonnes in 1985-86. From these projections it will be seen that even providing for the handling of containerized traffic, the balance of general cargo that will be continued to be handled as break-bulk would create additional job opportunities at the ports. Further the skilled jobs like drivers for straddle carriers, loaders, gantry cranes etc., would be created in a large number providing for higher earnings by the workers. We are sure that our labour would also extend utmost co-operation in the provision of full-fledged container facilities and that labour and management would be willing to resolve the social problems that may arise consequent on the introduction of containerization. The general principles we have laid down for the close involvement of labour in the introduction of new technological steps, the sharing of the gains of productivity, schemes for voluntary retirement etc., would apply to this sphere also.

CHAPTER 7

PORT FINANCES AND ACCOUNTS

The examination of the financial results of working of the individual Major Ports is fraught with several difficulties. Having grown up under the control of quasi-independent Port Trusts and subject, in some cases, to separate legislation, the Major Ports disclosed considerable divergencies in regard to their financial and accounting procedures and practices.

7.2. We propose to deal in this chapter with the following—

- (1) Financial results of working of the Major Ports from the year 1950-51;
- (2) Sources of finance;
- (3) Reserves;
- (4) Policy for providing depreciation;
- (5) Accounting changes found necessary and introduced recently.

(1) The financial results of working of the Major Ports from 1950-51 to 1968-69

7.3. The accounts of the ports have been maintained in accordance with the respective legislation governing them. Though these enactments provide for a degree of control by the Central Government yet the ports' accounts disclose a wide variety of practices in their financial and accounting procedures. The actual procedures followed have tended to be influenced rather by the exigencies of each port's individual needs at the time than by strict adherence to accounting practices with the result that accounts figures have meant different things to different ports. This has rendered the task of comparison of financial results of one port to the other particularly difficult.

7.4. The accounts of the ports till 1968-69 were maintained on the "cash" basis instead of on the "accrual" basis, the amounts due to, and by, the ports during the year were not taken into the accounts. The Revenue Account presented on one side the "Receipts" obtained by the different departments of the port, namely, wet and dry docks, wharves and jetties, lands and buildings, railways, etc. The "Expenditure" on the other side, classified the expenses under different departments and activities corresponding to the items on the "Receipts" side. In addition a separate section was created to deal

with General Charges. Further, as the classification of income and expenditure was not drawn up function-wise, the revenue and cost information relating to each principal activity and sub-activity of the ports was not readily available. However, although the Revenue Accounts provided for a very detailed analysis of expenditure, both on capital and revenue account, the information not being classified on a functional basis, rendered it difficult to ascertain the actual costs of providing the different services of the ports.

7.5. Similarly, the Balance Sheet, based on the double account system, set out the information under Capital Account and General Account but it did not present an accurate picture of the actual financial position as just explained. There were also other differences from port to port with regard to the procedure followed for the allocation of expenditure between Capital and Revenue, which resulted in identical items being charged to capital by some ports and to revenue by others.

7.6. Modern methods of managerial control require adequate financial information for an effective operation of the organization. The revenue accounts being compiled on a departmental basis under different sections did not readily make available information relating to the cost of managerial services rendered by the different departments. The management at different levels could not deal satisfactorily with the planning and expenditure or controlling the costs as the forms of accounts were unsuited for such purposes. From 1969-70, however, as referred to later in this chapter, all the Major Ports have been required to change over their methods of accounting to a uniform system. This should help to remove many of the present difficulties in the task of assessment and comparison of the financial performance of the ports.

7.7. The Revenue and Expenditure of the Major Ports as presented in the annual reports of the Ministry of Shipping and Transport to Parliament each year are not in such detail as to permit any analysis of the expenditure from the gross revenues. The figures of expenditure, as set out, comprise not merely working expenditure, depreciation and interest but also loan repayments, transfers to reserve funds and other capital transactions. The Commission has not, therefore, been able to make much use of these data. The other source of information available to the Commission was the annual Administration Reports of the ports. Even here, owing to lack of uniformity in the financial procedures and accounting practices, the figures contained in the reports of individual ports are not comparable either as between themselves or, even in some cases, for the same ports, from one year to another. There is, however, a measure of comparability in regard to certain accounting statistics which are used in the analysis given below. The details of the financial results of the working of the different ports shown in the published accounts are presented in Appendix I-A to H.

7.8. As the statistics of gross revenues and working expenses (excluding depreciation) are largely free from the inconsistencies mentioned earlier, we may examine the trends of these in terms of

percentage ratios of the working expenditure (excluding depreciation) to gross revenues for 1950-51, 1955-56 and 1960-61 to 1968-69 as shown in Table 1 below:—

TABLE 1

Percentage Ratios of Expenditure (excluding Depreciation) to Gross Revenue—Major Ports 1950-51, 1955-56 and from 1960-61 to 1968-69.

Year	Calcutta	Bombay	Madras	Cochin	Visakha- patnam	Kandla	Mormu- gao	Paradip
1950-51 ..	88.72	77.01	60.75	61.40	97.63	..	..	..
1955-56 ..	80.68	77.98	56.84	57.50	68.31	..	..	..
1960-61 ..	83.14	58.00	55.19	57.63	47.81	67.22	..	..
1961-62 ..	80.36	59.01	60.95	58.81	61.81	62.30	37.65	..
1962-63 ..	81.63	75.37	52.59	76.56	67.64	58.92	51.11	..
1963-64 ..	76.87	63.21	52.87	59.66	56.82	54.73	36.35	..
1964-65 ..	81.48	65.74	66.52	58.90	59.01	68.09	50.71	..
1965-66 ..	88.63	60.31	66.52	63.30	65.28	58.22	41.97	..
1966-67 ..	88.66	69.19	59.83	64.44	50.23	59.31	43.59	176.35
1967-68 ..	80.74	70.98	66.39	52.79	51.06	73.56	49.64	81.62
1968-69 ..	88.79	73.87	67.08	62.38	55.80	59.02	54.19	55.10

Source—Based on data from the Annual Accounts of ports.

7.9. A glance at the above figures indicates that the port of Calcutta has had the highest ratios exceeding 80, except for the year 1963-64 when it came down to a little under 77. The ratio for Cochin Port rose to 77 during 1962-63 but it came down in later years. Mormugao Port has the lowest ratios of all. The operating ratios of the other ports show varying levels between these extremes.

7.10. In considering the differences in the percentage ratios of working expenditure (excluding depreciation) to the gross revenues of individual ports, it is necessary to take into account the volume of traffic handled, the amount of earnings and expenditure, and any other special feature peculiar to a port. Calcutta Port, for instance, has special features in its working, namely, the dredging of the river and the performance of certain services which are not undertaken at the other ports. Mormugao Port depends mainly on the traffic of a single commodity, namely, exports of ores for the handling of which the port has had so far little need to make any large scale investment on facilities. The bulk of its traffic is dealt with in stream and the balance by the mechanical handling equipment owned and operated by a private concern. The operating cost of the port is, therefore, much lower than those of the other ports and this is reflected in lower expenditure ratio.

7.11. The diversity of practices in regard to the allocation of expenditure between capital and revenue, the methods of providing for depreciation, etc., has rendered it difficult to arrive at the figures of net revenues and to indicate the financial strength and soundness of

the ports. In so high a capital-intensive undertaking as the ports, the policy followed in making the annual provision for depreciation had hardly any uniformity; nor was the procedure systematic. The provision was made on an *ad hoc* basis and took little account of the capital costs, and the useful life of the various categories of assets. The financial statements for these reasons did not reflect the true state of affairs of the ports.

7.12. It used to be the practice to work out, at the end of each year, the surplus or deficit in the Revenue Account, after charging to it also (i) the capital expenditure; (ii) the repayment of borrowings and (iii) *ad hoc* amounts to various funds and reserves. Moreover the ports used to adopt different yardsticks in regard to both the life of the assets and the limit of expenditure for allocation between capital and revenue. All this resulted in presenting an unrealistic picture of the finances of the ports.

7.13. Including the new Major Ports which have come in during recent years, the increase in Capital Base as shown in the balance sheets of the Major Ports for the years 1960-61 and 1968-69 is compared in Table 2 below: —

TABLE 2
Capital base in Major Ports during 1960-61 and 1968-69
(In lakhs of rupees)

Port	1960-61	1968-69
Calcutta	7,903·93	14,764·77
Bombay	8,141·27	12,607·33
Madras	2,273·89	4,884·38
Cochin	1,015·37	1,853·81
Visakhapatnam	1,169·95	2,473·58
Kandla	598·93	2,229·27
Mormugao (1961-62)	384·33	1,169·94
Paradip	..	2,851·31
Total	21,487·67	42,834·41

7.14. In view of the difficulty of obtaining correct statistics on a uniform basis, the Commission has not been able to compare the productivity of port investment over the years. Of the two indices of productivity, namely, the ratio of the net revenue¹ to the total investment and the ratio of the surplus² to the total investment we have been able to assess the financial results only on the basis of the first of the indices. In Appendix II is shown a summary of adjusted financial results of the Major Ports on the above basis for the year 1967-68. The percentage ratios of the net revenues to the value of the Capital

¹Net revenue equals gross revenue *minus* (working expenses *plus* depreciation).

²Surplus equals net revenue *minus* fixed charges (interest).

Base in that year afford an overall basis for indicating the productivity of capital in the ports as shown in Table 3 below:—

TABLE 3

Port									Percentage of net revenues to total Capital Base
Calcutta	..	..	..	..	..	..	..	..	1.8
Bombay	..	..	..	..	..	..	..	..	5.0
Madras	..	..	..	..	..	..	..	..	4.9
Cochin	..	..	..	..	..	..	..	..	9.9
Visakhapatnam	..	..	..	..	..	..	..	..	9.3
Kandla	..	..	..	..	..	..	..	..	1.0
Mormugao	..	..	..	..	..	..	..	..	8.5
Paradip	..	..	..	..	..	..	..	..	0.9

(2) Sources of Finance

7.15. The funds for investments in the ports have, broadly speaking, been drawn from the following four principal sources—

- (i) Loans advanced by Government;
- (ii) External loans;
- (iii) Debentures; and
- (iv) Self-financing (including miscellaneous).

7.16. The extent to which the ports have resorted to these different sources shows great variations. Debentures have provided some of the funds for Bombay and Calcutta ports. Madras Port also had debenture loans but they were fully discharged in 1953. Loans from the Government of India now form the principal source of funds for capital expenditure at the ports. Self-financing has also been a large source for the ports. The figures of the Capital Base for the different ports from 1950-51 to 1968-69 are summarized in Tables A to H in Appendix III. They also indicate the different sources from which the funds have been obtained. The figures of the Capital Base have been compiled from the annual balance sheets of the ports.

7.17. From a review of the components of the Capital Base, the period prior to the Five Year Plans does not afford much of a guidance. Port development projects were comparatively few in number then and the older ports depended mostly on their own internal resources and market borrowings. The ports which came later into existence did not hold the same attractions to the capital market and were necessarily dependent on Government for funds for development. With the commencement of the Five Year Plans, the traffic developed. Both the pace of development and of the increase in traffic were accelerated from Plan to Plan. By far the

most important source during this period has been the internal resources of the ports themselves. Next in magnitude comes the loans from the Government of India. Taking the period 1950-51 to 1968-69 for the five ports of Calcutta, Bombay, Madras, Cochin and Visakhapatnam, their total Capital Base has increased from Rs. 107.51 crores to Rs. 365.84 crores or by about Rs. 258 crores. Of these Government loans have increased from Rs. 8.59 crores to Rs. 75.51 crores and self-financing from Rs. 61.34 crores to Rs. 219.41 crores. External loans totalling Rs. 35.34 crores are a new feature and started only from 1961. The volume of debentures has, however, slightly declined from Rs. 37.58 crores to Rs. 35.58 crores during this period. The detailed figures are summarised in Table 4 below:—

TABLE 4

Components of the Capital Base for the Ports of Calcutta, Bombay, Madras, Cochin and Visakhapatnam

					1951	1969
					As on 31 March	As on 31 March
						(Rs. crores)
(i) Government Loans	..	..	..	..	8.59	75.51
(ii) External Loans	..	..	..	..	..	35.34
(iii) Debentures	..	..	..	..	37.58	35.58
(iv) Self financing	..	..	..	..	61.34	219.41
Total	..				107.51	365.84

7.18. The amount of the total Capital Base, taking all the Major Ports together as they existed in 1950-51 and 1968-69 compared as follows:—

TABLE 5

Components of Capital Base of Major Ports

					1951 ¹	1969 ²
					As on 31 March	As on 31 March
						(Rs. crores)
(i) Government Loans	..	..	..	..	8.59	123.18
(ii) External Loans	..	..	..	..	..	36.10
(iii) Debentures	..	..	..	..	37.58	35.58
(iv) Self-financing	..	..	..	..	61.34	233.48
Total	..				107.51	428.34

¹Refers to the then existing Major Ports of Calcutta, Bombay, Madras, Cochin and Visakhapatnam.

²Refers to all the Major Ports.

Source—Compiled from the Annual Accounts of the ports.

7.19. The terms on which ports have obtained loans from the Government of India have varied from time to time. The rate of interest has steadily gone up from $4\frac{1}{2}$ per cent per annum in the early fifties to 6 per cent in 1969. The currency of the loans has also shown a certain degree of stiffening from about 30 years with an interest-free period of 7 years and 23 equated annual instalments to 25 years with interest being paid on the loans drawn from their very first anniversary and principal being repaid in 20 equal annual instalments from the sixth year onwards.

7.20. A general increase in interest rates was of course inescapable in view of the upward trend in the rates of borrowing but the terms of repayment of the loans, in a period of 20 years, are in sharp contrast to the terms on which the Port of Calcutta was granted a small loan of Rs. 50 lakhs in 1946-47. The latter was interest free for the first 12 years, its repayment extending to a period of sixty years with half-yearly instalments.

7.21. More recently a further stipulation has been introduced by which the loans carry interest at $8\frac{1}{4}$ per cent per annum, but if the instalments of principal and interest are paid punctually on the due dates, the rate of interest would be reduced to $5\frac{1}{2}$ per cent per annum.

7.22. The principal details of the external loans, their rates of interest and the schedules of repayment are given in Appendix IV.

7.23. In the past, Calcutta and Bombay ports used to obtain a limited amount of their funds from the market in the form of debenture loans. The Calcutta Port Commissioners resorted to the market for funds since 1914. Generally speaking, the period of currency for these loans varied from 10 to 60 years. The interest rates fluctuated between $2\frac{3}{4}$ per cent and 6 per cent according to the conditions in the market. There were also two Sterling loans of one million each, obtained in 1923 and 1924.

7.24. The earliest date of borrowing by the Bombay Port was in 1903 with periods of currency varying from $23\frac{1}{2}$ years to 60 years. The Bombay Port had also obtained Sterling loans in 1909 and 1910 of half a million each and 1.6 million in 1922. These amounts have been paid off. The Bombay Port discontinued borrowing on debenture loans since 1941. The Madras Port, as stated earlier, paid off its Sterling debt and has not gone for debenture loans since.

7.25. The ports have practically given up market borrowings for development and have relied increasingly on Government loans. Government has also undertaken this responsibility for providing adequate funds in view of the very heavy investments involved in modernisation and improving port facilities. As a matter of fact, the Fourth Plan provides for a Central loan assistance of Rs. 184 crores, out of a total financial programme of Rs. 284 crores. The Commission considers that future development of ports should normally be financed to a large extent by their internal resources and market borrowings. In this connection, the Commission endorses the views

of the Committee on Transport Policy and Co-ordination. The Committee had observed in its final Report (1966) as follows—

“We are of the view that the Central Government should insist on Port Trusts specially in the larger ports, finding all the internal resources they can for development. They should also be encouraged to seek loans directly from the market and to this end they should receive the necessary support from the Reserve Bank of India and the Government of India. Loans from the Government of India should not constitute in the future as large a proportion of the total Port finances as may have been necessary during the period of accelerated development under the Five Year Plans when substantial new capacities had to be established over a short period. Indeed, as a matter of policy, Port Trusts should be expected so to manage their operations as to be able to draw at least part of their capital from the market.”^a

(3) Reserve Funds

7.26. The balances in the reserves of the Major Ports have played in the past an important part in the financing of capital expenditure. The setting up of a reserve fund or funds is provided by the Major Port Trusts Act, 1963. Section 90(1) of the Act authorizes the Port Trust Board to set apart such sums out of its surplus income, as it thinks fit, for the purpose of expanding the existing facilities or creating new facilities in the port or for the purpose of providing against a temporary decrease of revenue or increase of expenditure from transient causes or for meeting expenditure arising from the loss or damage from fire, cyclones, ship-wreck or other accidents or for any other emergency arising in the ordinary conduct of its work under this Act. It is also provided that the sums so set apart annually in respect of, and the aggregate at any time of, the reserve fund or funds are not to exceed such amounts as may, from time to time, be fixed in their behalf by the Central Government. The reserve funds are to be appropriated from the revenue surplus, if any.

7.27. The balances to the credit of the reserve funds of the Major Ports as on 31 March, 1969 are set out in Appendix V.

7.28. The Commission has noticed that the Major Ports have not followed any uniform policy in regard to their reserve funds. Bombay Port has considerable balances in its General Reserve Fund which is used for financing capital expenditure and which is fed by an *ad hoc* contribution of about Rs. 2 crores per annum as well as by the transfer of whatever surplus is available in the revenue earnings, after meeting the obligatory expenses. The balances of the General Revenue Reserve Funds maintained at other ports are relatively meagre and are intended mainly to meet unforeseen revenue deficits. A few ports have also Insurance or Accident Reserve Funds. None of the ports governed by the 1963 Act has any Fund earmarked specially for financing development programmes as required by the Act. The contributions made from year to year to the funds indicate

^aPage 136.

that the reserve funds are maintained by *ad hoc* contributions. This applies also to the Renewals and Replacements Fund for which at least a more systematic procedure would have been expected to be followed.

7.29. The utilization of the balances in the Funds also raises certain important questions of principle. The balances in the Revenue Reserve Fund of the Cochin Port, for instance, are almost wholly in the form of a fixed deposits with the State Bank of India. The investment composition also varies as between fixed deposits and Government and other securities. In the case of Mormugao Port, the total amount standing to the credit of the Funds at the end of the year is more than twice the capital debt outstanding. These considerations stress the need for evolving an uniform and systematic policy with regard to the contributions to and the utilization of the balances in the reserve funds.

7.30. The foregoing analysis leads to one issue, namely, the extent to which a port should accumulate any reserves. The Bombay Port Trust, for example, has invested Rs. 23.36 crores in Government securities and other outside investments. The investment of such large sums outside the Port without utilizing them for mechanization and modernization of port facilities has not been in the best interest of the Port and its users. The Commission, therefore, considers that a ceiling should be imposed on the investment of a port's reserves in activities other than port operation. The Commission, therefore, recommends that investment of reserves outside the port should not exceed 25 per cent of its capital employed at any given time and that the surplus, if any, should be utilized for port development, relief to port users and welfare amenities to the labour etc.

(4) Provision for Depreciation

7.31. Reference was made earlier to the different practices followed by the Major Ports for providing depreciation. The system prevailing up to 1968-69. was to provide for depreciation of wasting assets by annual contributions from revenue to two accounts, one to the General Account and the other to the Pilotage Account.

7.32. In Bombay Port, the annual contributions made up to 1967-68 to the Renewals and Replacements Fund amounted to Rs. 1.61 crores calculated at 4 per cent of the total capital expenditure on wasting assets as on 31 March 1963; this excluded the Marine Oil Terminal Assets for which depreciation was provided on the straight-line method based on the estimated life of the relative assets. The contribution to the Pilotage Depreciation Fund was made according to the Sinking Fund method and it amounted to Rs. 57,000 only.

7.33. At Calcutta, the assets owned by the Port were shown in the balance sheet in two parts: one exhibiting receipts and expenditure on capital account and the other at their original acquired value until written off to extinction. No debit was raised in the revenue account for depreciation as such, but sums were set apart out of revenue every year into a Sinking Fund for the repayment of the loans taken from time to time for the acquisition of assets. Where the loans were short-dated and their currency was less than the life

of the assets, the old loans were replaced by fresh ones, on succession, to correspond to the life of the assets. The Calcutta Port Commissioners claimed that the sums transferred every year from Revenue into the Sinking Fund ensured a full provision for depreciation. This is, however, not borne out by our examination of the accounts of the Calcutta Port as we have noticed that (i) where assets were created with their internal resources no provision for depreciation appears to have been made and (ii) over the years till 1967-68 there has been an underprovision for depreciation as compared with the accumulated depreciation at historical cost amounting to Rs. 53.29 lakhs. Further, another practice adopted by the Port was to write off from revenue the assets with a life expectancy of less than 10 years. In respect of Government and World Bank loans which are to be repaid in equated annual instalments of both the principal and interest in periods shorter than the useful life of the assets, the contribution from the Sinking Fund has been higher than would have been the case had the Port followed the commercial system of accounting.

7.34. The Madras Port Trust also followed the Sinking Fund method on the basis of the estimated life and further annual contribution to the Renewals and Replacement Fund to meet the replacement cost of the floating assets. At the port of Visakhapatnam lumpsum contributions were made every year to their Renewals and Replacement Funds on an *ad hoc* basis. It should be noted that the block accounts of Madras and Visakhapatnam reflect the original cost on first acquisition of the assets as they followed the procedure of not altering the block account when the assets were replaced from time to time. At the time of replacement of an existing asset, the cost of the new asset was fully charged off to the Depreciation Reserve Fund. The block accounts of Madras and Visakhapatnam ports, therefore, tend to understate the value of their various assets.

7.35. At the port of Cochin also *ad hoc* lumpsum contributions were made every year to its Renewals and Replacement Funds. In regard to the port of Kandla the contributions were made according to the Sinking Fund method, the rate of interest adopted being 3.75 per cent per annum of the estimated life of the historical cost of the assets less the estimated scrap value. Mormugao Port made its annual contribution to the Depreciation Fund on the straight-line method and on the basis of the historical costs of the assets.

7.36. The Study Group on Port Finances set up by the Commission also reached the conclusion that "to the extent the amounts set aside each year were not calculated with reference to the costs and lives of the capital assets, the adequacy of the amounts provided could not be assessed and the balance sheet did not reflect the correct position of the diminished values of the assets. Wherever lumpsum *ad hoc* contributions were made it was also not possible to allocate the total annual provision to individual assets or group of assets."

7.37. The need for revising the method of providing depreciation on historical cost arises from the effect of inflation and the consequent abnormal rise in the cost of replacement of assets. The depreciation provision based on the original or historical cost would in

such a case fall short of the actual needs. In view of this situation it came to be felt that something more than what would be normally provided for depreciation on the original or historical cost of the asset should be set aside annually under depreciation. The Committee of Inquiry into the Major Ports of Great Britain (Rochdale Committee) 1962, examined this question and after considering the implications of different methods of providing depreciation recommended that the ports should aim at providing out of revenue depreciation of assets on a replacement cost basis.

7.38. The implications of the replacement basis of charging depreciation are very complex in actual application. Even on the basis of current replacement cost, it may not always be possible to calculate precisely the amount due by way of depreciation on a year to year basis. Further, even this method would not cover the deficiency occurring in respect of the previous years, in a period of continuous price rise. Another factor to be taken into account is the element of obsolescence which, in the context of advancing technology, would necessitate a premature replacement and thereby make for an even larger demand on the resources of the ports.

7.39. The commercial practices as also the statutes like the Companies Act, the Income-tax Act, etc., recognize provision for depreciation on historical costs as a charge on revenue. Besides, the provision of depreciation on replacement cost would impose an additional burden on the revenues of the ports. In view of these reasons, the Commission is of the opinion that depreciation of the ports' assets should be provided for on the historical cost basis on straight-line method.

(5) The New Accounting System

7.40. During 1965-66 the Calcutta Port Commissioners and the Bombay Port Trust, engaged the services of Messrs. Price Waterhouse, Peat & Co. of Calcutta as Consulting Accountants, to undertake a comprehensive inquiry into the system of accounting at the ports. The principal objectives of the inquiry were (i) to determine what changes, if any, were required in the system so that it reflected the true financial results and (ii) to assist the management to modify or supplement the accounting system, more particularly the Revenue and Expenditure Account in consonance with the generally accepted commercial principles so that the costs of providing the principal services and operations could be more readily and quickly determined.

7.41. On the basis of the detailed recommendations made by the Consulting Accountants the forms of the budget were revised and the accounting procedures reorganized. The revised system was brought into force for Calcutta and Bombay ports from the accounting year 1968-69 and at the remaining Major Ports with effect from the financial year 1969-70.

7.42. The more important changes carried out in the accounting procedure are—

- (i) a new classification in the presentation of accounts to make them uniform for all the ports. The changeover to income

and expenditure by types, such as wages, salaries and stores, permits the identification of the items to the authority responsible for incurring the expenditure and also ensures the control of specific items of expenditure on the activities/services in the port.

- (ii) all expenditure to be separately classified under three different heads, namely, (a) operational, (b) maintenance and (c) general, with a view to getting the cost of principal services reflected under these categories. In addition a system of codification of all the items of income and expenditure to permit an eventual mechanization of the accounts;
- (iii) the derivation of cost data by the principal services or sub services and a breakdown of the "General Charges" pertaining to each principal service and of the "residual" Administration and General Expenses;
- (iv) the charging off to the Revenue Account, irrespective of the availability of revenue surpluses, depreciation on all fixed assets on a straight-line method worked out on their historical costs and in accordance with their estimated life;
- (v) the classification and compilation of capital expenditure on a uniform basis; all capital expenditure having a life of five years or more and of the value of, or exceeding Rs. 15,000 in respect of each item, alone being treated as capital expenditure;
- (vi) a review of the progressive expenditure on large Capital Works at quarterly intervals, long-term forecasts of operating results and preparation of Capital Expenditure by the ports each year for a quinquennial period to facilitate long-term planning;
- (vii) the revised forms of Balance Sheet and Revenue Account, to be drawn up in conformity with the commercial system of accounting;
- (viii) separate Balance Sheets and Revenue Accounts for Pilotage have now been done away with: Pilotage is now treated as a sub-service within the principal service of the Port and Dock facilities.

7.43. The Commission considers that with the introduction of the revised system of accounting by all Major Ports the management of each will be able to exercise an effective financial control on the port's working. The new accounting system should also help to achieve a far greater degree of comparability of the financial figures and statistics as between the different ports than has been hitherto possible.

CHAPTER 8

FINANCIAL OBJECTIVES FOR MAJOR PORTS

We have stated earlier that the ports should so operate as to meet all the financial obligations such as working expenses, depreciation, interest, etc. The earlier Port Trust Acts have not, however, spelt out this obligation clearly. The Bombay Port Trust Act 1879, for instance, casts an obligation on the Port to make ample annual provision either by readjustment of expenditure or by increase of rates for the due fulfilment of all the liabilities. The port has been enjoined that in the event of any deficiency in the income of the Board they should forthwith take such measures for preventing such deficiencies. But no obligation to earn a standard rate of return on the port investment has been prescribed in the various Port Acts. This is probably the reason why many of the ports have attempted only a sort of balancing of budgets equating revenues with their expenditure and taking an *ad hoc* view in respect of future liabilities.

8.2. With the commencement of planning on a national scale massive outlays have been made on the development of the Major Ports. Major Ports have been called upon to raise considerable internal resources both for development and replacement of port facilities. The steep increases in the cost of construction and in the mechanical equipment had also thrown up in the Post War years additional burdens of finding resources for the replacement needs of the ports.

8.3. The Major Ports had in the past sought to maintain financial solvency taking total income and expenditure. Beyond matching revenues with expenditure, their management disclosed few other financial objectives. A question of considerable importance as to both policy and practice affecting the Major Ports is whether the ports should continue to run on a 'no-profit no-loss' basis as in the past or should attempt to raise surpluses to finance at least a part of their development programmes. The Commission elicited the views of various interests who had appeared before it on the role to be assigned to the ports. One view was that the ports should run on a 'no-profit no-loss' basis recovering only the cost of services rendered. In contrast, another view was that they should function as viable commercial organisations and that they should also generate surpluses to take care at least of a part of the development needs. The Commission finds that there is considerable validity in both the points of view and that no single principle should be accepted to the exclusion of the other. The trend, however, even in countries where ports are treated as service organisations is towards making them increasingly financially viable. The Commission, after careful consideration, has reached the conclusion that the ports should necessarily aim at raising sufficient surpluses to finance a part of their development programmes while keeping in view the public interest. In the absence of a clear enunciation of the financial objec-

tive, the port managements have not been 'forward looking' and had not provided facilities in anticipation of the traffic developing at their ports. In their anxiety to keep the level of port charges low, the emphasis on creating adequate facilities to expedite the turn-round of vessels, the improved loading and unloading of cargo and other shore facilities were not given adequate attention. It is for this reason that we emphasize the need for a conscious effort at creating surplus through a properly devised rating policy, financing development to a measure from internal resources, and the creation of a cushion in port capacity to take care of peak requirements. All these would not be possible unless the ports aim at providing not merely for the ordinary revenue obligations emphasized in the older Port Acts but even more towards the need for finding resources for development without detriment to public interest. It is necessary to lay down on ports the obligation to earn a proper return which will cover depreciation, current costs of replacement of assets, payment of interest and contingencies.

8.4. The rate of return may be prescribed as a percentage either of the gross block or of the capital employed. Since capital employed represents the residual value of the assets after deducting the accrued value of depreciation, it reflects the net value of the investment in business. Besides, working funds and reserves ploughed into the business itself form part of the capital employed and qualify for the same rate of return as fixed assets. Outside investments such as in Government securities cannot be called capital productivity employed in the undertaking and are, therefore, to be excluded from the purview of the capital employed. The sources of investment finance are not material but what is of significance is the net value of the assets and the quantum of working capital. The Commission has, therefore, come to the conclusion that the rate of return should be linked to the capital employed.

8.5. The Fourth Five Year Plan (1969—74) has laid down that "efforts could be directed to raise the rate of return on capital employed to 15 per cent by industrial and commercial undertakings other than public utilities." The document has not spelt out the rates applicable for various types of public utility undertakings. However, it has referred with approval to the recommendations of the Committee on the working of State Electricity Board (October 1964) which has recommended that the rate of return in electricity undertakings should be raised to 11 per cent per annum on a phased programme. This recommendation has already been accepted in principle by the Government.

8.6. In many ways the working of ports and the social objectives underlying their operation bear a close resemblance with those of the electricity boards. Both have a vital promotional role in the economic development of the country. In both cases, the social objectives have to be combined with the commercial concept of adequate rate of return on the capital employed. However, one major difference between the financial pattern of the electricity boards and the Major Ports should be taken note of. While the ports are required to generate sufficient cash resources for the repayment of loans taken by them, the electricity boards do not have this

obligation in respect of loans advanced by the State Governments and have only the obligation for the payment of interest. Further in the components of 11 per cent rate of return for the electricity boards, 1.5 per cent relates to electricity duty which is levied by the State Governments and in respect of which the electricity boards undertake only the agency function of collection and remittance. If we take away the electricity duty of 1.5 per cent, the net rate of return envisaged on the Capital Base in the State electricity undertakings is 9.5 per cent. Taking into account the need for a provision for the repayment of loan we believe that a minimum of 12 per cent rate of return on the capital employed as a financial objective for our ports would be appropriate.

8.7. The ports carry a considerable burden of loans totalling for all Major Ports at Rs. 159.3 crores as on 31st March 1969. As repayment of loans is a liability to be taken into account in the ordering of the finances of the ports, some provision has to be included in the total rate of return that the Commission visualizes should be produced by the ports. A provision of 3 per cent towards development, repayment of loans and the contingencies has been included in the minimum standard rate of return we have laid down. A net provision of 1 per cent towards contingencies is widely adopted by the price fixing authorities such as the Tariff Commission and the Cost Accounts Branch of the Ministry of Finance. The repayment obligations naturally differ from port to port, but taking into account the availability of depreciation as part of cash resources for this purpose the provision of 3 per cent, we believe, should be adequate to meet the need for reserve for development, repayment of loans and contingencies.

8.8. Replacement of the assets of ports has brought about an increasing degree of burden on port finances in view of the impact of inflationary costs. With the provision of depreciation on the historical cost basis ports would be in a position to meet the original cost of acquisition but the difference between the present day cost of replacement and the historical cost is so large that special provision to meet this demand is called for. The magnitude of the requirements of ports in respect of replacement may be judged from the calculations made by the Consulting Accountants Messrs. Price, Waterhouse, Peat & Co., in regard to the additional provision required on this account. For example, in the case of Bombay Port it has been noticed from the details worked out by the firm of Consulting Accountants that the provision calculated on the current replacement costs as on 31 March 1966 would be Rs. 176 lakhs as against Rs. 107 lakhs on the historical costs. The increased requirement to make up deficiency in the annual provision on the historical cost will amount to 1.77 per cent of the capital employed. Although a similar exercise has not been done for the other ports the fact that the calculations of the Consulting Accountants run back to the examination of data starting from 1900 and comprise all the types of depreciable assets in use in Bombay Port, affords a fair measure of the differential to be covered in other ports as well. There are other equally important factors to be considered namely the requirements of rehabilitation and of modernization of the ports.

8.9. It is also necessary to take into account the impact of the present-day dynamic changes affecting profoundly several sectors of the working of the ports. Taking into account the need for making an additional provision for the replacement costs as well as for the rehabilitation and modernization of the ports, we believe, that providing 3 per cent on the capital employed should appear to be adequate. We, therefore, recommend a rate of return of not less than 12 per cent on the capital employed for the Major Ports with the following break-up:—

6 per cent towards interest charges;

3 per cent towards replacement, rehabilitation and modernization of the capital assets; and

3 per cent towards reserve for development, repayment of loans and contingencies.

Total 12 per cent

8.10. In the United Kingdom certain financial objectives have been laid down for the nationalised undertakings. These are contained in their statutes and vary with the types of nationalised undertakings. By and large, the objectives lay down that over a period of five years the financial results should be such that over and above working expenses, interest and depreciation on the historical cost basis, an amount necessary to cover the excess of depreciation calculated on replacement cost basis over the historical cost depreciation should be generated besides adequate allocation to general reserve for a contribution towards capital development and as a safeguard against premature obsolescence and contingencies. The Committee of Inquiry on Major Ports of Great Britain 1962 (Rochdale Committee) broadly endorsed this pattern and stated that the ports should aim at providing out of revenue for the following:—

(a) working expenses;

(b) interest on loans;

(c) depreciation of assets on a replacement cost basis;

(d) taxation; and

(e) some margin for reserve and to finance minor improvements.

We have already stated the reasoning which made us recommend that the revenue account should be charged only with the historical cost depreciation and that the rate of return of a minimum of 12 per cent on the capital employed should take care, *inter alia*, of the extra provision towards replacement needs. In our view, a specific rate as laid down by us would help focus the objective before the ports.

8.11. We have elsewhere in this report (Chapter 10) recommended the extension of an outright grant by the Government to the extent of 20 per cent of the capital relating to civil works and other items. If the ports have to follow a rating policy by which the full return of 12 per cent is to be attained on the entire capital employed including the grant portion, there would be no relief to the users and would defeat the very objective for which the grant is recommended. Since the ports will not be obliged to repay either the grant portion or interest thereon, it is not necessary to provide for a 6 per cent interest and about 1 per cent for repayment of loans. The Commission therefore recommends that the ports should endeavour to earn 5 per cent on the grant portion of the advance while conforming to the principles already enunciated for the balance of capital employed.

8.12. From the survey of the financial results of the working of the Major Ports in an earlier chapter it would be clear that all the ports cannot be expected to attain the financial objective in a uniform time-schedule. The phasing of achieving the objective will have to take into account the present levels of return, the traffic forecasts in the Fourth Plan period (1969—74), the pattern and composition of traffic, the dimensions of investment, the debt servicing obligations, etc. During the year 1967-68, four ports, namely, Cochin, Visakhapatnam, Mormugao and Madras have already achieved the objective of a minimum 12 per cent return as indicated below—

Cochin Port	...	...	...	16.0 per cent
Visakhapatnam Port	...	...	...	14.3 per cent
Mormugao Port	...	...	...	12.6 per cent
Madras Port	...	...	...	12.2 per cent

This position is, however, likely to change with the implementation of the Wage Board's recommendations. The Commission hopes that necessary adjustments in the rate structure will be made with a view to maintain the financial results already achieved.

8.13. We are setting out in Appendix I the further leeway to be made by the various ports on the existing levels of traffic and rates and charges to reach the financial objective and the further income to be generated. Bombay Port has reached, in 1967-68, a return of 11.5 per cent on the capital employed and we recommend that every effort should be made by it to achieve the minimum rate of 12 per cent by 1970-71. In respect of Calcutta Port, with the favourable results expected on account of Farakka barrage, commissioning of the Haldia dock system and relief given by the Central Government in the form of subsidy of 50 per cent of dredging cost based on the recommendation of Shri P. C. Bhattacharyya, it is hoped that Calcutta Port will attain the objective of not less than 12 per cent return on capital employed in five years from the commissioning of Haldia dock system.

8.14. In the case of ports of Kandla and Paradip and the new Major Ports of Mangalore and Tuticorin which are under construction, we have taken into account the growth prospects of traffic, their

financial picture, etc. and recommend three stages for the attainment of the objective of not less than 12 per cent on capital employed as given in the table below :—

TABLE 1

Phasing for the objective of 12 per cent return on Capital Employed—Kandla, Paradip, Mangalore and Tuticorin Ports

Stage	Minimum return on capital employed	Objectives to be achieved by	
		Kandla/ Paradip	Mangalore/Tuticorin
I	6%	1973-74	Five years from the commissioning of the project.
II	9%	1976-77	A further three years.
III	12%	1978-79	A further two years.

CHAPTER 9

PORT RATES AND CHARGES

Port rates and charges constitute one of the most important sources of income of the ports. On the effectiveness of the system of rates and charges to produce a level of earnings adequate to meet the working expenses, depreciation and fixed charges depends the viability of the ports.

9.2. Ports levy charges on a variety of services rendered by them, such as the handling of goods and passengers, ships, transshipment, warehousing, stacking, etc. There are certain further services in the case of a riverine port like Calcutta, which have also to be paid for by the user.

9.3. An idea of the amount of income derived by the Major Ports from the several sources may be briefly indicated. For the year 1967-68, the income from wharfage accounted for 31 per cent of the total for Calcutta, 27 per cent for Bombay, 35 per cent for Madras, 63 per cent for Cochin, 66 per cent for Visakhapatnam, 46 per cent for Kandla and 47 per cent for Mormugao. The percentages of port and dock dues have varied between 1.67 at Bombay and 7.24 for Mormugao. The revenue for land and building has ranged from four per cent for Mormugao to about 14 per cent at Bombay. The detailed figures are contained in Appendix I.

9.4. In view of the multiplicity of commodities, the individual rates differentiated according to the classification and variations in the costs of handling and the services to vessels, it is not possible to attempt a proper inter-port comparison. A broad indication, however, is afforded by the average of the total earnings per tonne of goods dealt with at each port. The average here is affected by the individual characteristics of the traffic of the different ports. But it sums up the effects on influences operating on the traffic and of rates and charges prevailing at each port. The average earnings per tonne of traffic are shown in Appendix II. The extent of increase since 1950-51 has been considerable. It has gone up about three times at Calcutta, about twice at Madras, about 80 per cent at Bombay and about 60 per cent at Cochin and Visakhapatnam.

9.5. There are wide variations in the charges levied by the different ports on the commodities imported or exported. For example, under imports, the charges for cement per tonne vary from Rs. 2.75 at Bombay to Rs. 7 at Madras. On sulphur Kandla charges Rs. 3 per tonne while at Calcutta the rate is Rs. 9. On instruments and electrical goods, the range is much wider from Rs. 5.20 at Visakhapatnam to Rs. 100 at Bombay per tonne during 1968-69. Turning to exports, hardware is charged Rs. 3.95 at Kandla as against Rs. 11 per tonne at Madras. On iron and steel, the tonnage rate is Rs. 3 at Calcutta against Rs. 9 at Madras. The lowest rate for machinery and boilers is at Visakhapatnam, namely, Rs. 3.60/Rs. 7.20

as compared with Rs. 12/Rs. 20 per tonne at Calcutta. In examining the revenue produced in the rates system on individual ports, it is necessary to pay attention to these aspects.

9.6 The use of different terminology by the ports in regard to wharfage rates is apt to be confusing. What is described as wharfage at Bombay and Kandla is, we understand, referred to variously as 'shipping/landing charges' at Calcutta, 'harbour dues' at Madras, 'quay dues' at Cochin, 'shipping/landing fees' at Visakhapatnam and 'wharfage dues' at Mormugao. Uniformity of terms is essential to facilitate quick understanding of the significance of these expressions and for inter-port comparisons. We, therefore, recommend that uniform terminology should be introduced on all ports with the least possible delay.

9.7. Major Ports derive their authority to levy dues and charges from the respective legislation governing them under which prior approval or sanction is necessary from the Government of India. The Government of India may require modification or cancellation of the rates or the conditions.

9.8. The Commission has received a number of representations from users against the comparatively higher charges levied by the Calcutta Port and in consequence the diversion of traffic from Calcutta to other ports. The late Shri P. C. Bhattacharya who went into this matter has confirmed that the port charges in Calcutta were comparatively high. On the basis of the recommendations made by Shri Bhattacharya, the Government of India has agreed to afford relief to the port of Calcutta by bearing 50 per cent of the cost of dredging operations on the river Hooghly. In view of the rise in the cost of materials and rates of wages, Major Ports have revised their tariffs and charges several times between 1947-48 and 1966-67 with frequent recourse to the imposition of surcharges. The details of these increases are summarized in Appendix III. The Commission finds that such revisions have been more or less on an *ad hoc* basis and not on the basis of any definite principles. In the light of its earlier decision that the ports should earn a minimum return of 12 per cent on their capital employed without detriment to public interest, the Commission wishes to lay down the principles to be observed by the Major Ports in regard to their rating policy.

9.9. At the out set we may consider whether it would be possible or desirable to formulate a uniform rating system for all commodities handled at all the Major Ports. The idea is attractive though specious. Since each port has in respect of traffic an individuality of its own and relies on certain commodities from which the bulk of its revenue is derived, such as tea and gunnies at Calcutta, iron ore at Visakhapatnam and Mormugao, there will be practical difficulties in a uniform rate for all ports. P.O.L. traffic, for instance, yields comparatively much larger revenues, relative to the investment, on the facilities provided by the port or the expenditure incurred in handling this traffic and helps to keep down rates on other commodities in certain ports. These considerations militate against the principle of uniform rate even for major commodities at the various ports.

9.10. We have used the expression 'costs' in this report under three categories. They are—

- (1) the direct cost which means the actual cost of handling the traffic without any provision for depreciation or overheads;
- (2) the cost of service (which means actual cost plus 6 per cent interest); and
- (3) the full cost which includes depreciation, overheads and a minimum return on the capital employed.

9.11. The traffic passing through a port consists of many commodities. The ability to bear the port charges may vary considerably with individual commodities. Some commodities may not stand the full costs. Coal and salt, for instance, will move only when the charges are sufficiently low. In such cases the ports should recover at least the bare costs of moving such traffic. These, also called the direct costs, constitute the floor charges in the rating system. Commodities of higher value and comparatively smaller bulk can stand higher rates which may be fixed on the principle of ports charging 'what the traffic can bear'.

9.12. The Commission considers that the actual rates on commodities should range between these two limits of direct costs and the ability of the traffic to bear. These should be so applied in actual practice that the revenue realized will be adequate to cover the total cost of the port and yield a proper return. In the actual fixation of the rates, attention has to be paid to the nature of the commodities and the factors influencing the traffic.

9.13. It may be observed that ports have not been altogether insensitive to these considerations in the past, but because of their resort to *ad hoc* changes their influence has not been pronounced. The Commission recommends that the results of cost analysis of the services concerned have to be taken into account in deciding upon the rates and charges. With the setting up of a Costing Cell as recommended by the Commission, the port will have the opportunity of making a continuous review of the cost of the services which might disclose gaps that require to be bridged by suitable adjustments in rates and charges.

9.14. Further, differential rates are implicit in the value, volume and direction of trade. Public interest may also necessitate preferential tariffs for certain kinds of commodities and for certain periods. All these factors will have to be taken into account in formulating a rating policy for the ports.

9.15. The advisability of permitting cross subsidization of rates is sometimes questioned. Cross subsidization is a necessary concomitant of the application of the twin principles of direct costs on low rated commodities on the one hand and "charging what the traffic can bear" on the other. This will ensure the fuller utilization of the port facilities by taking in both the low-rated bulk commodities and high value cargo. The Costing Cell recommended by the Commission

for each of the ports should afford the proper analysis and advice to the management on these matters. We also recommend that there should be a quinquennial review of the rate structure in the light of technological developments.

9.16. In certain Major Ports, the export rates are lower than the rates levied on imports. At Calcutta, it is found that the disparity between the export and import rates is quite considerable. In some cases it was observed that the rates charged were even lower than the direct costs of the services. If, in the national interest, it becomes necessary to give such a concession, we feel that such assistance to export should be borne directly by the authority concerned rather than by the ports. Where either the imports or the exports are required to be handled at concessional rates, ports should be entitled to the reimbursement of the difference between the rate charged and the cost of service (including six per cent interest) from the Government or the agency at whose instance the concession was granted.

9.17. The Commission understands that there is no uniformity in the wharfage and demurrage charges prevailing in some of the Major Ports and that in some ports the charges leviable on coastal cargo are different from those realized on foreign trade. The wharfage leviable on coastal cargoes at Bombay is subject to a rebate of 20 per cent. No such concession appears to be in force in the case of Calcutta and Madras Ports. There is also disparity in the "free time" allowed by different ports in assessing demurrage charges. The Estimates Committee 1968-69, Fourth Lok Sabha, suggested that Government might examine the feasibility of introducing proper rates for wharfage and demurrage in consultation with the port authorities and consider the examination of the question of levying concessional port charges for vessels engaged in coastal traffic. The Commission has already expressed its opinion that the port rates and charges should have to conform to the two principles referred to earlier in para 9.11 and would reiterate that the same policy should be applied to coastal cargoes as well.

9.18. The Commission's attention was drawn to the question of letting in diplomatic goods free of charge. The quantum of traffic involved is admittedly negligible and, this comes under diplomatic courtesies on a reciprocal basis. However, the case of goods proceeding through the port of Calcutta to Nepal stands on a different footing. The present practice places the port at a financial disadvantage. It is understood that the total rent charges waived and refunded in respect of Nepal cargo for the year 1967-68 and 1968-69 amounted approximately to Rs. 35 lakhs and Rs. 32 lakhs respectively. Since the port management incurs expenditure in handling such cargo, it is entitled to the charges therefor. The port management cannot be expected to undertake this burden and distribute it over the other cargo handled in the port. Government of India may take this aspect into consideration and may reimburse the Calcutta Port the costs of such service.

9.19. Though cargoes can be moved through any port without restriction, ports have in respect of traffic relating to an area of their hinterland a measure of monopoly power. It is in the public interest

that ports should be sensitive to a reasonable exercise of their power. The existence of an agency entrusted with the responsibility of ensuring that the ports do not exceed the bounds dictated by public interest is an important safeguard.

9.20. Where in certain cases a difference of opinion arises between the Port Trust and the Chairman, or the Board including the Chairman and the Government, or where the user may have a grievance that the charges are either discriminatory or exorbitant, the Commission considers that it is necessary to have an appropriate machinery for the purpose to examine the cases involved and resolve the differences or the disputes. In the case of a similar authority like the Railways a provision exists for reference of disputes to the Railway Rates Tribunal. It has been brought to our notice that the Chairman of the Port Trusts have not always been able to carry an appropriate rating policy owing to the predominance of user interests in the Port Trusts and that it was necessary to acquiesce in a compromise contrary to the best interests of the ports. The absence of a facility for recourse against unfair or discriminatory practices open to a railway user has also been brought to our notice and commented upon. It has also been observed that the delay by the Central Government in approving the port rates and charges has led to a considerable loss of revenue to the ports concerned. Sometimes, pressures are also developed by the user Ministries and interests to reduce the port charges in respect of the commodities in which they are interested and a measure of embarrassment develops. To obviate all these, the Commission considers that a Port Rates Authority should be constituted. The Port Rates Authority should be composed of three members, one of whom should be an economist, another a person with administrative experience, and the third an expert in finance and accounts. The Port Rates Authority will be advisory in character and will have jurisdiction in the following cases—

- (1) cases, where on the recommendations of the Costing Cell (Rates Cell), the changes proposed have not been accepted by the Board and the Chairman considers that, in the interest of the administration of the port, the proposed rates should be approved;
- (2) cases of difference between the Port Trust and the Government;
- (3) cases of complaints of the user of undue preference, undue or unreasonable prejudice or disadvantage in any respect whatever or unreasonable charges; and
- (4) cases which the Government may refer to the Authority on any other matter.

9.21. Some apprehension was expressed that the creation of a Port Rates Authority will lead to a plethora of applications and, instead of expediting decisions, might have the contrary effect of further delaying decisions. The Commission has taken note of this objection, and, therefore, recommends that in the initial years a

reference to the Port Rates Authority should be made only through the Government. We expect that the authority will so function as to decide the issues referred to it expeditiously.

9.22. The rationalization of the system of rates and charges which the Commission has recommended should be carried out on systematic and comprehensive lines. At the same time we are aware that the anomalies which have grown in the past as a result of the individualistic and *ad hoc* action in raising rates and charges cannot be removed all at once. Port rates and charges have an international impact and large-scale changes of this character have to be carried out after careful analysis and by stages.

CHAPTER 10

TERMS OF GOVERNMENT LENDING TO PORTS

We have already dealt with the capital structure of the different ports, the lack of uniformity in the presentation of annual accounts, wide variations in the provision of depreciation, allocation of expenditure between capital and revenue, etc. While the older ports have financed developments largely from their internal resources and from market borrowings, the new ports developed after Independence have relied mainly on loans provided by the Government of India. That such large borrowings have cast a heavy burden on the ports both as regards payment of interest and repayment of loans has been placed before the Commission.

10.2. The capital structure of the Major Ports could be broadly divided into two parts, namely (i) self-financing and (ii) loans.

10.3. Out of the total expenditure of Rs. 134 crores spent on expansion and development at the ports of Calcutta, Bombay, Madras, Cochin and Visakhapatnam, during the three Plan periods from 1951 to 1936, as much as Rs. 60 crores or about 45 per cent were found from the ports' internal resources and the balance of Rs. 74 crores was found from loans and borrowings. *Ad hoc* policies were adopted for financing the capital development from internal resources and they were not backed by a growth oriented rating policy to sustain a constant flow of funds from this source as could be seen from the details of the developmental expenditure incurred at the various ports and the sources of financing them in Appendix I.

10.4. As regards loans, the bulk of them were advanced to the ports by the Government of India. But some ports raised resources by the issue of debentures or from foreign exchange loans obtained from international agencies, such as the World Bank and the Algemene Bank, Netherland, N.V.

10.5. It would be useful to refer to the composition of the Capital Base at the various ports and the significant changes that have come about under the aegis of planning. In an earlier chapter (No. 7—Port Finances and Accounts), we have given a detailed analysis in this regard, but we would refer here to some of the salient features. The Capital Base of all the ports, which stood at Rs. 107.51 crores in 1950-51 increased to Rs. 428.34 crores in 1968-69. Government loans to the ports in the corresponding period rose from a mere Rs. 8.59 crores to Rs. 123.18 crores.

10.6. Immediately prior to the commencement of the planned economy in 1951, Government loans to the ports constituted just eight per cent of the ports' Capital Base; it rose to 17 per cent in 1955-56 and further to 29 per cent in 1968-69. This change has been brought about because of the massive investments undertaken under the successive Plan periods and which could not have been provided entirely by the ports themselves from their internal resources.

10.7. The extent of dependence on Government loans for these investments has not been uniform either. At the beginning of the first Five Year Plan, the three older ports of Calcutta, Bombay and Madras had relied on Government loans in a small way only and they constituted one per cent of the Capital Base of Calcutta, four per cent for Bombay and a little over five per cent at Madras. The position as it stood in 1968-69 was, however, 27 per cent for Calcutta Port, 23 per cent for Madras Port and six per cent for Bombay Port.

10.8. Cochin, Visakhapatnam and Mormugao ports stand in a separate category in as much as the percentage of Government loans to their Capital Base has declined since 1950-51. For instance, it was 43 per cent at Cochin Port in 1950-51, but it has declined to 24 per cent in 1968-69. Similarly, in the corresponding period, there has been a decline in the case of Visakhapatnam Port from about 81 per cent to 51 per cent. At Mormugao Port, the Government loans of Rs. 2.94 crores in 1962 represented the capital debt of the Port at the time of its liberation and since then the Port has not taken any fresh Government loans.

10.9. The position of Kandla and Paradip ports was totally different. Being new ports of the post-Independence period their development and commissioning could only be done from loan funds provided by Government as no other methods of financing were available with the result that their capital structures are unbalanced.

10.10. The capital advanced by Government to the Kandla Port has been treated under two distinct categories: (i) expenditure incurred upto 28 February 1964 when the Port Trust was formed and (ii) expenditure incurred subsequent to this period. At the end of the financial year 1968-69 the Government loans amounted to about Rs. 18 crores and constituted 80 per cent of the Port's capital structure. On the outlay of Rs. 18.78 crores, under the first category, an *ad hoc* annual payment of Rs. 15 lakhs only is being made by the Port to the Central Government towards interest charges but the arrears of interest alone upto 1968-69 amounted to a little over Rs. 7 crores. Besides there were arrears of Rs. 90 lakhs towards the repayment of loan instalments. The details of these are shown in Appendix II. Even though the Port Trust at Kandla was formed in 1964, we note that the terms of Government outlay on the Port, prior to that year, have still not been decided. It has, in consequence, introduced an element of serious uncertainty regarding the Port's financial administration.

10.11. Paradip had a total Capital Base of Rs. 28.51 crores as on 31 March 1969 of which the loans from the Governments of Orissa and India amounted to Rs. 26.97 crores and formed 94.6 per cent of the Base. The Orissa Government's investment was made up to 31 May 1965 when the direct control of the Port was taken over by the Government of India. The Government of India's investment of Rs. 11.37 crores comprises two parts, namely, Rs. 8.12 crores from 1 June 1965 to 31 October 1967 when the Port Trust was constituted and the balance of Rs. 3.25 crores in the period subsequent to the formation of the Port Trust. No interest appears to have been paid on these loans till date as the terms of investment prior to formation of the Port Trust in November 1967 have not yet been finalized.

10.12. As a result of the dependence of the ports on Government loans to a large extent, the payment of interest alone has strained the resources of some of the ports. Since the operating expenses are a known figure we have deducted them from the gross revenues to arrive at the gross surplus and correlated it to interest payment as shown in Appendix III.

10.13. It would be found from this Appendix that, barring Bombay Port which, over the years has, by a careful husbanding of resources, reduced its dependence on Government loans and other borrowings, interest payments in some of the ports form a heavy enough burden. In Calcutta Port although interest charges have increased continuously from Rs. 107 lakhs in 1950-51 to 395 lakhs in 1968-69, they have not been fully reflected due to fluctuations in gross surpluses with the result that the percentage of interest to the gross surplus has not risen correspondingly and shows only an increase from 133.7 to 145.4. The interest payment in Madras Port accounted for only 7.0 per cent of the gross surplus in 1950-51 but it has risen to 27.7 per cent in 1968-69.

10.14. In Cochin Port, interest which formed 31 per cent of the gross surplus in 1950-51 has, however, come down to 15.6 per cent in 1968-69. Similarly in Visakhapatnam the interest payment in 1950-51 formed 76 per cent of the gross surplus but it has declined to 21.7 per cent in 1968-69. Mormugao Port in 1961-62 had no interest payments but between the years 1965-66 and 1968-69 the percentage of interest payments to gross surplus has increased marginally from 3.9 to 4.5.

10.15. As for Kandla, as stated earlier the Port has not been able to meet its interest obligation to the full whilst at Paradip Port with the figures available for only two years no meaningful assessment can be made of the interest burden.

Position in the Fourth Plan

10.16. The extent of reliance by the ports on Government loans, which is already heavy, would be further accentuated during the Fourth Five Year Plan period. As against the Capital Base of Rs. 428.34 crores for all the Major Ports as at the end of 1968-69, further expenditure during the Fourth Plan is expected to be about Rs. 284 crores of which Central loans would amount to Rs. 184 crores or 65 per cent. We have made in Appendix IV an analysis of the anticipated ways and means position of the Major Ports during the Fourth Plan, based on the figures compiled by the Study Group on Port Finances constituted by us. For the purpose of the analysis, cash resources have been obtained by deducting interest outgo from the gross surplus whilst depreciation is treated as part of the cash resources. We have also compiled a consolidated picture of the cash resources over the entire period of the Fourth Plan to indicate the capital financing and compared them in Appendix V with those capital financing and compared them in Appendix V with those assumed by the Government.

10.17. It will be seen from Appendix IV that the ports of Bombay, Madras, Visakhapatnam and Mormugao would have surplus cash resources during the Plan period after meeting their debt obligations, whilst Calcutta, Cochin, Kandla and Paradip ports would have deficits of varying magnitudes. As a result we apprehend that the internal resources at the latter set of ports are unlikely to materialize to any appreciable extent in contrast to the Government's expectation. This is further borne out by an examination of the balances available in the various funds of these ports. It follows that the Central Government's loan assistance to these ports would have to be stepped up. Even more disquieting is the trend that these ports might not be able to discharge even their obligations towards interest payments under the existing terms of lending.

10.18. The problem of repayment of loans is accentuated by the fact that the service lives of certain assets like wharves, dock walls, piers, jetties, capital dredging, etc., extend over long periods and in some cases as much as even 100 years. The period of repayment of the loans for the construction of these assets falls far short of the life of the assets. Since ports have to find cash resources for the repayment of the loans even before they are fully written off and depreciation amounting to the original cost set aside, the ports are constantly under financial strains. The redemption period of the loans is 25 years and the repayment starts from the sixth year in 20 annual instalments. The loans carry firm obligation for the payment of interest from the first anniversary of the drawal of the amount and there is no free period for interest nor a provision for capitalizing it. There have, however, been rare instances of the capitalization of the interest during the construction stage for the Haldia Project and an interest free period for seven years for the Marine Oil Terminal at Bombay. This practice of paying interest even during the period of construction or creation of new facilities at the ports long before they can be brought into service to yield a return puts a further strain on the resources of the ports.

10.19. It may also be pointed out that the terms of Government's investment in ports differ from the practices applicable to public utility units. For instance, the State Electricity Boards are granted loans in perpetuity and in consequence they are not obliged to generate cash resources for their repayment. In the public sector commercial undertakings, the ratio of equity to debt is normally 1:1. In the case of the ports there is no equity element whatever in the capital structure and the entire Government investment is treated as loan finance. The Commission therefore, considers that the present lending policy of the Government of India is one of the major factors contributing to the difficult ways and means position of the Major Ports.

10.20. Ports have a major role to play in the economic development of the country. They facilitate foreign trade and help in earning the much needed foreign exchange. They provide a sizeable volume of employment both in the construction of the ports and in the handling of the cargo. Apart from the direct returns on investments in ports, there are social and other economic benefits to the community and country as a whole.

10.21. Several suggestions have been put before the Commission for improving the economics of the ports. One of these was to give loans in perpetuity on the analogy of the practice of the State Electricity Boards. The Commission, however, does not view this proposal with favour as some ports have sound financial position and have the capacity for the repayment of loans and that the general exchequer should not be deprived of resources even from these ports. We also find that the Public Accounts Committee of the Parliament has not reacted favourably to the practice of extending loans in perpetuity to Government institutions.

10.22. Another suggestion placed before us was to provide a longer period for the repayment of the loans extending to 40—45 years as against the current practice of a 25 years term. The terms proposed were that

- (i) there should be no payment of interest during the construction period when the interest accruing should be capitalized;
- (ii) for a period of ten years after the commissioning of the project, interest only shall be paid on the loan; and
- (iii) the repayment of the loans should start from the eleventh year of the commencement of the project and should be spread over a period of 25 to 30 years in equal annual instalments.

10.23. The details of the financial picture for the various ports reflecting the effects of this proposal are shown in Appendix VI. It would appear that even this scheme will not benefit the new ports, especially those which were constructed after the beginning of planning, namely, Kandla and Paradip ports. The investment made in Kandla Port was about Rs. 12 crores and this port was commissioned in 1957-58, with four alongside berths. The investment in Paradip Port with a single berth, when the port was commissioned in the year 1966, was about Rs. 20 crores. The scheme would leave them with an enormous cumulative deficit amounting to Rs. 8.47 crores for Kandla Port and Rs. 7.83 crores for Paradip even at the end of the Fourth Plan, 1973-74.

10.24. Nor would this scheme confer any benefit to the new ports in the making, namely, Mangalore and Tuticorin. The capital cost of creating new facilities at these ports will be even higher than for Kandla and Paradip ports and would cost anything between Rs. 25 to 30 crores each. It has also to be remembered that there will be a long gestation period between the commencement of the operations at these ports and their optimum utilization with the result that they will not be in a position to service their debt obligations. The annual interest burden alone would be of the order of Rs. 1.49 crores for Mangalore between the years 1971-72 and 1975-76 and it will rise to Rs. 1.63 crores between the years 1976-77 and 1981-82. Even prior to the commencement of the repayment of the loan in 1981-82, there will be a cumulative deficit on the port operations of Rs. 1.72 crores for Mangalore and Rs. 3.50 crores for Tuticorin. Table 1 below shows the financial position of these ports in 1973-74 and a decade later, that is, 1983-84.

TABLE 1

Financial Position of the New Ports as Anticipated by the Commission

Port	Cumulative Deficit	
	1973-74	1983-84
	(Rs. lakhs)	
Mangalore	71.72	373.16
Tuticorin	278.45	481.72

10.25. It could be argued that the rate structure at these ports may be so adjusted as to ensure the generation of sufficient surplus to meet the working expenses and depreciation as also to service the debt obligations. But the difficulties in such adjustments of the rate structure would be evident on a perusal of the quantum and composition of the traffic anticipated at the ports of Mangalore and Tuticorin. According to the estimates of traffic in 1971-72 as drawn up by the Ministry of Shipping and Transport, the interest burden per tonne of traffic at Mangalore would be Rs. 5.51 and at Tuticorin Rs. 7.45. At Tuticorin, coal and salt, both low rate commodities, are expected to form over 48 per cent of the total traffic followed by cement of about 20 per cent, fertilizer, rock phosphate and sulphur about 11 per cent and general cargo forming the balance of 19 per cent. In view of this pattern of traffic there is not much room for flexibility for the port management in the levy of the port charges. Besides the proportion of the coastal traffic at Mangalore and Tuticorin would be very high and higher tariffs will have the effect of diverting the coastal traffic to the other modes of transport.

10.26. In view of the importance of ports to the national economy, several countries have provided substantial financial assistance to the Port Authorities. In Japan, for example, the Government provides a subsidy at "50 per cent of the cost of construction for auxiliary, waterway, berth and mooring and portside facilities, while the local public bodies bear the cost of other facilities." In the United Kingdom, the Government extends cash grant to the tune of 20 per cent for major capital and development works. In quite a few other ports in the world, particularly in the European Continent, the practice of the local municipal authorities financing and subsidizing the port operations is a regular feature. In Rotterdam, we understand, Government assistance is provided to the port for expanding its harbour and dredging its river channels; the cost of maintenance and improvement at the port is also shared by the Government bearing 2/3 of the cost and the Municipality the balance 1/3. Belgium is reported to have gone further than Holland where, in addition to these concessions, the Belgian Government has formulated a regional development policy under which incentives

¹ "The Role of the Government in Port Development" by Dr. Hajime Sato, paper presented at I.A.P.H. Conference, Tokyo, 1967, page 4.

are given to industry wishing to settle around the port of Antwerp. Hamburg and Bremen are municipal ports and their port budgets are indistinguishable from their State budgets; they draw their finances exclusively from state sources and get it free of interest.

10.27. Considering the relevance of ports to the development of our foreign trade, more particularly exports, we feel that a measure of relief should be given to the ports with regard to grants, rates of interest and repayment obligations. Since ports in India have varying financial capacities, we do not recommend a single uniform system of relief. For the comparatively weaker and newer ports of Kandla, Paradip, Mangalore and Tuticorin we recommend that the Government of India should—

- (i) provide an outright grant to the extent of 20 per cent of the capital cost of civil works, including berths, breakwaters, reclamation, capital dredging, etc., but exclusive of the expenditure on mechanical handling plants and equipment;
- (ii) limit the obligation of these ports to the payment of interest and repayment of the principal to only 50 per cent of the capital outlay after deducting the cash grant. These ports would be required to pay the appropriate rate of interest as applicable to all long term loans advanced by Government during that year;
- (iii) permit the interest to be capitalized during the construction stage of the project;
- (iv) apply a repayment schedule for the loan during a period of 30 years. The first instalment of repayment to commence from the eleventh year of the commissioning of the projects;
- (v) treat the balance of 50 per cent of the capital outlay after deducting the cash grant as "deferred redeemable" capital which will carry no obligation to the payment of interest nor have any regulated schedule of repayment. The ports, would, however, be required to pay Government the reasonable return if there is a surplus in the ports' financial working after meeting the obligations of the working expenses; depreciation, and a return of six per cent on the capital employed. The "deferred redeemable capital" would also be eligible for redemption after the loan capital portion is repaid. We visualize the repayment period as 20 equal annual instalments but this would be subject to a review by Government in consultation with the Port Authorities;
- (vi) review the general financial and traffic situation at these four ports at intervals of 10 years with a view to making such adjustments as may be necessary in the circumstances then prevailing.

10.28. In our view, the foregoing formula imports considerable flexibility and an opportunity for ports to generate surpluses. The Government is also assured of earning the interest on the portion of

its investment treated as loan capital as well as the prospects of a share by way of a return on the "deferred redeemable" portion of the capital.

10.29. We recommend this formula to apply to the ports of Kandla and Paradip with retrospective effect, even for the initial block of capital, that is, the outlay made till the formation of their respective Port Trusts. As regards Mangalore and Tuticorin, the formula would apply on the investments made at these ports till the establishment of their Port Trusts under the Major Ports Trusts Act, 1963.

10.30. We have attempted to indicate the financial effect of our formula on the four ports in Appendix VII and summarized in Table 2 below:

TABLE 2

Estimated effect of the formula based on liberalized terms of lending and 20 per cent cash grant for civil works

(Rs. in lakhs)

Port				Capital Outlay	20 per cent cash grant	Annual relief	
						Interest	Loan repayment
Kandla	..	..	..	1,878.06	300.79	57.20	54.47
Paradip	..	..	..	2,376.05	308.02	77.16	67.10
Mangalore	..	..	..	2,190.00	243.66	69.97	60.84
Tuticorin	..	..	..	2,440.00	289.80	78.48	68.24
Total				8,884.11	1,142.27	282.81	250.65

As will be seen these ports will obtain a considerable relief in their debt servicing obligations to the extent of Rs. 2.83 crores on interest and Rs. 2.51 crores on loan repayments.

10.31. For the other ports we recommend the cash grant of 20 per cent of the capital of civil works, including berths, breakwaters, reclamation, capital dredging, etc., but exclusive of the expenditure on mechanical handling plants and equipment, for development works undertaken in future. Some ports have represented to us that during the Fourth Plan period, they are required to make massive investments as detailed in Appendix VIII considerably in excess of their present net fixed assets value, that their interest obligations would be heavy and that they should be afforded relief by the Government in the lending terms. We have considered this question and have come to the view that a distinction should be made between major expansions and ordinary development programmes and that major expansions alone should be eligible for some relief. In view of the varying capital structure at the ports, we have preferred to identify major expansions as those schemes on which

an outlay amounting to 25 per cent or more of the net fixed assets of a port is provided for in a Plan period. For financing such major expansions, we recommend the grant of loans by Government on the following terms:—

- (i) During the construction period or five year; whichever is longer. Interest accruing on the loan will be capitalized.
- (ii) For the next five years Only interest will be paid and no repayment of principal will be made.
- (iii) For the next twenty years. Interest will continue to be paid and the principal repaid in 20 equated annual instalments.

In view of the above recommendations, we do not recommend any concessional rate of interest or any change in the categorization of the ports for the purposes of borrowings from the Government of India. The advantages of this proposal compared to the present terms of lending are two-fold, namely, the longer period of the loan and the capitalization of interest during the period of construction.

CHAPTER 11

PORT MANAGEMENT

The Port administration is responsible for the efficiency of operation, proper maintenance and upkeep of the physical property, adequate financing of port improvements and allotment of tasks to be performed by labour. Port Management must keep in view the technological and other developments in the world so as to keep abreast of the latest practices adopted in the modern ports. The agency that shoulders all these responsibilities is the Port Trust Board/Port Commissioners.

11.2. In most of the ports in the United States and Europe, the port authority's function is limited to coordination, planning and financing the shore installations. It is the private companies who arrange for loading and unloading of ships, operation of transit sheds and open storage areas, and provide cargo handling equipment as well as arrange for all the cargo handling labour required. The Port of Hong Kong represents an extreme case where even wharves are not only maintained but financed and owned by private firms.

11.3. However, in India, largely due to historical reasons, several services like pilotage, towage, berthing facilities, transit sheds and supply of labour are undertaken by the port authorities themselves. These factors at once distinguish the working of our ports from the operation of the ports in the advanced countries and render difficult the application of several practices obtaining elsewhere in the world.

11.4. There are a wide variety of practices with regard to the ownership and management of ports in the world. In the West Asian countries, like Syria, Kuwait and Iran, the ports are owned and operated by their respective Governments. In the United States, the ports are owned and operated variously by the Federal Government, the State Governments, the Local Port Authority, the Municipality, Railroad Corporations and private companies. In the United Kingdom, ports are owned by the Public Authorities, Municipalities or private companies. In Europe, the Municipalities own ports like Antwerp and Rotterdam, while in France most of the ports are under public ownership. We have indicated the varying practices in the world mainly to emphasise that there is no inherent superiority of one system over the other.

11.5. In India, ports have been classified as Major Ports, Intermediate Ports and Minor Ports. There are at present eight Major Ports under operation and two under construction and 22 Intermediate Ports. Major Ports are administered in accordance with the respective statutes applicable to them and the Central Government bears the responsibility for their administration. The administration of the port is carried on by the Port Trust with the Chairman appointed by the Central Government and a Board of Commissioners or Trustees representing several interests nominated by the

Government. Information relating to the number of Trustees on the Boards of the Major Ports is set out in Appendix I. The number of Trustees varies from port to port as, for example, from 12 in Paradip to 25 in Bombay. The Trustees fall under two categories, namely, officials and non-officials. The official Trustees, representing their respective departments, such as customs and railways, are *ex-officio* Trustees. The non-official Trustees are generally recommended by institutions, like the Chambers of Commerce and shipping interests. Representatives of port labour are nominated in consultation with the labour unions. The Trustees hold office for a period of two years.

11.6. The principal functions of the Board of Trustees as enumerated in the Port Acts are as follows—

- (1) to act as Conservator of the ports;
- (2) to provide services to shipping, such as pilotage, towage and berthing;
- (3) to provide docks and landing facilities for ships and passengers;
- (4) to provide crange and labour for the discharge and loading of cargo from ship to shore and *vice versa*;
- (5) to provide transit sheds and warehouses for the storage of import and export cargo;
- (6) to take custody of cargo discharged from ships or brought into the docks for shipment and to act as bailee for the same sending delivery to the consignees;
- (7) to make regulations for the conservancy and safety of the harbour and the dock basin, for the safe and convenient use of the docks, wharves, piers, etc., for landing, shipment, reception and removal of goods brought within the Board's premises; etc.
- (8) to frame scales of charges for the landing, shipping and storage of goods and for the use of the Board's gear, works and other property;
- (9) to make adequate financial provision year after year for the due fulfilment of the Board's obligations; and
- (10) to carry out the purposes of the Port Trust Acts generally.

11.7. According to the statutes governing the Major Ports, all questions relating to the Port Trusts shall be decided by a majority of votes of the Trustees present. On financial matters, however, the Port Trust Acts require that the approval of the Central Government of the detailed estimates of receipts and expenditures should be obtained before the commencement of each financial year. An Annual Administration Report is required to be submitted at the end of the year. The accounts of the Board are subject to annual audit by the Comptroller and Auditor General of India.

11.8. Almost everyone of the witnesses who tendered evidence before the Commission touched on the strength and composition of the Boards of Trustees. They agreed that the Boards as constituted today were unwieldy and that the size of the Boards should be reduced to make them more effective and businesslike. Naturally,

everyone pleaded for the reduction in numbers from the quota of interests other than the one represented by him.

11.9. One suggestion urged before the Commission wanted the conversion of the present Boards of Trustees into a functional executive Board comprising four or five members including the Chairman, the Traffic Manager, the Chief Engineer, the Financial Adviser and the Deputy Conservator. While this executive authority will carry out all the functions of the port, it may be assisted by an Advisory Council consisting of representatives of the various interests, such as shipowners, industry and trade and labour. We are afraid that a complete recasting of the port administration with regard to the history and traditions that have grown over nearly a century will create more uncertainties and problems than it would solve. Ports in India have developed over the years in response to the needs and circumstances of this country and any reform that is attempted should accord the appropriate weight for this consideration. Nor are we convinced that the complete elimination of the user interests from participation in decision making would be in the best interest of the port administration. The suggestion is, therefore, not acceptable to the Commission.

11.10. Some others have suggested the setting up of one central authority for the management of all the ports on the model of the Railway Board, with the Chairman of each of the ports working under that authority in the same manner as the General Managers of the Zonal Railways.

11.11. The Indian Institute of Management and the Management Group of the Committee on Plan Projects, in a report on Port Management based on the study of Visakhapatnam Port, have reinforced this suggestion. They have recommended the constitution of a National Port Board at the national level. The specific functions of the National Port Board on the lines of the Railway Board envisaged by them related to traffic forecasting and allocation, planning future development, formulation of designs and specifications, financial control, framing of personnel policies, research and development and compilation of statistics. The I.A.P.H. Study Team has also made a similar recommendation. The Team has suggested that a National Port Council should be constituted as a national body from whom individual Port Trusts will receive directions and approval for their schemes. The Rochdale Committee (1962) had suggested the setting up of a National Port Authority for the U.K. Ports with well-defined responsibilities but with a non-operational role. According to the Committee, the Authority would supervise the planning of future port development, control capital investment and charges, advise on amalgamation of ports and function as a co-ordinating body. The British Government, however, in a White¹ paper, expressed the view that "a Council with purely advisory functions would not be sufficiently effective or influential to ensure that essential changes are brought about", and that the Authority must have the power to determine the nature and shape of the British Port industry.

¹"Reorganization of the Ports", presented to Parliament in January 1969 (Cmd. 3903).

11.12. The Commission has been greatly impressed with both the weight and volume of opinion in favour of a radical change in the structure and composition of the Major Ports. Nevertheless, the Commission considers that the facts and circumstances peculiar to our country should be given their utmost weight and consideration before reaching any conclusion on such a vital matter as this. It should be noted that the ports in India have grown and developed in accordance with the local conditions, patterns of trade, requirements of the hinterland and built up certain traditions over the years which exercise considerable influence on the working of the respective ports. The size and distances and the magnitude of the country are such that over-centralization of functions and authority will hardly be conducive to efficiency. The fact that no such attempt is made or thought of in a country like the U.S.A., with varied local needs, pattern of traffic, hinterland problems, etc. affords an instructive parallel for our guidance. Nor are we convinced that the analogy of the Railway Board is at all applicable to the ports while the Railways are operationally linked to each other, ports function in a disjunct manner.

11.13. Elsewhere in the Report we have recommended that the rates and charges levied at ports should not be below the direct cost of rendering such services. The direct cost of rendering service will vary from port to port and the ports should have a larger measure of autonomy in fixing the rates and charges. While, historically, the development of regional railways has been controlled and directed by the Central Government, the development of ports has been largely autonomous, each dealing individually with their problems. While the Commission is, therefore, unable to endorse this suggestion for the creation of a central authority for the administration of all the Major Ports in the country, it does not, however, minimise the need for coordination in respect of planning, capital investment, regulation of traffic in specific commodities and in the compilation of statistics.

11.14. A study of the composition of the Boards of the Port Trusts discloses that the Trust Boards are dominated by user interests. During the earlier period when the Port Trust Boards themselves found the finances for running the ports and when the demands of development were also few, the predominance of user interests could perhaps have been justified. But with the massive investments by the Central Government for the ports development during the Five Year Plans, the emphasis has changed. The need for balanced representation of all interests in the Trust Boards to take care of the development programmes as well as the financial objective recommended in this report, has become urgent. Instances have been brought to notice where the user interests have resisted effectively the adoption of economic rates against the advice of the Chairman of the Trust Boards. Under these changed circumstances, we consider that the strength of the user interests in the Port Trust Boards should be brought down. We suggest that in the case of the bigger ports, the Boards may comprise not more than 17 members including the Chairman of which eight will be official members and eight non-official. For smaller ports, the total membership need not

exceed 13, consisting of the Chairman, six officials and six non-officials. A broad indication of the composition of 17 members of the Trust Boards is given below and we suggest its adoption with such variations and modifications as may be necessary to suit the local conditions:

Official	Non-official
Chairman	Labour 2
Deputy Chairman	Chamber of Commerce & other commercial interests 2
Customs	Coastal Shipping/sailing vessels industry 1
Railways	
Defence	
State Government	Shipowners 1
Municipal Corporation	Shippers' Association 1
Mercantile Deptt.	Expert in financial/economic matters 1
One nominee of the Central Government	

11.15. It was brought to the notice of the Commission that under the Port Trust Acts, the employees of the Port Trusts cannot become Trustees of the Port Trust. The Commission is of the view that there should be no bar to an employee representing the labour to be a Trustee on the Port Board. The Commission would recommend to the Government an amendment of the existing legislation to remove the present disability.

11.16. There are wide variations in the powers of the Chairman and the Board of Trustees as incorporated in the various Acts and the regulations framed thereunder. To illustrate, the Chairman of three older Ports can sanction "works" only upto Rs. 5,000, whereas a limit of Rs. 25,000 has been prescribed under this head by the Central Government under the Act of 1963. The Trustees of the older ports of Calcutta, Bombay and Madras similarly have powers to sanction capital works only up to Rs. 2 lakhs, while under the Act of 1963 a limit of Rs. 15 lakhs has been prescribed. Indeed the charging of expenditure to capital, on any scale, in the older Acts requires the prior sanction of the Central Government, but this is not the case for the ports under the Act of 1963. The powers of the Chairmen and the Trust Boards of Calcutta, Bombay and Madras are very low and out of tune with the present day cost and the magnitude and the size of the development outlays. This necessitates frequent references to the Central Government and consequential delays in obtaining clearance. We are of the view that greater financial powers should be bestowed on the Chairmen and the Port Trust Boards and for this purpose, we recommend that—

- (1) for schemes included in the Annual Plans and for which administrative approval has been accorded by Government the Port Trusts should have the power to sanction individual items upto Rs. 25 lakhs as well as approve tenders for the same value;

- (2) where there is escalation by over 10 per cent and where there is a material change in the scope of the project, such cases should go to the Government for approval; and
- (3) the revenue and capital budgets should continue to receive the approval of the Central Government.

11.17. In administrative and establishment matters, the powers of the Chairman are limited and the Trust Boards function as Appellate Authority over the decisions of the Chairman in some disciplinary matters. A detailed statement showing the present position of the powers of the Chairman and the Trust Boards in respect of appointment, promotion, disciplinary matters and appellate jurisdiction is set out in Appendix II. The time of the Trust Boards is unnecessarily spent on personnel matters, such as promotion, punishments, etc. In our view, the Trust Boards should devote their entire attention to the policies and programmes of port development, port management, etc., rather than diffuse it on administrative details such as appointments, disciplinary proceedings, etc. In order to streamline the administration, we recommend that the creation of all posts carrying and including pay scales upto Rs. 1,250 should vest in the Chairman; posts between the pay scales above Rs. 1,250 and upto Rs. 2,000 with the Board of Trustees, including the Chairman; and posts above Rs. 2,000 with the Central Government. The appointments of the Chairman, Deputy Chairman and General Manager may be made by the Central Government; the Heads of Departments and incumbents of posts carrying a maximum salary of over Rs. 2,000 by the Chairman with the prior approval of the Central Government and of all other persons by the Chairman of the Port.

11.18. The existing disciplinary procedures call for a change. The present system of the Trust Boards hearing appeals against the orders of the Chairman is far from appropriate. Apart from the anomaly in the Chairman presiding over an appeal against his own orders, it has been found difficult by the Chairman to maintain discipline within the organisation as the Chairman and the official members have been in a minority in quite a few Trust Boards. We therefore, recommend that appeals against the orders made by the Heads of Department should lie with the Chairman and appeals against the orders made by the Chairman should go to the Ministry of Shipping and Transport.

11.19. A map of the hinterland of each of the ports, got prepared by the Commission, shows that there is considerable, overlapping of areas, resulting in, or leading to, a measure of redundant facilities in the ports. In our view, by proper coordination of the needs of various ports, unnecessary investments could be avoided and better dovetailing of facilities achieved. Besides, there are a number of matters of common interest to all ports which could be discussed and guidelines laid down in respect of them. We, therefore, recommends the constitution of an advisory body, styled the Major Ports Council, with the Minister for Shipping and Transport as the Chairman, and including representatives of the Ministry of Finance and the Planning Commission and the Chairmen of all

Major Ports. We understand that even now the Chairmen of the Major Ports meet at intervals to discuss and clear some of their common problems. The Secretary of the Ministry in charge of ports should be *ex-officio* Member-Secretary of the Council. The Major Ports Council will be able to provide a forum for the consideration of major issues of planning, investment, traffic, common administrative and financial problems among Major Ports and thus help to improve the efficiency of the port operations.

11.20. We are aware that there is presently another organisation called the National Harbour Board with the Minister for Shipping and Transport as Chairman and representatives of trade, shipping, maritime State Governments, Chairmen of Major Ports, Ministry of Finance, etc. and that some of its functions overlap those of the proposed Major Ports Council. The National Harbour Board consists of a large number of members and includes in its coverage all the ports in the country, the Minor, Intermediate and Major Ports. It is a deliberative body dealing mostly with broad policies. On the other hand, the Major Ports Council, as contemplated by the Commission will be purely an official organisation, business like in character and will deal with vital problems of development such as coordination of traffic, investment, port facilities and the like.

CHAPTER 12

PORT RAILWAYS

Adequate and cheap communications with the hinterland are of vital importance for the smooth flow of traffic to and from the ports. The growth of a port depends to a large extent on the railways, roads and waterways systems, which provide the necessary connecting links.

12.2. The Major Ports, except for Paradip, are fairly well served by railways and roads. Cochin and Mormugao are further served by backwaters and inland waterways. A project to provide rail connection to Paradip from Cuttack is underway and is expected to be completed by March 1972. The Major Port under construction at Tuticorin is already connected to the railway network. At Mangalore, both broad and metre-gauge railway facilities will be available by the time the Major Port is ready.

12.3. Railways offer in most cases a cheap and efficient means of transport. The share of rail traffic comes down, however, substantially where an adequate network of roads and water transportation is available or where liquid cargo is moved by pipeline.

12.4. The trend in many ports of the world is for the road transport to handle an increasing share of the port traffic. But this may not be applicable to the Indian ports because of the predominating proportion of bulk cargo in the future traffic forecast for them. The railways are, therefore, bound to continue to handle a substantial volume of the ports' traffic for many years to come.

12.5. Owing to special conditions or historical reasons, there are considerable variations in regard to the relationship of the ports to the railways in the port area. The railways in the ports of Calcutta, Bombay, Madras, Visakhapatnam and Mormugao are owned and worked by the respective Port Authorities. At Cochin, the port owns the railway but it is worked by the Southern Railway, at Kandla, the railway is owned and operated by the Western Railways.

12.6. In view of this diversity of practice, the Commission has had to consider from the point of view of the efficient working of the port administration whether there should be uniformity in the control of the port railways and whether such control should be vested in the Port Authorities or the Indian Railways. In examining the implications of the alternatives, we have had the benefit of the views of the Port Trusts, the Railway Board and the port users. We have also taken into consideration the observations of the I.A.P.H. Study Team.

12.7. On behalf of the ports, it was claimed that the operation of the railways within the port area by the Authorities will have the following advantages—

- (1) that the Port Railway is completely self-contained and meets the fluctuating requirements based on port operations;

- (2) that the Port Railway is a part of a chain of operations for the rapid removal of the incoming and outgoing cargo at the docks;
- (3) that the ports will be able to determine the priorities of movement in a continuous and integrated manner from ship to shore and *vice versa*;
- (4) that quicker turn round of ships would be facilitated by the port control over the clearance of goods on their railways; and
- (5) that any dislocation of the existing age-long practice would have serious repercussions on port operations.

12.8. The Port Authorities at Cochin and Kandla have expressed themselves in favour of taking over the operational control of the railways in their respective ports.

12.9. The Railway Board, on the other hand, has argued:—

- (1) that the Port Railway is nothing more than a part of the Trunk Railway System;
- (2) that the carriage of cargo for loading or unloading is really part of "railway" work and not strictly port work;
- (3) that the fluctuations of the ports' demands for wagons cause dislocations in the movement of normal traffic in the railway system; and
- (4) that the wastage of rail transport capacity can be avoided if the port Railways were under the Indian Railways.

12.10. The I.A.P.H. Study Team which also considered the working of the Port Railways observed that "port railway operations throughout India might well be improved if the National Railways were made responsible for railway operations at all the ports", and recommended a major study into all relevant factors of national versus local control of railway operations at the Major Ports. Pending completion of the study the Team strongly advised against any effort to transfer responsibility for additional railway operations to the individual Port Trusts.

12.11. The Team also felt that if the Port Railways were merged with the Indian Railways system, there would be better maintenance of the rolling-stock at less cost. Considering the limited resources of the country, the Team felt that "it is an unnecessary dissipation of such resources to have separate locomotive and wagon repair facilities at each port for the maintenance of a relatively small amount of equipment", while the Indian Railways have "the modern and sophisticated equipment necessary to repair or even rebuild locomotives and rolling-stock."

12.12. The Commission's attention has been drawn to the unsatisfactory physical condition of the rolling-stock of the Port Railways which has adverse effects on their operational efficiency. Some of the locomotives and wagons are more than 40 years old. The poor condition of the rolling-stock causes damage to the goods carried, delays the movement which, in turn, adversely affects the turn-round of the ships and thereby increases costs all-round.

12.13. The Commission has viewed with regret that the Port Railways at Calcutta and Bombay have been operating at very heavy losses for the past several years. The special efforts at Bombay and Calcutta to improve the financial working of their respective Port Railways have not produced any tangible results. On the contrary, the losses have been increasing. The dimensions of these losses have made a serious drain on the earnings of these two ports, as may be seen from the figures shown in Appendix I.

12.14. The Commission would like to state in fairness to the ports that every proposal for a revision in the rates of the Port Railways requires the approval of the Railway Board and often these approvals have been given after considerable delays. The Estimates Committee (3rd Lok Sabha, 97th Report) had also drawn attention to this matter. Such delays have an adverse effect on the earnings of the Port Railways and we recommend that the Railway Board should take special steps to see that such delays are avoided.

12.15. The Port Authorities have complained to us about the financial disadvantage in which they are placed at due to the present basis of payment to them of the terminal charges by the Indian Railways. The terminal charges as such were abolished but absorbed into a consolidated freight rate with effect from 1 October 1958. The amount received by the Port Railways towards the cost of terminal operations has remained, by and large, unchanged although the over-all freight rates have been enhanced from time to time by the Indian Railways. We think the Port Trusts have a legitimate grievance on this account as their receipts from the terminal charges do not reflect the progressive increases in the cost of terminal operations. The Estimates Committee had also stressed the need for laying down agreed principles for determining the terminal charges payable to the Port Railways. They had suggested a high level Committee to evolve these principles. The Commission would, however, recommend that the Ministry of Railways should view the claim of the Port Railways more pragmatically and that revisions in the freight rates made by the Railways from time to time should simultaneously be followed by a *pro tanto* adjustment in the terminal charges to be paid to the Port Railways.

12.16. The Commission has given careful consideration to the question whether the Port Railways should be transferred to the Indian Railways or be retained by the Port Trusts. In our opinion, though there are some advantages such as economy in the operation of the Port Railways and better maintenance of the rolling stock, the dislocation that would be caused by effecting a transfer of the Port Railways to the Trunk Railways system will far outweigh the advantages. Besides, the integration of the workers of the Port Railways with those of the Indian Railways will throw up innumerable problems. We, therefore, recommend that where the Port Railways are being operated by the Port Trusts, namely, at Calcutta, Bombay, Madras, Visakhapatnam and Mormugao, they should continue to do so. In the case of Kandla, the Indian Railways own and operate the railways in the port, while in the case of Paradip rail connection has yet to be provided. The two Major Ports of Mangalore and Tuticorin will have their rail connection by

the time they go into operation. The Commission is of the opinion that in view of the heavy financial burdens involved and the time required for these ports to achieve financial viability, the ports need not be saddled with the operation of the Port Railway system and that the Indian Railways should own and operate the railways of these ports. At Cochin, the Southern Railway is, at present, operating the Port Railway and we recommend the continuance of the present practice. As a result five ports will operate the Railway system while in the other five Major Ports the Indian Railways will operate the Railway system. This would enable a study of the relative conditions of the two systems on the basis of practical working experience. The Commission, therefore, recommends that the question of the operation of the Port Railways may be reviewed after a period of ten years from the date of our Report.

CHAPTER 13

PORT TRUSTS LIABILITY FOR CARGOES AND SECURITY ARRANGEMENTS IN PORTS

Port Trusts liability for cargoes

One of the responsibilities of the ports is to take charge of, and keep in custody, the incoming and outgoing cargoes. Thefts and pilferages are reported to be not uncommon during this period; some times the packages are misplaced and cannot be traced. Owing to the loss caused to the shippers or to the consignees, the trade interests are greatly concerned about the incidence of such occurrences, particularly at Bombay and Calcutta which handle a large quantity of general cargo. The loss to the trade is not merely the monetary value of the goods lost but the loss of valuable components for plant and equipment which hold up production and bring about a far greater national loss.

13.2. Representations have been made to the Commission by trade interests, insurance companies and others suggesting that effective steps should be taken by the Port Authorities to deal with this recurring problem of loss at ports. During the evidence, port users have stressed that the Port Trust Acts are very lax in regard to the responsibility during their custody of goods and have urged that the Port Trusts should assume greater responsibility for the losses resulting from theft, pilferage, miscarriage, etc.

13.3. One of the reasons for the pilferage is the congestion caused in the port sheds by the accumulation of a large volume of cargo. The Port Authorities have argued that the incidence of pilferage could be substantially reduced if the consignees were to remove their goods from the docks expeditiously. Any reduction in time during which the packages remain uncleared in the port area would automatically help reduce the pilferage.

13.4. Normally, under the Indian Contract Act, the bailee of goods is bound to take as much care of the goods bailed to him as a man of ordinary prudence would, under similar circumstances, take of his own goods of the same bulk, quality and value as the goods bailed. The liability of the ports, however, is governed by their respective legislation. For example, the Major Port Trusts Act of 1963 provides that the responsibility of any Board for the loss, destruction or deterioration of goods of which it has taken charge shall—

- (i) in the case of goods received for carriage by railway, be governed by the provision of the Indian Railways Act, 1890, and
- (ii) in other cases, be that of a bailee under Sections 151, 152 and 161 of the Indian Contract Act, 1872, omitting the words "in the absence of any special contract" in Section 152 of that Act.

13.5. The responsibilities of the port for safe custody relate only to packaged cargoes. The position in respect of bulk cargoes is different and ports assume no responsibility for such cargo as these are not placed in the port's custody either by weight or by measurement. When, however, bulk cargo is bagged—whether on board or ashore—and handled by the Port Trusts' labour, Port Trusts assume responsibility as bailee to the limited extent of the number of bags without regard to the weight.

13.6. The period of the ports' responsibility for the safe custody of goods entrusted to them varies from port to port. The Acts governing the ports of Calcutta, Bombay and Madras provide for a period of 5, 7 and 30 days respectively. The Major Port Trusts Act, 1963, does not specify any period but the regulations issued by the Ministry of Shipping and Transport prescribed the time limit of 4 days for Cochin and Kandla and of 5 days for Mormugao, Paradip and Visakhapatnam. There are thus pronounced differences in respect of the time limits laid down between the ports. After the statutory period of responsibility is over, the ports absolve themselves of any further responsibility for the cargoes. It appears to the Commission that there is no valid reason why the ports' responsibility for the safe custody of goods should vary from port to port. We believe that the introduction of uniformity in the statutory period for which the ports assume liability will remove the confusion which arises from varying practices in the Major Ports. While the period of five days provided under the Calcutta Port Trust Act is inadequate, a period of 30 days provided by the Madras Port Trust Act is excessive. We, therefore, recommend that the statutory period for the custody of goods at all the Major Ports be fixed at seven days.

13.7. The ports' responsibility being thus limited, the goods not removed within the stipulated period are at the sole risk and expense of the consignees. However, if the goods are not removed within a reasonable period of time, the Port Trusts have the powers to dispose off the goods after expiry of the prescribed notice period given to the consignees in writing.

13.8. When the delivery of the goods landed at the ports is not effected either to the consignees or their agents at the port but passed on to the railways for onward delivery at destination, the railways carrying the goods assume responsibility as a carrier. Even at those ports where the railways are owned and operated by the ports themselves, the responsibility assumed by them within the limits of their railway systems is the same as that of the Trunk Railways.

13.9. The Indian Railways Act, 1890, provides that the Railway Administration shall be responsible for the loss, destruction, damages and non-delivery, in transit, of animals or goods delivered to the administration to be carried by railway arising from any cause except for reasons such as—

- (i) act of God;
- (ii) act of war;

- (iii) act of public enemies;
- (iv) arrest, restraint or seizure under legal process;
- (v) orders or restrictions imposed by the Central Government or a State Government or by an office or authority subordinate to the Central Government or State Government authorised in this behalf;
- (vi) act or omission or negligence of the consignor or the consignee or the agent or servant of the consignor or the consignee;
- (vii) natural deterioration or wastage in bulk or weight due to inherent defect, quality or vice of the goods;
- (viii) latent defects; and
- (ix) fire, explosion or any unforeseen risk.

13.10. It has been further provided that even if such loss, destruction, damage, deterioration or non-delivery is proved to have arisen from any one or more of the aforesaid causes the Railway Administration shall not be relieved of the responsibility for the loss, destruction, damages or deterioration or non-delivery unless the Administration proves that it has used reasonable foresight and care in the carriage of the goods.

13.11. The Indian Institute of Foreign Trade which conducted studies in June, 1968 on the Shipowners' Problems in the Port of Bombay commented upon the responsibility assumed by the port as a bailee in the matter of safe custody of goods. The Institute suggested that "considering the amount of wastage of goods in the port area, damage in handling and pilferage of cargoes, the port authorities have to shoulder responsibilities in the over-all national interest than what is demanded of them as mere bailees. After all the port is administered by the Trustees who act as real custodians of the goods and property under their charge by exercising all possible care expected from them not as bailees but as trustees."

13.12. The Central Cargo Loss Prevention Committee of the Insurance Association of India has criticised the Bombay Port Trust for refusing to accept responsibility for any loss as a bailee or for loss, destruction or deterioration of goods caused by the acts of its employees. It added that the question of liability for the safety of cargo in the docks at Bombay had also been the subject of prolonged negotiations between the Bombay Chamber of Commerce and Industry and the Bombay Port Trust without success. The Bombay Port Trust, on the other hand, has resisted the enlargement of its responsibility for the cargo handled at ports. It is pointed out by them that while a contract of bailment is entered into voluntarily between two parties to the full knowledge of their capacity to fulfil their obligations, the Port Trusts are obliged by statute to take into custody the entire cargo that is landed in the port, and not only the part of goods they could conveniently handle with due regard to safety of goods.

13.13. Our attention has also been invited to the stand taken by the ports in the United States and by the Port of London Authority. The ports at New York, City of Portland, Oregon and the port of Houston in the United States do not accept any liability for loss or damage to any water-craft or to any merchandise or cargo resulting from any cause whatsoever where such cause is beyond its control and not due to its failure to use reasonable care. The port of Los Angeles in the United States accepts responsibility to a limited extent absolutely imposed within the operation of the law. Many American ports do not take custody of goods directly. The Port of London Authority, however, takes charge of goods entrusted to it on conditions comparable to those existing in India. The regulations provide that "the Port authority take all reasonable measures to protect goods landed, warehoused or deposited with them against loss or damage, arising otherwise than through their negligence", which is analogous to the Indian Port Trust Acts.

13.14. We may now refer to a connected issue, namely, the protection extended under the various Port Trust Acts to the Port Trusts arising out of the actions of their employees. The justification for such a protection arises from the fact that under the ordinary law of contract, a bailee is liable for loss not only from his own negligence but also that of his employees. However, the ports, it is pointed out, cannot be expected to exercise a similar supervision over the discharge of duties by their officers and servants in relation to the handling and safe custody of goods in their possession. The Commission, however, notes that the extent of protection in the various Port Trust Acts varies.

13.15. The Bombay Port Act is extremely rigid in this matter. Section 87 of the Act totally absolves the Board of the responsibility for the loss caused by the mistakes, misdeeds or omissions on the part of the Port Trust employees. On the other hand, the Major Port Trusts Act, 1963, protects the Port Trusts against any action intended to be done in good faith under the Act.

13.16. We are of the opinion that the grant of an absolute exemption from liability even for any act or omission committed or done without any good faith is totally unjustified. While the protection afforded to an act done or intended to be done in good faith is accepted as a sound principle of jurisprudence, total negation of liability even for acts done in bad faith will not be considered reasonable. We, therefore, consider that the provision in this regard embodied in the Major Port Trusts Act, 1963, should be extended to all the ports.

13.17. Shri M. P. Bhargava, formerly a Member of the Rajya Sabha, and also a member of this Commission, had introduced a Bill in Parliament providing, *inter alia*, that—

- (i) the period for the issue of out-turn reports by the Port Trusts be limited to 30 days; and
- (ii) the period for filing suits against Port Trusts be increased from three months as at present at Calcutta and six months in all other ports to 12 months.

13.18. The Commission has considered this matter and come to the conclusion that the statutory time limit for the issue of outturn reports should be fixed at 45 days and every effort be made in the meantime by the port authorities to trace the goods misplaced or shortlanded.

13.19. On the question of limitation of period for filing suits against the Port Trusts, the Commission is of the view that this period should be fixed uniformly at 6 months for all the Major Ports.

Security arrangements in ports

13.20. It has been brought to the notice of the Commission that though there are arrangements in all Major Ports to keep watch on the cargo against loss by theft, there are still a number of shortcomings in this regard.

13.21. While the State Governments provide the Port Authorities with their Police Force for maintenance of law and order and the ports meet a substantial part of the cost, the Watch and Ward staff are recruited and maintained by the Port Trust itself. Experience has shown that as the Watch and Ward do not have the powers to arrest or apprehend a person about to commit a crime within the port area, their effectiveness in bringing down theft and pilferage has been negligible. Besides, since the Watch and Ward staff come under the category of workmen entitled to become members of the trade unions in ports and often exercise their right to strike, they have not been very effective as a Port Protection Force.

13.22. It has also been brought to our notice that the Police Force deputed to the Port Trusts are often at times withdrawn either at short notice (or without notice) to meet the exigencies of the City Administration. Considering all these aspects, the Estimates Committee¹ suggested that the question of having a separate Port Protection Force on the lines of the Railway Protection Force might be considered by the Government in consultation with the Port Authorities and the State Governments.

13.23. Shri M. P. Bhargava, introduced the Port Protection Force Bill in the Rajya Sabha, in December, 1964, for the constitution and regulation of a force for the better protection and security of port property. This Bill was opposed by a number of State Governments on the ground that a parallel Police Force was unnecessary and might even be harmful. In view of the position taken by the States and the legal difficulties inherent in the Central Government trying to constitute a Port Protection Force with police powers in the States, the Commission does not consider the establishment of a separate Port Protection Force feasible.

¹ The Estimate Committee (1954-65), Sixty Seventh Report (Third Lok Sabha) on Calcutta and Haldia Port p. 61.

13.24. The Commission, however, feels that the security arrangements should be strengthened at the ports. The Central Industrial Security Force Act, 1968, provides for the constitution and maintenance of a Force for the better protection and security of industrial undertakings owned by the Government. The Minister of State in the Ministry of Home Affairs has stated in the Rajya Sabha on the 24 December, 1969, that the Government of India had, after full examination, come to the conclusion that the Central Industrial Security Force Act is applicable to the Major Ports. We, therefore, recommend that the security arrangements for the Major Ports may be reorganised and strengthened in accordance with the provision of this Act.

CHAPTER 14

LEGISLATION FOR THE MAJOR PORTS IN THE COUNTRY

The legislation relating to the Major Ports dates back to 1866. The statute passed in this year for the governance of the Port of Calcutta was replaced by Act V of 1870. This was consolidated and amended by the Calcutta Port Act of 1890 (Bengal Act No. III of 1890) which provided for the appointment of Commissioners for the port.

14.2. The earliest Act relating to Bombay Port is dated 1873 (Bombay Act I of 1873). This was replaced by the Act of 1879 which consolidated the immovable and other property of the Port of Bombay and vested their control and Management in a body of Trustees. In 1885, the Madras Harbour Trust Act was passed and this was replaced in 1905 by the Madras Port Trust Act (Madras Act No. II of 1905) which provided for the appointment of Board of Trustees for the management of the port.

14.3. Whilst the three ports of Calcutta, Bombay and Madras are governed by their individual Acts, the other Major Ports, namely, Cochin, Visakhapatnam, Kandla, Mormugao and Paradip are administered under the Major Port Trusts Act, enacted by Parliament in 1963 (Act No. 38 of 1963) hereinafter referred to as the Act of 1963.

14.4. In the course of its enquiry, the Commission observed wide differences in the provisions contained in the Acts of the three older ports among themselves and those contained in the Major Port Trusts Act, 1963. The Commission considers that, in the context of the present day conditions the three older Acts have become out of date in respect of several provisions and that it is advisable to bring about a measure of uniformity for the governance of all the Major Ports. The Act of 1963 being a recent legislation contains several flexible provisions and gives liberal powers to the Port Trusts in respect of financial matters. It confers on the Central Government power to frame regulations relating to the working of the ports, thus avoiding the need to make frequent amendments to the Act.

14.5. In dealing with the powers of the Chairmen of the various Port Trusts, we have given examples of the wide diversity in the powers and the authority between the older ports as governed by their individual Acts and the other ports governed by the Act of 1963. The Port Trusts of Calcutta and Bombay desired that their old Acts should be so amended as to bring them on a par with the Act of 1963. The Chairmen of the Calcutta and Bombay Ports stressed that under their existing enactment they had certain special provisions such as the constitution of a police force for the Port at Calcutta and a favourable rate of Municipal taxation in the case

of Calcutta and Bombay. They have also objected to the provision in the Act of 1963 which empowers the Central Government to issue directives to the port authorities.

14.6. The Commission has carefully considered these arguments and has come to the conclusion that they are no longer valid. So long as the older ports used to find their own finances, they had enjoyed a measure of autonomy, but from the beginning of the planning era, decisions regarding investments, deployment of resources, development projects, etc., are taken in accordance with the plan priorities by the Central Government, and the Port Trusts have largely become executing agencies. Though the power to issue directives exists in the Act of 1963, as in many other Acts governing undertakings in the public sector, like the Life Insurance Corporation, State Electricity Boards and so on, yet no occasion has arisen in the past to exercise the power, in the case of Major Ports by Government under this Act. The Commission is also of the firm opinion that in the ultimate analysis, the Government should have the power to issue directions on questions of policy. It is on account of the absence of such a power that delay of nearly 11 years has occurred with regard to the 'Minimum Scheme' for the conversion of the Prince's and Alexandra Docks into a non-tidal system in Bombay.

14.7. The Estimates Committee (Third Lok Sabha ninety sixth report) was critical of this delay and observed that "the Minimum Scheme had been turned into a prestige issue by the then Trustees which, the Committee consider, to be a very unhealthy trend in the Port Trust." The Estimates Committee further added—

"The Committee are surprised at the apparent helplessness of Government to issue necessary directions to the Port Trust to proceed with the development scheme on the lines indicated by them. In this connection the Committee suggest that Government should review the position in the light of the experience and take suitable measures to ensure that there are adequate powers of issuing directions to the Bombay, Calcutta and Madras Port Trusts, which is in the overall interest of national economy as also in the interest of the development of the ports."

14.8. The Commission has considered the views of the Calcutta and Bombay Port Trusts regarding the special provision in their respective port Acts relating to municipal taxation of port properties. This subject was considered extensively by the Local Finance Enquiry Committee (1949) and the Taxation Enquiry Commission (1957). The Taxation Enquiry Commission pointed out that in Madras, the Port Trust properties were taxed in accordance with the provisions of the Madras City Municipality Act, on the basis of their gross revenue and not on that of their value. The tax levied in any year on the port properties "shall not exceed 4 per cent of the gross earnings from the Port in that year." The Taxation Enquiry Commission has also considered the representations of the Calcutta and Bombay Municipal Corporations against the limits laid down in their Acts for taxing the port properties. It had noted that the

methods of valuation of the properties of these two ports had given rise to disputes and it came to the conclusion that the basis of taxing the port properties as adopted at Madras was eminently fair and reasonable on account of its simplicity. It endorsed the recommendations of the Local Finance Enquiry Committee (1949) that the basis adopted in Madras should be followed in Calcutta and Bombay as well. However, to ensure that the rate of taxation was not frozen at 4 per cent, the Taxation Enquiry Commission suggested that while the basic percentage might be retained at this level, a provision should be made for increasing or decreasing the rate by, say, one-quarter per cent for every one per cent of the general increase or reduction effected in the rate of the tax in respect of other properties falling within the jurisdiction of the municipal corporation. In the light of the above recommendation we do not consider that the special provisions relating to municipal taxation of port properties as found in the Calcutta and Bombay Port Acts need be retained in their present form.

14.9. We understood that Section 59 of the Calcutta Port Act relating to the method of ascertaining the annual value of the port properties has already been amended by the West Bengal Government in 1954, with the concurrence of the Central Government. This amendment provides for a different basis of assessment, to be arrived at by mutual agreement between the Commissioners of the Calcutta Port and the Calcutta Municipal Corporation and subject to the amendment to Section 128 of the Major Port Trusts Act, 1963.

14.10. We, therefore, recommend that the Madras Municipal practice of taxing the Port Trust properties be adopted uniformly for all the Major Ports subject to the qualification suggested by Taxation Enquiry Commission. This would, however, require an amendment to Section 128 of the Major Port Trusts Act 1963.

14.11. The Commission has considered the question of port legislation and has reached the conclusion that the balance of advantage lies clearly in applying a uniform legislation to all the Major Ports. It must be remembered that certain provisions of the older port Acts were incorporated under completely different conditions which no longer hold good in the altered circumstances of today. Extensive and radical changes, which are neither practicable nor desirable, would have to be carried out to these older Acts if it is desired to retain their special features. On the other hand the Act of 1963, we believe, can serve as the basis for the purpose of uniform legislation.

14.12. Under the Act of 1963, the Government can issue directions to the Trustees on "questions of policy." Since the Government finances mostly the port development and is responsible for the proper and efficient management of the port administration, the Government may consider the advisability of assuming powers for giving directions to the Port Trusts on all matters involving "public interest" instead of "policy." We believe that this power would enable the Government to give directions with regard to the construction of berths, wharves and facilities which may not be possible under the term 'Policy'.

14.13. Whilst carrying out the amendments to the Act of 1963, we recommend that the existing provisions in the Calcutta Port Trust Act regarding certain special functions the Calcutta Port authority has been discharging which are peculiar to this port, such as the training of the river Hooghly, the provision of landing places and bathing ghats on the river and the regulations governing their usage be incorporated, so that the port continues to exercise these functions.

CHAPTER 15

COORDINATION BETWEEN MAJOR AND MINOR PORTS

Any examination of the functions of the Major Ports will be incomplete without a study of the facilities available in the Intermediate and Minor Ports. The Commission, therefore, proceeds to examine the coordination between Major and Minor Ports in the light of the existing traffic and its future growth.

15.2. There are 168 Minor Ports in India at present and they are spread over a coast line of about 4,800 kilometres. The more important of these are classified as "Intermediate Ports", now numbering 23. The "Intermediate Ports" so called are defined as those which handle not less than 100,000 tonnes of cargo a year. In this chapter both the categories are treated as Minor Ports. The state-wise location of the Minor Ports is shown in Appendix I to this chapter.

15.3. In most cases, the Minor Ports are only roadsteads where the loading and unloading operations are carried on with the help of lighters. Despite this double handling, the Minor Ports offer certain advantages due to their proximity to the hinterland and lower port charges. The Minor Ports have also played an important role in relieving the congestion of traffic at the Major Ports. But the volume of traffic handled at the Minor Ports is relatively small as compared with that at the Major Ports as will be seen from Table 1. It will be observed that the Minor Ports handled about one seventh of the total traffic of the existing eight Major Ports.

TABLE 1

Export-Import Traffic handled at "Major" and "other ports" 1968-69

					Major Ports	Other ports	Percentage of traffic at "other ports" to total traffic
					(000 tonnes)		
1. Imports							
Coastal	..	..	..	..	4,972	1,521	23.46
Foreign	..	..	..	..	25,383	1,394	5.21
Total				..	30,355	2,918	8.77
2. Exports							
Coastal	..	..	..	..	4,588	2,108	31.48
Foreign	..	..	..	..	22,610	2,916	11.42
Total				..	27,198	5,024	15.59
GRAND TOTAL				..	57,553	7,942	13.79

*India Ports and shipping Statistics 1970, Table V, Page 6.

15.4. The Estimates Committee of Parliament in its Fifty first Report, 1956-57, attached considerable importance to the improvement and development of Minor Ports (including Intermediate Ports) and observed—

“Minor Ports can be made to play a much more important role in the transport economy of the country than that which has so far been assigned to them.”

The Committee also recommended that the Government of India should consider the feasibility of transferring the subject of Minor Ports from the Concurrent List to the Union List in the Seventh Schedule of the Constitution.

15.5. Conditions have vastly changed since the Estimates Committee reported in 1956-57. One of the striking features of India's foreign trade is the emergence of bulk cargo as a dominant factor in our port operations. The pronounced increase in the export of Iron ore and in the import of fertilizers and their raw materials, petroleum products and foodgrains has brought about a radical transformation in the composition of the port traffic. These commodities now account for an overwhelming proportion of the traffic handled at the ports as may be seen from Appendix II of this chapter. This development has had, and will continue to have, its impact on port development.

15.6. Shippers all the world over, because of the distinct freight advantage arising from economies of scale, now favour the utilization of larger capacity vessels. This trend has been accelerated by the closure of the Suez Canal and the higher cost of voyages round the Cape. Vessels of 20,000 D.W.T., which were considered large still some years ago, are now being replaced by much bigger vessels of 100,000 D.W.T. and above. These vessels, however, require deeper draft as well as sophisticated mechanical equipment for quicker handling of the cargo; they also call for heavy capital investment which could be provided only at a few ports.

15.7. As a result of these trends, the share of the Minor Ports in the total volume of trade has been either stationary or declining. Table 2 compares the volume of traffic handled by the Major and Minor Ports, during the years 1960-61 to 1968-69.

TABLE 2
Volume of traffic handled by the Major and Minor Ports during 1960-61 to 1968-69
(Million tonnes)

	Percentage share				
	Major Ports	Minor Ports	Total	Major Ports	Minor Ports
1960-61	39.5	6.6	46.1	85.7	14.3
1961-62	39.5	6.6	46.1	85.7	14.3
1962-63	42.5	7.8	50.3	84.5	15.5
1963-64	45.9	7.9	53.8	85.3	14.7
1964-65	49.6	8.3	57.9	85.7	14.3
1965-66	50.2	7.7	47.9	86.7	13.3
1966-67	53.2	7.6	60.8	87.5	12.5
1967-68	55.0	8.2	63.2	87.0	13.0
1968-69	57.6	7.9	65.5	87.9	12.1

Source—India Ports and Shipping Statistics, 1970.

15.8. It will be seen that though the traffic at both the Major and Minor Ports has increased by 42 per cent over this period, the traffic of the Major Ports has increased from 39.5 million tonnes in 1960-61 to 57.6 million tonnes in 1968-69 or by 46 per cent. In the case of Minor Ports, the growth was not so pronounced, the increase being 20 per cent from 6.6 to 7.9 million tonnes.

15.9. Out of the total traffic of 7.9 million tonnes handled by the Minor Ports in 1968-69, 5.9 million tonnes were handled by 16 Minor Ports as indicated below—

TABLE 3
Traffic handled by sixteen minor ports

							(000 tonnes)
(i)	Bedi (Gujarat)	..	..	..	..	..	491
(ii)	Belekeri (Mysore)	..	..	..	..	..	211
(iii)	Bhavnagar (Gujarat)	..	..	..	..	..	746
(iv)	Calicut (Kerala)	..	..	..	..	..	265
(v)	Cuddalore (Tamil Nadu)	..	..	..	..	..	196
(vi)	Elephanta (Maharashtra)	..	..	..	..	..	177
(vii)	Mangalore (Mysore)	..	..	..	..	..	486
(viii)	Nagapattinam (Tamil Nadu)	..	..	..	..	..	155
(ix)	Navlakhi (Gujarat)	..	..	..	..	..	238
(x)	Okha (Gujarat)	..	..	..	..	..	816
(xi)	Porbandar (Gujarat)	..	..	..	..	..	340
(xii)	Redi (Maharashtra)	..	..	..	..	..	204
(xiii)	Salaya (Gujarat)	..	..	..	..	..	132
(xiv)	Tuticorin (Tamil Nadu)	..	..	..	..	..	919
(xv)	Veraval (Gujarat)	..	..	..	..	..	236
(xvi)	Sikka (Gujarat)	..	..	..	..	..	262
							5,874

15.10. The trends of traffic at the Minor Ports in the various States of India have also some points of interest as will be seen from the figures for 1962-63, 1965-66, 1967-68 and 1968-69, given in the Table 4.

TABLE 4

					(000 tonnes)
	1962-63	1965-66	1967-68	1968-69	Percentage increase (+) or decrease (—) in 1968-69 over 1962-63
(i) Andaman & Nicobar islands	25	42	N.A.	N.A.	N.A.
(ii) Andhra Pradesh	490	379	478	507	(+)3.5
(iii) Gujarat	3,028	3,256	3,631	3,698	(+)22.1
(iv) Kerala	522	426	480	446	(—)14.6
(v) Maharashtra	960	876	863	865	(—)9.9
(vi) Mysore	1,242	1,106	1,139	1,005	(—)19.1
(vii) Tamil Nadu	1,547	1,521	1,510	1,335	(—)13.7
(viii) Pondicherry	3	52	N.A.	86	

Source—India Ports and Shipping Statistics 1970.

15.11. It is further observed from Table 4 that the traffic at Minor Ports, except in Andhra Pradesh and Gujarat, have declined between the years 1962-63 and 1968-69.

15.12. It may be of interest to look at the types of cargo handled at the Minor Ports so as to take a view on the role of the Minor Ports to handle the future traffic offerings. Table 5 gives the principal commodities handled at the Major Ports and Minor Ports during 1968-69:

TABLE 5

Principal commodities handled by Major and Minor Ports during 1968-69

	Major Port	Minor Port	Total	Percentage share	
				Major Port	Minor Port
1. Mineral Oil	18,436	471	18,907	97.5	2.5
2. Iron Ore	15,079	1,061	16,140	93.4	6.6
3. Coal	999	366	1,365	73.2	26.8
4. Fertilizer/rock phosphate/ sulphur	4,325	980	5,308	81.5	18.5
5. Foodgrains	6,843	417	7,260	94.2	5.8
6. Iron & Steel and machinery	2,078	8	2,086	99.6	0.4
7. Other cargo	9,794	4,640	14,434	67.8	32.2
8. Total	57,554	7,943	65,497	87.9	12.1

15.13. Having examined the traffic trends at the Minor Ports and their relative role in the handling of seaborne trade, the Commission would like to express its views on the future role of these ports in the country's economy. Before it does so, it should be pointed out that the ports of Mangalore and Tuticorin, included among the Minor Ports in Table 3 would emerge as Major Ports by the end of the Fourth Plan. The effect of this will be a corresponding decrease in the volume of traffic of the Minor Ports. There are also certain other factors the effect of which will, generally speaking, be to accentuate the decline. Firstly, the iron ore traffic at present handled by the Minor Ports is being diverted to the Major Ports with the provision of deep draft facilities and mechanical handling equipment for bulk cargoes. Secondly, the large traffic in imported foodgrains has already come down significantly and is likely to be reduced further in the next few years. Thirdly, coastal shipping is facing increasing competition from other modes of transport in the country. Fourthly the setting up of coastal refineries is also leading to a reduction in the coastal movement of POL. Finally, because of the setting up of fertilizer factories at the Major Ports, the import of fertilizers or their raw materials at Minor Ports is likely to decrease.

15.14. In the light of these considerations, the Commission comes to the conclusion that the future role of Minor Ports will be progressively on the decline.

15.15. The Commission, however, does not rule out the need for the development of selected Minor Ports where the factors stated above may not apply or have only a limited application, as, for example, where Minor Ports are suited for the location of harbours for deep water fishing to meet the increasing domestic demand as well as of export of marine products. Also certain types of cargo, like dried fish, chillies, onions, roofing tiles, etc., moving to the neighbouring countries and on the coast will continue to be carried by sailing vessels from the Minor Ports.

15.16. In view of the trend towards the use of larger and larger vessels for cargo as well as for containerized vessels for general cargo, it is necessary that the country should develop adequate facilities of the international standard to receive such vessels at least in one port on the West Coast and one port on the East Coast. In the absence of such facilities, it is possible that these modern vessels may by-pass Indian ports and go to ports of neighbouring countries which offer these facilities. Taking into account the draft required, the back-up area necessary for containers, cargo and equipment, etc., and also taking into account the locational aspect we recommend that the new satellite port of Nheva Sheva on the West Coast and the Haldia Dock system on the East Coast may be fully developed to meet these modern requirements. Once such large facilities are developed in these two areas, the need for additional Major Ports may not exist.

15.17. During the three Plan periods, considerable progress has been achieved both in the railway and in the road development. The maritime States particularly are fairly well served by a road system connecting the hinterland with the Major Ports. In view of these massive investments, both the value and importance of the Minor Ports have, as observed earlier, considerably declined. Besides, the Commission thinks that it is more advisable to concentrate investments in a few selected ports and improve their efficiency and operations rather than spread the investment thinly over a larger number of ports, none of which would be equipped adequately to meet the needs. The Commission, therefore, considers that further investments on Minor Ports should be made strictly on the basis of felt-need and proven viability.

15.18. The existing Minor Ports have several problems, such as siltation and entrance barriers, absence of better handling facilities, surveys and adequate navigational aids. It would be uneconomic for the Minor Ports to attempt to deal with these problems at their cost. The Major Ports adjoining the Minor Ports should be able to come to the aid of the Minor Ports in a planned manner.

15.19. One of the recommendations of the U.N. experts regarding the dredging of Minor Ports referred to the advisability of drawing upon such services available with the Major Ports. The Ministry of Shipping and Transport, however, has set up a Minor Ports Dredging and Survey Organization for carrying out annual surveys of particular sites to be dredged. Unfortunately no dredging has begun for lack of suitable equipment.

15.20. The Commission now understands that this organisation is being merged into a new "Central Dredger and Survey Launch Pool" being set up by the Ministry. It is understood that this organization will function as a part of the Ministry of Shipping & Transport and will render technical advice and assistance including the carrying out of dredging operations at the Minor Ports.

15.21. The Commission had had a map drawn of the hinterland of all the Major Ports in the country which is included as Appendix III to this Chapter. The Commission has also examined the traffic projections made by the several ports of the cargo that will be passing through them. The Commission notes that with the existing eight Major Ports, and the two new under construction, there is a considerable overlapping of the hinterland of these ports. For instance, the Barajamda iron ore is claimed as a cargo both by Paradip and Haldia. The cashew exports are claimed as general cargo by both Mangalore and Cochin. In fact, instances can be multiplied if a detailed examination is undertaken of the traffic projections made by each of the ports. Elsewhere, while examining the financial viability of the ports, the Commission had commented on the lack or absence of adequate traffic in the ports like Kandla, Paradip, Mangalore and Tuticorin to enable them to become financially viable within a reasonable time. Considering these factors and the even distribution of the Major Ports geographically in the country, the Commission has reached the conclusion that there is no need for any new Major Ports in the foreseeable future.

CHAPTER 16

PORT LABOUR

(i) Labour Productivity and Port Operations

Labour has a vital role to play in the efficient operation of a port. In this Chapter, we propose to deal with the various factors affecting labour efficiency and output. These embrace a wide spectrum which includes a properly devised wage structure, security of employment, etc., which among other things, provide powerful motivation to the workers.

16.2 For improving labour productivity, the Major Ports have made considerable progress during the last two decades both in regard to the decasualization of cargo handling labour and in evolving a progressive wage structure. The first step, taken in 1944, was the partial departmentalization of shore labour at Madras. The ports of Calcutta and Bombay departmentalized their shore labour in 1948 and was followed by the introduction of incentive schemes for the cargo handling labour. In Calcutta, a "Tonnage Rate Scheme" was introduced in that year whilst in Bombay, an "Incentive Bonus Scheme" on shipwise basis came into operation from 1 January 1949. The Bombay scheme prescribed datum lines for different types of cargo; it prescribed a daily wage as also a minimum fall back wage and provided substantial incentives for performances in excess of the datum lines. It covered all labour directly connected with the work of loading and unloading of cargo. This scheme was replaced by the piece-rate scheme as per the decision of the Labour Appellate Tribunal in 1956 which slightly varied the award of the earlier Meher Tribunal.

16.3. In October 1956, by a settlement between the workers and the port authorities, it was agreed that piece-rate schemes similar to the scheme functioning in Bombay should be extended to the other Major Ports. In pursuance of this agreement a piece-rate scheme was worked out for the Calcutta Port by a bi-partite committee under the Chairmanship of Shri F. Jeejeebhoy. This scheme was, however, not implemented as some of its aspects were not acceptable to the workers. Subsequently, the Government appointed Shri Jeejeebhoy as one-man Committee but his scheme was also not implemented for various reasons. The shore workers at Calcutta continued to be governed under the piece-rate scheme introduced in 1948 and modified in 1961 and in 1964. More recently, the Central Wage Board for Port and Dock Workers (November 1969) has recommended a piece-rate scheme for the stevedore workers. It has also modified the existing scheme for the shore workers with liberalized incentives for higher outputs.

16.4. As regards Madras Port, a piece-rate scheme modelled essentially on the Bombay scheme but with slightly modified datum

lines and manning scales was evolved by a bi-partite committee and introduced with effect from the 1 March 1958. This scheme is applied to both stevedore and shore labour.

16.5. At the Cochin Port, a scheme for payment by results was introduced in 1959 for the shore labour under which payment was made to the workers on a tonnage basis. When the Dock Labour Board (D.L.B.) was set up in 1962 for the stevedore workers, a datum piece-rate scheme modelled on the scheme in force in Bombay and Madras was introduced at Cochin. The scheme for the shore Labour was superseded with effect from 1 October 1967 by a revised scheme which is more or less modelled on the scheme in operation for the stevedore workers.

16.6. An incentive scheme was introduced for the stevedore workers at the Visakhapatnam Port in 1961 and for the shore workers in 1964. These schemes are, however, different from the schemes in force in the other ports; they are also different for the ore handling workers and for labour handling other cargo. The piece-rate scheme for labour handling general cargo on the shore side provides for separate datum lines for imports at the quay and at the moorings.

16.7. At Mormugao, as far as the Port Trust workers are concerned, there is no incentive scheme. The dock workers, however, have a piece-rate scheme covering two categories of workers, namely gangmen and winchmen based on tonnage loaded and unloaded.

16.8. Similarly, in Kandla, there is no incentive scheme for Port Trust workers. However, listed foodgrain workers who also handle fertilizers are covered by a piece-rate scheme based on tonnage. There is no incentive scheme in force at Paradip.

16.9. The incentive schemes can broadly be categorized into two types: one based on datum line output as in Bombay, Madras and Cochin, and the other, the piece-rate type prevailing in Calcutta, Visakhapatnam and Mormugao. Even in the piece-rate scheme there are a few differences. For instance, in Calcutta payments are made on a slab basis at a progressively higher rate whereas in Visakhapatnam and Mormugao there is a uniform rate.

16.10. The introduction of the scheme for payment by results has undoubtedly had a healthy influence on the efficiency and output of labour. As an illustration, we give the statistics of output supplied by the Bombay Port authorities for three years, 1953-54 to 1955-56, preceding the introduction of the incentive scheme and the output since the introduction of the scheme till 1967-68. Correlating the output to 100 per cent of the datum lines of output provided in the incentive scheme, it is found that the output in the three years prior to the introduction of the incentive scheme fell short of the datum lines by 30 to 36 per cent. After the introduction of the scheme, the output exceeded the datum lines by 40 per cent to as much as 142 per cent. In Bombay Port, when the piece rate incentive scheme was introduced in 1956, the datums were evolved

based on the output in the two year period 1 October 1945 to 30 September 1947, after taking into account the provision of mechanical aids, etc. in the intervening period. The subsequent additions and modifications to mechanical aids, particularly by way of fork-lifts, tractors, trailers, mobile cranes, etc., have added new dimensions to the handling of cargo and more particularly general cargo. The significant increase in the output by the labour in Bombay Port may thus be ascribed both to the greater efforts put in by labour in response to the incentive schemes and to the intensification of mechanical aids for cargo handling.

16.11. A similar exercise was attempted for the ports of Calcutta, Cochin and Vishakhapatnam. Such information was not available for the Madras Port. In Calcutta, there are no datum lines for shore workers who are covered by the piece-rate (incentive tonnage) scheme. Hence the cargo handling rate for the years 1961 to 1969 was compared with the average *per capita* handling rate for three years prior to the implementation of the tonnage rate incentive scheme in 1961. The analysis was restricted to the performance of labour at three docks, namely, Cargo Docks, Coal Docks and Kantapukar Docks. Although the performance in each of these docks fluctuated over the period under study, the overall performance was favourable as compared with the pre-incentive phase of three years prior to 1961.

16.12. In Cochin, the exercise attempted to measure the effect of the introduction of the datum piece-rate scheme during 1968-69 in comparison with the pre-piece-rate performance during 1966-67. Here also the data furnished revealed that for most of the commodity groups e.g., the general cargo exports and also some general cargo imports, the output had registered a significant increase.

16.13. In Visakhapatnam, only about five per cent of the cargo handled by the Port Trust labour was covered by datum piece-rate scheme. The figures furnished for the years 1962 to 1969 indicated that in the post-departmentalization period commencing from 1964, the output had progressively increased over the years in respect of all the three commodity groups, namely, iron and steel, bags and bales and mineral ores and pig iron.

16.14. Many of the basic premises on which the incentive schemes in Bombay were evolved have undergone a substantial change in the last 14 years. Some of the norms had been fixed in relation to the then pattern of India's trade with certain countries like the U.S.A., the U.K. and other European countries and the countries of the West Asia and the Far East. Since then the direction of our trade has undergone a change with increase in trade with Persian Gulf and East European countries, and a reduction in trade with some of the North Atlantic countries.

16.15. There have also been pronounced changes in our trade pattern in the last few years. The location (or expansion) of oil refineries in Bombay, Cochin and Visakhapatnam and, very recently, in Madras has altered the composition of the cargo handled at these ports. Similarly, the ports of Madras, Visakhapatnam, and Mormugao have emerged as important ore handling ports. Again, iron and

steel items which used to be significant import commodities now figure prominently in the export list. There was also a big spurt in the import of foodgrains and fertilizers during the last six or seven years and grains which came by bulk carriers were largely handled with automatic equipment at certain ports. Similarly, the large imports of heavy machinery could only be handled by heavy cranes rather than by manual labour. Likewise the pattern of the coastal traffic has also undergone a change. Further, the wage levels of the workers have also been revised from time to time. Despite the increase in various components such as Basic Pay, Dearness and other Allowances, the processing element of the daily wage in the piece-rate scheme has remained unchanged. In spite of significant changes in various directions the incentive schemes have continued to remain essentially intact except for a few minor adjustments in individual datum lines. We, therefore, recommend that appropriate machinery be evolved to review comprehensively the incentive schemes in the ports. It will be necessary to associate labour in such a review.

16.16. On the question whether the integrated incentive schemes with common datum lines for the dock and the shore workers as are prevailing in Bombay, Madras and Cochin should be extended to the other Major Ports as well, the Commission does not see any compelling necessity to have identical schemes for these two categories of workers. What is important is that any incentive scheme designed to enhance the productivity of the various categories of workers engaged in cargo handling should be extended as widely as possible. Higher outputs cannot be achieved except by greater rewards and an element of progression should necessarily be embodied in any incentive scheme, be it of the datum type or the piece-rate type. In Calcutta, for example, while the shore workers have been covered by the piece-rate incentive schemes, the dock workers till recently have been on the time-rate of wage. The Tripartite Expert Committee for Calcutta Docks, 1969, (Chatterjee Committee) has expressed the view that one of the major factors for the poor output of the dock workers in Calcutta is the absence of a proper incentive scheme. We understand that the Wage Board has recently formulated an incentive scheme for the dock workers in Calcutta and we recommend early action on the scheme.

16.17. We have noted the suggestions made by the Study Group for Ports and Docks (January 1968) set up by the National Commission on Labour, emphasizing the need for extending the scope of incentive schemes to the port workshops. As the National Commission observed, "the inclusion of supervisory personnel as beneficiaries of incentives can have a vital role in improving efficiency. together with the maintenance personnel they can make or mar the scheme". Some of the port authorities have mentioned the difficulties involved in evolving suitable schemes to cover the workshop and supervisory personnel.

16.18. It was represented to the Commission by the spokesmen of labour that the supervisory staff in the transit sheds at the various ports are now left out of the purview of incentive schemes and that

* Report of the National Commission on Labour, August 1969, p. 250.

they should be governed by appropriate incentive schemes. The question of the extension of piece-rate to shed staff at the ports of Bombay and Madras was examined by a Committee appointed by the Government of India in May 1960, with Shri F. Jeejeebhoy as Chairman. The Committee was of the opinion that "while recognizing the value of rewards in recognition of work done with more than ordinary zeal and fidelity by persons like Shed Superintendents, etc., this Committee recommends that this is a matter which calls for consideration by the Administration, but it is not a matter within the purview of this Committee's work."

16.19. The existing coverage of transit shed staff by incentive schemes at the various ports is not uniform. At Bombay, tally clerks, sorters, cart and wagon unloaders, *baroots* and helping gangs, mobile crane drivers including operators of trucks, forklifts and platform trucks are covered by the incentive schemes. At Cochin, incentive schemes apply to the tally supervisors, shed clerks and labour supervisors as also to markers, sorters and checkers. In Madras and Cochin there are schemes for the award of cash prizes for the best maintained units. The transit shed staff at Calcutta and Visakhapatnam are not covered by any incentive schemes. The supervisory shed staff at most of the ports is left out of the purview of incentive schemes.

16.20. In our view, any slackness on the part of the supervisory staff in the transit sheds would reduce the output and the clearance of the goods. As we feel that the co-operation of the supervisory staff is vital to the maximization of the output in the chain of operations from the ship to the transit sheds or *vice versa* we recommend that they should also be covered by incentive schemes.

16.21. In studying the working of port operations the Commission noticed a considerable idle time with its adverse effects all-round. It was represented that standing charges to ships ranged between Rs. 10,000 and Rs. 15,000 per day at Major Ports. Such idle time, besides putting up the avoidable increase in standing charges also increases the burden on the shippers. The throughput at the berths is reduced thereby, affecting adversely the operations of the port. Further, the labour earnings are also eroded. From the figures furnished by the Bombay Port Trust we observe that during the year 1968-69, the idle time in wet months constituted 25 per cent and during dry months 14 per cent of the available time making an overall average of about 20 per cent. The other ports have informed us that the complete data in respect of their idle time were not available. However, it is understood that in certain ports, at times, idle time has been as high as 50 per cent of the available times.

* Report of the Committee to examine the feasibility of evolving a system of payment by results to certain categories of employees under the Bombay and Madras Port Trusts and the Bombay Dock Labour Board 1960-62, p. 9.

* Report to Ministry of Labour, Employment and Rehabilitation, Government of India, on Problems Relating to Incentive Payment Schemes Applicable to Port and Dock Workers in Cargo Handling Operations and Certain Other Matters Prepared by Robert Gavin.

16.22. In view of its all-pervasive effect it is essential that the proportion of idle time should be reduced to the minimum. While it is true that certain causes leading to idle time, such as the vagaries of weather, opening of hatches, and rigging of derricks, cannot wholly be eliminated, there are other types of delays like cargoes not being ready for loading, repairs to cranes, provision of special gear, etc., which can be minimized by proper planning.

16.23. We now turn to the subject of job security which is of vital importance in enhancing the productivity in port operations. We consider that productivity cannot be maximized without giving a sense of job security to labour. As early as in 1931, the Royal Commission on Labour had emphasized the desirability of decasualization of dock workers, and a Draft Scheme was prepared for it in 1939, but no action was taken on it owing to the intervention of World War II. It was only in Madras that partial decasualization was introduced in 1944. In 1948 the shore labour in Calcutta and Bombay was also decasualized and in other ports this was not done until 1959. Prior to these years, the shore labour was employed through contractors and the ports had no control over their conditions of employment.

16.24. When the labour was registered in Calcutta and Bombay in 1948, the ports prepared two registers of shore workers: (i) the primary register or 'A' category of workmen who were given all the benefits, enjoyed by regular employees of the ports and (ii) the secondary register or 'B' category of workmen who were employed after the strength in the 'A' category of workers was fully utilized. However, in practice, the deployment of rank casual labour was resorted to by the Port Trust in the subsequent years as the workers under 'A' and 'B' categories were not adequate to the requirements.

16.25. Following the recommendations of the Report of an Enquiry into the Demands of the Labour by Shri P. C. Chaudhuri (Chaudhuri Committee) in 1957, to rationalize the employment structure of port workers, the ports adopted a uniform nomenclature for the different categories of shore labour, namely, 'A', 'B', and 'C'. The 'A' category workers were regarded as permanent employees, whereas the 'B' category workers were treated as 'Semi-permanent'. The 'B' category workers were paid full wages for the days on which they were employed and attendance money only for the days on which employment could not be provided. The 'C' category workers were 'casuals' and were entitled to wages only for the days for which they were given employment.

16.26. A further step towards reorganization of shore workers was taken as a result of acceptance by the Government of India of the recommendations of the report of the Central Government Court of Enquiry, Bombay in 1967 (Salim Merchant Report). According to this, the strength of the 'C' category labour was fixed at 15 per cent of the combined strength of the 'A', 'B', and 'C' categories. Further, on completion of four years of continuous service in the 'C' category, workers were to be automatically promoted to the 'B' category and receive all the service benefits of this category. The

'B' category workers were given certain additional benefits, like holidays, leave with pay, sick leave and retirement benefits.

16.27. As a result of the various progressive measures referred to earlier, considerable progress has been made in extending job security to the shore workers at our ports. The details of wage guarantees offered to the three categories of workers at the Major Ports are set out in Appendix I. In particular, the strength of the 'C' category which was substantial in some ports prior to Salim Merchant Report has now gone down considerably. At the time of submission of the Salim Merchant Report, the percentages of the 'C' category workmen to the total of the 'A', 'B' and 'C' categories were 18.37 in Bombay, 26.72 in Madras, 51.9 in Cochin and 24.11 in Visakhapatnam. Now the 'C' category workers are only a handful at Bombay and Cochin. There are none at Calcutta and Madras. In Visakhapatnam, however, the 'C' category workers numbering nearly 300 still constitute 14.9 per cent of the combined strength of the 'A', 'B' and 'C' categories. At Kandla, this is even more pronounced where the strength of the casual labour at 400 outnumbers the combined total of the 'A' and 'B' categories at 74. We recommend that every effort should be made for the early absorption of the 'C' category workers into the 'B' category and also wish to emphasise the need for keeping the 'C' category workers to the barest minimum. In this connection, we may point out the practice at Visakhapatnam where a provision exists for registering the Port Trust itself as an employer indenting upon the D.L.B. for occasional requirements of labour. On the same analogy, endeavour should be made by other ports to eliminate progressively the employment of contractors and contract labour on works which are of a regular and continuous nature.

(ii) Impact of Ports' Modernization on Labour

16.28. In the Chapter relating to the modernization of cargo handling facilities, we had dealt with in detail the need for mechanization in the overall interest of the national economy in order to secure a significant reduction in the overseas freight and make our products competitive in the international markets. We now propose to consider the effects of modernization on a number of factors relating to labour engaged at the ports, namely, the dimensions of labour requirement, the deployment of surplus labour, if necessary after suitable training in alternative employment, manpower planning, sharing of the gains of productivity, etc.

16.29. Any scheme of modernization of our ports should take into account the conditions peculiar to our country where capital is relatively scarce, wages are comparatively low and unemployment and under-employment are wide-spread. In these circumstances it would be more appropriate to concentrate in our ports on simpler types of equipment involving less capital cost and fewer maintenance problems and which would save physical effort and displace fewer workers. Mr. A. A. Evans in his book on "Technical and Social Changes in the World Ports" brought out by the International Labour Office in 1969 has observed that "where labour costs are

high and capital is relatively easy to secure", new methods of handling cargo would seem to be economically justified. But in most developing countries "the position is different and it may, therefore, be doubted whether all-out mechanization of cargo handling is the most appropriate solution in the economic circumstances of these countries".⁴

16.30. In certain sectors of our port operations, however, a high degree of mechanization has become inevitable, particularly in bulk commodities like ores, fertilizers and fertilizer raw materials. Our exports of ore would become less and less competitive in international markets if we do not equip our ports with mechanized loading facilities. The National Commission on Labour has appreciated that "technological change is a historical inevitability" and has recognized areas where "the tasks to be performed will not be performed and results to be obtained will not accrue unless the machine is pressed into service".⁵ While accepting the necessity and the inevitability of mechanization in certain sectors of port operations we recognize the fact that this problem should be approached with a sense of caution and with appropriate safeguards against the adverse effects on employment.

16.31. The object of mechanization is not only to accelerate the handling of traffic but also to reduce the overall unit cost. This can be achieved by the optimum utilization of the mechanical appliances which calls for training of labour in new skills and the elimination of unproductive time. It is essential that the expenditure on the installation and maintenance of mechanical appliances should be more than offset by the savings in the expenditure on labour. Since most of the cargo handling work at the ports is now done in gangs, any successful introduction of mechanization will require a readjustment of the gang strengths. Although the size of the gang at Major Ports has now become a matter of convention, whenever there are substantial additions or modifications to mechanical aids, the scope for adjustment in gang strength should be looked into.

16.32. As regards the mechanization of general cargo handling in our ports, palletization has been attempted on a limited scale. The experience of developed countries in this regard can serve only as a guide and the determination of gang strengths will have to take into account the conditions prevailing at our ports. Factors like types of cargo handled, the mode of packing and the extent of mechanization should all be taken into account in fixing the gang strength.

16.33. In most of the ports, the size of the gang is somewhat rigid. For example, in Calcutta it is 1 Sirdar *plus* 12 Mazdoors; in Bombay it is 1 Morpia *plus* 12 Mazdoors except for the manganese ore for which the gang is 1 Morpia *plus* 18 Mazdoors. In Madras it is 1 Maistry *plus* 10 Mazdoors. At the ports of Cochin and Visakhapatnam, however, there is already flexibility in the strength of

⁴ *Ibid*, p. 30.

⁵ *op. Cit.* p. 258.

shore gang depending upon the type of commodity handled, its packing and the equipment used. In Cochin, for instance, the gangs are as follows—

(a) for general cargo

1 gang leader *plus* 7 workers (for crane hook)

1 gang leader *plus* 9 workers (for derrick hook)

(b) for bagged cargo

1 gang leader *plus* 14 (crane) to 17 (derrick) workers for imports, and

1 gang leader *plus* 11 (crane) to 13 (derrick) workers for exports.

(c) for grain in bulk bagged on board before discharge

1 gang leader *plus* 12 (crane) to 15 (derrick) workers.

(d) for hazardous cargo or "long carry"

6 to 8 workers are added to the gang and there is a further provision for adjusting the size of the gang depending upon the circumstances.

Similarly, in Visakhapatnam, for handling imports in bags and bales there is 1 Maistry *plus* 20 Mazdoors in a gang as against 1 Maistry *plus* 4 to 12 Mazdoors for general cargo depending upon the nature of the cargo. For handling bulk mineral ore the gang consists of 1 Maistry *plus* 17 Mazdoors.

16.34. We are, therefore, of the view that there should be considerable flexibility in the fixation of gang strengths and there is no need to have a uniform strength for all the commodities at a port.

16.35. With a revision of manning scales a review of the wage structure of port labour should also be undertaken with a view to giving labour a share in the increased productivity resulting from mechanization. The evolution of a formula acceptable to all the interests concerned is, however, a difficult matter. The National Commission on Labour has observed that "Labour should get its share in the form of increased remuneration, the community by way of price reduction and/or improvement in quality, and the employer through increased returns on investment. Due consideration has also to be given to the needs of development."⁶ It has further observed that a quantitative basis for sharing the gains of productivity as suggested by the National Productivity Council could be settled by mutual agreement and on a pragmatic basis.

16.36. The formula suggested by the National Productivity Council is as follows—

"After making a provision in the interest of the consumers which should not exceed 20 per cent wherever this is necessary, out of the balance of the gains of productivity,

⁶ op. cit p. 265.

labour will receive half in those industries where their wages clearly correspond to a fair or living wage except that

- (a) Where the wages are at a level below either the fair wage or the need-based minimum wage, the share of labour will be larger to be decided by mutual agreement, and
- (b) Where the industry has clearly built up a large free reserve, the share of labour will also be higher than the 50 per cent mentioned above. Of the share thus available for distribution after a provision for consumers and labour has been made, a portion will be reserved for the development of the industry and the rest will be available for remunerating capital.

NOTE—Where no provision is actually made for consumer, the amount will be available for distribution to labour and capital.”

We recommend that the foregoing principles endorsed also by the National Commission on Labour may be accepted and implemented in the case of port and dock industry, including the provision for consumer interests.

16.37. The impact of mechanization on employment levels would not obviously be uniform at the various ports; it will depend on the extent of mechanization as also the composition and quantum of traffic. We proceed to indicate the dimensions of the impact of mechanization at the various ports as could be forecast for the next 5 to 10 years.

16.38. It would be useful to distinguish between the mechanization programmes for handling bulk cargo and those for the general cargo. In the bulk cargo, as already noticed in Chapter 4, traffic increase in iron ore, P.O.L., coal and fertilizers will be of the order of 19.92 million tonnes during the period 1968-69 to 1973-74. This would account for as much as 92.3 per cent of the anticipated increase of 21.58 million tonnes; the increase in the iron ore traffic alone is anticipated at about 10.4 million tonnes. In connection with our iron ore exports, massive investments have been contemplated in the ports of Madras, Visakhapatnam, Mormugao, Paradip and Haldia in the Fourth Plan. The facilities also include a faster rate of loading providing for 30,000 tonnes a day in Haldia and 48,000 tonnes at the ports of Madras, Visakhapatnam and Mormugao. Presently, the loading of iron ore in Mormugao is stream, and the loading with the semi-mechanised facilities in Madras call for the employment of a considerable quantum of labour. A substantial portion of the iron ore handling labour at the ports of Madras, Visakhapatnam and Mormugao comes under the Dock Labour Boards (D.L.B.) and the impact of mechanization of ports would, therefore, be felt by them.

16.39. Imports of foodgrains, which reached the peak of 8.5 million tonnes in 1966-67, began to decline from the following year, accounting for a traffic of only 4.9 million tonnes in 1968-69. It was

further expected to taper off to 2.9 million tonnes in 1973-74 but this figure was scaled down to one million tonnes. The details of these figures are set out in Table 1 below—

TABLE 1

					*1966-67 (Actuals)	†1968-69 (Actuals)	‡1973-74 (Estimated)
					(In million tonnes)		
Calcutta	..	..	..	..	2.4	1.09	0.36
Bombay	..	..	..	..	2.1	1.36	Nil
Madras	..	..	..	..	1.6	1.00	0.34
Cochin	..	..	..	..	0.7	0.51	0.06
Visakhapatnam	..	..	..	..	0.4	0.38	0.24
Kandla	..	..	..	..	1.2	0.56	Nil
Mormugao	..	..	..	..	0.1	0.04	Nil
Paradip	..	..	..	..	Nil	0.01	Nil
Total					8.5	4.95	1.00

Source—* India Ports and Shipping Statistics.

† Port Authorities.

‡ Planning Commission.

16.40. In most of the ports, foodgrains are handled by labour under the control of the Food Corporation of India (F.C.I.), either directly or through the listed workers of the D.L.Bs. Here again, due to a pronounced decline anticipated in foodgrain traffic, surpluses would arise in the foodgrain handling labour.

16.41. In respect of general cargo, we have recommended in Chapter 6 on Ports' Modernization and Expansion Programmes, selective mechanization in the handling of our exports including palletization at Calcutta, Bombay, Madras and Cochin. While this would no doubt lead to a reduced unit demand for labour, its overall impact is not likely to be appreciable because the growth in general cargo traffic at these ports and the consequent demand for extra labour could be expected to offset the decline by the adoption of palletization and pre-slinging. The estimated figures of growth in general cargo traffic at these ports are indicated in Table 2—

TABLE 2

							1968-69 ¹	1973-74 ²
							(In million tonnes)	
Calcutta	..	..	..	..	..	..	3.79	4.10
Bombay	..	..	..	..	..	..	4.82	5.75
Madras	..	..	..	..	..	..	0.72	1.20
Cochin	..	..	..	..	..	..	0.84	1.20

Source—¹ Major Ports.

² Planning Commission.

16.42. We requested the Major Port authorities to make an assessment of the labour required at their ports in the next five to ten years, taking into account the present methods of handling the various cargoes, the programme of mechanization visualized in the period and the details of man-power planning they have adopted. From the statistics furnished by the Port Trusts we find that, barring the Calcutta Port, there may not be any serious problem of surplus labour at the ports. The Calcutta Port Commissioners have estimated that they would have to face surplus labour of about 3,900 consequent on the commissioning of mechanized cargo berths at Haldia. However, taking into account the anticipated rise in general cargo traffic at Calcutta, they have envisaged the absorption of 500 workers by 1971-72 and, 1500 by 1974-75. The net surplus would thus be of the order of 3,400 in 1971-72 and 2,400 in 1974-75.

16.43. As pointed out earlier in this Chapter, in dealing with the handling of bulk cargo at the various ports and more particularly iron ore and foodgrains, considerable surplus of labour is forecast in respect of the work force within the purview of the D.L.Bs. The details of the anticipated surpluses are as follows—

Calcutta	..	..	..	..	..	..	11,275
Bombay	..	..	..	..	..	about 2,000 to 2,300	
Madras	..	..	..	..	..	..	2,500
Visakhapatnam	..	..	..	..	..	..	4,000
Mormugao	..	..	..	..	..	..	2,253

Even assuming that no new recruitment is made, and making allowance for the normal wastage by retirement, resignation and death, the problem of surplus labour would still remain. It is, therefore, necessary to take steps well in advance to minimise the adverse impact on labour.

16.44. The representatives of labour have made a strong plea that there should be no retrenchment of personnel as a result of mechanization. The stand of the Labour members in the Study Group for Ports and Docks set up by the National Commission on Labour was that "the port and dock workers will not oppose mechanization, such as palletization or containerization, in the ports provided the existing level of their employment was not adversely affected and their earnings were progressively improved as also the employment potential of the future was adequately safe-guarded keeping in view the overall unemployment and economic conditions of the working class generally in the country." Their concern is understandable as the magnitude of surplus labour would be of such dimensions as to call for long term measures. Every effort should, therefore, be made, while introducing mechanization, to avoid hardships to labour and the port authorities as well as the D.L.Bs. should endeavour to absorb in alternative jobs the labour displaced. Wherever possible, redundant labour should be absorbed in the new ports which are under construction.

* Report of the Tripartite Expert Committee for Calcutta Docks (August, 1969) Vol. II, Annexure XXVI.

* op. cit. p. 53.

16.45. We believe that new employment opportunities will be created for the operation and maintenance of the additional mechanical equipment, such as forklifts, straddle carriers, and trailer trucks. The port and dock authorities would have to provide training facilities for the redundant workers for absorption in view occupations and picking up new skills. The advent of new methods of cargo handling will also for greater skills on the part of the dockers. They will have to acquire knowledge and understanding of new methods and skills necessitated by the introduction of mechanical appliances. The training of dockers has three distinct aspects, namely, pre-entry training, on-the-job training and specialized or refresher courses for senior workers. Pre-entry training could be imparted in the form of pre-vocational or apprentice training or as induction training for newly employed dockers. The former type of training is given at the ports of Rotterdam and Antwerp and also in Poland while the latter type of training is imparted in the U.K., Australia, New Zealand and Israel. The training of our dockers will call for considerable organization, including the establishment of proper training schools. We recommend that appropriate schemes be evolved by the port authorities.

16.46. Along with the measures suggested above for absorbing redundant labour in alternative jobs, serious consideration should be given to the formulation of attractive schemes of voluntary retirement for port labour. Barring the Visakhapatnam port, where voluntary retirement schemes exist for the dock and port workers as shown in Appendix II, the other ports have not evolved any such schemes. Even in Visakhapatnam we have been informed that only a few workers have opted for voluntary retirement. At Cochin, a scheme for the workers of the D.L.B. was introduced for a two-year period from December 1967. We would urge that appropriate schemes for voluntary retirement should be drawn at all the ports in consultation with labour and they should be applicable over a longer period of time.

16.47. The Government of India appointed in 1968 a Tripartite Expert Committee (Chatterjee Committee) for the Calcutta Docks to study, among other things, the future manpower requirements and to indicate the extent of surplus labour, if any, and suggest remedial measures to deal with it. The Committee has proposed an elaborate voluntary retirement scheme for the dock workers. It contemplates adequate compensation for both the registered and the listed workers—

- (a) for the loss of service up to the age of 60; and
- (b) for the past service rendered.

The details of the scheme are set out in Appendix III and we understand that the Government of India has accepted the Scheme.

16.48. We were surprised to find that the problems of manpower planning have not received sufficient attention of the port authorities. This would enable the ports to have a coordinated approach in chalk-ing employment programmes. Our inquiries have elicited that at

present only a few ports have devoted some attention to this problem. At Calcutta, a few piecemeal studies have been carried out in regard to specific sections and services. In Madras, a Committee headed by the Chairman of the Port Trust has been constituted in 1969 to study the manpower requirements and the anticipated surplus arising from the commissioning of the fully-mechanized ore handling plant. At Cochin, programmes of manpower planning are proposed to be organized and it is reported that the port is considering efficiency studies of port operations by industrial consultants.

16.49. In view of the progressive resort to mechanized cargo handling techniques and the consequent surplus of labour, the specialized skills required for operating sophisticated equipment, etc., we urge that all the Major Port authorities devote serious thought in the perspective of the 'seventies' to the preparation of manpower plants for forecasting labour requirements and of appropriate training programmes.

(iii) Co-ordination of the agencies employing labour at the Ports

16.50. The primary function of the ports is to provide an important link in cargo transportation between the sea and the land. Cargo handling in a port comprises various operations such as discharge from the ship to the wharf, removal from the wharf to the storage points and the clearance therefrom. The output in one operation is conditioned by the pace of other operations. Indeed, no sustained increase in the overall output can be maintained without the co-ordinated efforts to ensure efficiency of working at the various stages of cargo handling. Mere improvements at the ports by way of better berthing facilities, cargo handling equipment, storage accommodation, etc., would not achieve the benefits expected of them unless the agencies engaged in the various cargo handling operations are effectively organized to promote increased productivity. One of the reasons for the employment of a large labour force at our ports is the continued use of equipment which are not of the latest or the sophisticated type. Any increase in the throughput at the ports is, therefore, directly dependent on the improved output of labour. In this Chapter we are dealing with the co-ordination of the various agencies employed in cargo handling and particularly those which regulate and control the large labour force.

16.51. The port authorities in India, besides providing the static facilities like berths, docks, quays and storage accommodation, also provide cargo handling equipment. They are also the conservancy and pilotage authorities and employers of several categories of labour. Nevertheless, quite a few services are also rendered by independent agencies each with its own complement of labour. Cargo handling on board the ship is generally the responsibility of the local agents of the ships and is usually got done by the stevedores. On the shore, the handling of cargo is done by the Port Trust labour with certain exceptions. There is, however, no uniformity in respect of the services directly rendered by the ports. Broadly speaking, they take direct responsibility on the shore for the general cargo. In respect of other cargoes, however, the practice differs from port to port. The loading and unloading from road and rail vehicles is invariably the responsibility of the consignees/consignors.

16.52. The employment of shore labour at the ports was originally done through private employers who functioned as intermediaries between the port authorities and the labour. The Royal Commission on Labour in India, 1931, recommended the introduction of a scheme of registration of labour under the direct supervision and control of the port authorities. It further recommended a re-organization of the methods of engaging and pooling labour supply with the object of providing an equitable distribution of employment among the registered workers. It also suggested the association of representatives of ship-owners, stevedores and labour in this task. However, in view of the inherent difficulties of decasualization of port labour, coupled with the methods of its recruitment, the Government and port authorities thought it better to introduce the scheme of registration of labour as a first step.

16.53. It was only in 1939 that a Draft-Scheme of Registration was drawn up with a view to regulating the supply of labour to demands. The consideration of Scheme was, however, postponed and eventually dropped in view of the conditions caused by World War II. In 1944, the Madras Port was obliged to departmentalize partially the shore labour in order to overcome the difficulties of obtaining them through contractors. The ports of Calcutta and Bombay adopted similar schemes in 1948. However, no uniformity in pattern developed in regard to either the categorization of the workers or the types of cargo handled by the port authorities. Each port pursued its own *ad hoc* policy which was largely influenced by local considerations.

16.54. Under the Dock Workers (Regulation of Employment) Act, 1948, Dock Labour Boards (D.L.Bs.) were established and charged with the administration of the provisions of the Act. The Act also provided for the formulation of Schemes for the registration of the stevedore workers at the ports, and the present pattern of employment of stevedore workers stems from these Schemes.

16.55. The other categories of labour not falling within the purview of either the Port Trust or the D.L.B. have been, by and large, casual in character and were employed directly or through contractors by the port users. However, with the emergence of bulk traffic other labour-employing agencies appeared on the scene. With the beginning of large-scale imports of foodgrains and fertilizers, the Food Corporation of India (F.C.I.) took over the handling of these cargoes. Likewise the Minerals and Metals Trading Corporation (M.M.T.C.) came into the picture in respect of shipment of iron ore and the State Trading Corporation (S.T.C.) in regard to the imports of fertilizer raw materials. The multiplicity of cargo handling agencies has resulted in the absence of an integrated approach to the problem, even as regards principal commodities. The rigidities in the present practice at Major Ports are set out in detail in Appendix IV.

16.56. There is considerable diversity of practices, besides differences in the magnitude of the labour forces employed by the principal agencies at the ports. For instance, in Calcutta, the cargo handling labour directly employed by the Port are about 9,000, whilst the registered workers with the D.L.B. and those under the Listing Schemes operated by the L.D.B. number respectively 11,500 and 5,800. The

F.I.C. also employs a small number of workers in the port. In Bombay, while the labour force connected with cargo handling by the Port Trust is about 5,800, the number employed by the F.C.I. is about 4,700 which is in excess of the registered workers coming under the D.L.B. and which amounts to 4,000. While the cargo handling labour directly employed by the Madras Port Trust are about 2,000, the registered workers under the D.L.B. are about 2,400, an equal number coming under the Listing Schemes. Over and above these, the F.C.I. is reported to be employing about 3,300.

16.57. Equally significant is the tonnage outside the purview of the Port Trust labour. This is evident especially in Bombay and Madras when we take into account the tonnage not handled by the Port Trust labour correlated to the traffic at the wharves. At Bombay, during the year 1968-69, foodgrains and other bulk imports not handled by the Port Trust labour amounted to 2.6 million tonnes, constituting about 40 per cent of traffic handled at the wharves. Similarly, in Madras, the traffic not handled by the Port Trust labour amounted to 2.7 million tonnes, constituting nearly 59 per cent of the total traffic at the wharves. Appendix V sets out the position in Bombay and Madras for the three years 1966-67 to 1968-69. Where an appreciable volume of the traffic is not handled by the Port Trust labour, the Port Trust cannot be held responsible for the effective and efficient port operations.

16.58. The main outcome of such heterogeneity of employing agencies is the rigidity with which labour operations are compartmentalized. This is apparent in the very existence of two employing organizations, namely, the Port Trust and the D.L.B. While the Port Trust workers are directly employed by the departments of the ports, the dock (stevedore) workers are registered with the D.L.B. and their services are drawn up, as and when required, by the stevedores and other registered employers. The two organizations have each an independent administrative set-up. It is not merely that there is no mobility in the employment of labour between the ship and the shore, but what is more disquieting is that these rigidities extend to even intra-port and intra-dock labour. To give an example, in the Bombay Port Trust, there are categories of labour exclusively engaged for the unloading of the export cargo arriving at the port, and another set of workers exclusively for stacking of the cased cargo. Similarly, at Visakhapatnam, the shore labour of the Port Trust is divided into two groups, one handling bags and bales and the other handling other kinds of cargo. Likewise there are several instances of intra-dock compartmentalization. At Madras, a set of workers are exclusively employed for the handling of coal on board the ship and are drawn from the listed workers with the D.L.B.; the D.L.B. registered workers deal with the other cargoes. Thus, there is little interchangeability (i) between dock and shore labour; (ii) amongst the dock labour and (iii) amongst the shore labour.

16.59. In all the Major Ports, work on the ship and on the shore are two separate functions. In both, there are further sub-groups of workers assigned to specific commodities. Owing to lack of interchangeability amongst the workers, an excessive work force is maintained at the ports, resulting inevitably in irregularity of employment and differing levels of earnings and productivity. In many cases

the shortages in the strength of the gang in one set of workers affect adversely the out-put of the others. Again, the late arrival of one set of workers at the beginning of the shift and its early breaking off at the end of the shift contributes to the idle time of other sets of workers. Added to these, are the differences in the wage payment schemes for the various categories of workers. Thus the task of fusing the activities of the multifarious agencies with the ultimate objective of enhancing productivity is indeed formidable.

16.60. The surplus labour, besides necessitating a higher degree of co-ordination, also accounts for rising costs at some of the ports. As each group of labour maintains its own reserve, the cumulative effect is a large surplus in relation to the actual requirements. With the changes in the handling methods through the installation of fast moving appliances for loading and unloading of cargoes the problem of excess labour is likely to intensify and the task of solving it becomes one of increasing urgency.

16.61. The Tripartite Expert Committee for Calcutta Docks 1969, has drawn attention to the existence of too many categories at this port for performing different jobs. As the workers are categorized for handling particular types of cargo, their employment varies with the fluctuations in the volume of traffic. Such a compartmentalization of the workers places an uneven burden on any one category of trade when its traffic declines. Under the present arrangement, a levy is realised from the registered employers including the stevedores by the D.L.B. as a percentage of the gross wages of the workers employed for working the ships. This levy is intended to meet the expenditure towards the cost of the administrative staff, wages for holidays and non-working days, etc., including the payment of guaranteed wages and amenities for the workers. An illustration of this is provided by the case of the salt trade at Calcutta. The traffic in salt has been on the decline resulting in pushing up the levy on the trade very steeply. When the salt traffic disappeared completely in recent months, there were no 'wages' on which the levy could be imposed on the registered employers, resulting in an anomalous situation. The Tripartite Committee, therefore, felt that a rationalization was needed by which workers of one category during the periods of its low traffic could be diverted for handling other cargoes where there was a larger demand for workers. Alternatively, it suggested the grouping together of workers of comparable categories to serve the requirements of similar types of commodities so that the employment levels of large sections of workers could be made uniform.

16.62. Occasional marginal surpluses of labour are not unusual in the port industry, but the matter for concern is the anomaly of pronounced surplus in certain areas of operation, concurrently with shortages in other areas. Since the call of ships fluctuates due to a variety of reasons, seasonal and otherwise, it is not always possible for the various employers to engage in full strength the workers needed to meet the peak demand; nor is it possible for them to indent for additional workers from the other groups because of the compartmentalization of the work force. The bunching of ships which is not an uncommon phenomenon and is impossible to avoid, accentuates

the problem of surplus of labour in one segment and scarcity in another. The surplus is brought out not only by the variations in the volume of traffic but also in its pattern.

16.63. In Visakhapatnam Port, we were informed that before the introduction of the Unregistered Dock Workers (Regulation of Employment) Scheme 1968, the pool of iron and steel (mechanical) labour maintained a strength to meet the demand for 10 points only. A point means a loading or unloading place on shore or yard engaging one gang. If there were two or three ships loading at a time and requiring more than 10 points they used to be left out and detained due to the shortage of labour. Another instance of shortfall of strength in one operation affecting the overall productivity could be found in the poor clearance of foodgrains from the shore at several of our ports. We, therefore, emphasize that unless all the three operations in the cycle of discharge, removal and clearance are properly dovetailed, high levels of productivity cannot be maintained.

16.64. Yet another aspect of rigidity in the labour set up is the discordant note struck by the functioning of a number of unions and the clash of interest. The under-current of discontent could arise from the dissimilarity in wage pattern and other service conditions. The absence of common incentives in some ports also contributes to this kind of feeling. For example, in respect of commodities where higher slabs of output are expected but not achieved the group of workers concerned is oblivious of the repercussions of its action on the productivity and earning capacity of other groups continuing in the same chain of operations. It is, therefore, not surprising that there is a lack of effective co-operation towards the betterment of productivity levels. Furthermore, while the spread-over of the hours of work of the shore workers covered by the provisions of the Minimum Wages Act cannot exceed 12 hours in a day, the stevedore workers can be booked to work more than one shift in a calendar day in times of need. This is one of the reasons for the piece-rate earnings of stevedore workers tending to be higher than those of the shore workers. In Calcutta, the situation is rendered even more difficult as the shore labour, employed by the Port Commissioners, are on the incentive tonnage rate whereas the workers on board the ships, continue to remain, by and large, on time rates.

16.65. The principal difficulties arising out of the present set-up for employing labour are (i) the problem of co-ordination, and (ii) proper utilization of labour force. Because of the conflicting interests of the various employing agencies and their respective labour groups, the multilateral pulls make co-ordination difficult. One of the reasons leading to idle time in cargo handling is the non-synchronization of the activities of two or more groups of labour. If one authority is charged with the responsibility of moving the cargo from the ships' holds till the point of loading on the consignees' vehicles or *vice versa* such an authority could more effectively plan the work at various stages. The cumulative effect of the deficiencies in the present system cannot be overcome except by consolidating the employing agencies and their labour groups.

16.66. It is against this background that the concept of a single employing agency with dual functions, namely, (i) to consolidate the

employment of labour and (ii) to take direct responsibility for improving productivity may be advanced. The American Team under the U.S.A.I.D. which visited the Indian ports in 1964, to report on the facilities available in regard to the handling of foodgrains, observed that "an attempt should be made to consolidate responsibility for the entire movement from vessels to wagon in one entity or upon one person. Now it is divided into four sections, with varying responsibility and pay schemes".⁹ The need for a unified agency has also been stressed in a joint study made in 1966 by the Indian Institute of Management, Calcutta, and the Management Group—Committee on Plan Projects of the Planning Commission on the problems of port management relating to Visakhapatnam. It has observed that "the multiplicity of employers and controlling bodies for dock workers necessitates close co-ordination as well as full co-operation among them. Moreover, the cargo handling operations are shared amongst them; the cargo on the ships being handled by stevedore labour employed by Dock Labour Board; the handling between the ship and the storage place is done by port labour and that between storage place and the railway wagons by labour employed by food department and private contractors. As such, need for co-ordination for each operation becomes paramount."¹⁰ The report goes on to add that "in view of the above, it is proposed that all the dock workers working in the port area may be employed by only one organization." The alignment of trade unions with specific categories of workers has brought in its wake, as earlier indicated, quite a few problems. Unification of control of labour in the port area under one agency might also encourage an integration of the different unions.

16.67. The logical choice of an unified agency could be the Port Trusts. The control of labour handling the general cargo on the shore is already with them and they could take over more easily than the D.L.B. the control of all the other workers. This would make the Port Trusts solely responsible for the port operations in their entirety.

16.68. While a unified agency would be an ideal solution, we should not overlook the difficulties of suggesting such a sweeping change. The unification of the entire labour in the port area, embracing all the categories of workers, under the aegis of one single controlling agency would be a longdrawn process and the machinery that would be required to bring about the consequential changes would have to vary from port to port.

16.69. Further, there is bound to be a strong demand from labour that the main pre-requisite for bringing all the cargo handling labour under one agency should be that employment, wages and service conditions be approximately equal. Only after this is attained and worked for some time that it would be advisable to attempt at unified control. Furthermore, the responsibility of guaranteeing minimum employment for the entire work force on a single agency would be too heavy to be undertaken immediately.

⁹ Report of the Indian Port Facilities And Cargo Handling Improvement Team U.S.A.I.D. to the Government of India (October 1964), p. 18.

¹⁰. *Ibid.* pp. 97-98.

16.70. A beginning should, however, be made to stop further additions to the existing employing agencies and simultaneously, attempts should also be made to secure a reduction in their number by bringing under the purview of the Listing Schemes, the various categories of cargo handling labour now employed by agencies other than the Port Trusts and the D.L.B. Care should, however, be taken to ensure that the strength of labour under the Listing Schemes is related to the anticipated requirements at the ports. It should be the endeavour to limit the number of agencies employing labour to two, namely, the Port Trust and the D.L.B.

16.17. We have been informed of the attempts made at Visakhapatnam under the Visakhapatnam Unregistered Dock Workers (Regulation Employment) Scheme, 1968, for the regulation of employment of all categories of labour till recently under different agencies. This scheme covers various categories of iron and steel workers, mineral and pig iron handling workers, workers employed by the steamer agents, clearing agents, etc., other than the Port Trust's shore labour. The principal objectives of this Scheme are to ensure adequate supply and stability of employment of the dock workers, the economic turn-round of vessels and the speedy transit of the cargo through the port. The Scheme provides for clubbing together of certain types of dock work in its sub-categories as also the interchangeability of labour from one section to another and meeting the requirements for labour even outside the sub-categories. The Port Trust is also listed as an employer for its additional requirements of labour.

16.72. The Scheme, it is reported, has worked satisfactorily since its inception. As against the disabilities experienced earlier, to supply labour for iron and steel handling at more than 10 points, it has been possible to supply workers even upto 18 points by drafting the workers of the mineral wagon unloading section on to the iron and steel section. This brought about mobility in the various categories of employees. For example, in the past when there was a peak requirement of tally clerks on board a vessel under the registered scheme, the indents could not be met. However, under the new Scheme, the listed tally clerks of the iron and steel section are utilized for other work on board the vessels whenever the occasion so demands. We believe that this Scheme opens up possibilities for similar experiments at other ports.

16.73. An important matter of some significance is the role of private stevedores. We have observed that far too many stevedores function at the Major Ports than appear to be necessary for the efficient handling of cargo. Calcutta Port, for instance has as many as 30 registered and 66 listed stevedores. In Bombay there are 20 registered and 2 listed stevedores, in addition to 23 registered employers of chipping and painting workers. At Madras, there are about 11 stevedores and 20 listed stevedores. Cochin, Visakhapatnam and Mormugao have each 11 or 12 registered stevedores. It has led to a number of serious defects and deficiencies, such as inadequate supervision, lack of suitably qualified personnel and failure to provide the necessary handling gear and equipment and their disinclination to invest capital in such equipment. There is need to overhaul the present functioning and regulation of stevedores and we are informed that Government of India is already seized of this matter.

16.74. In this connection, it may be noted that the stevedores themselves are not in favour of increasing their numbers. The representatives of stevedores at Bombay informed us that their ability to function effectively was more important than a mere increase in number. They were in favour of reducing their number by mergers which would make them economically viable. A similar situation was in existence in some of the Western countries where the number of stevedoring firms were reduced through a process of rationalization and consolidation mainly because of the need to make heavy investments in mechanized cargo handling equipment. In the New York Harbour, for instance, the number of stevedoring firms declined from 40 in the late 'fifties' to about 5 at present. In India, however, the question of making capital investments in mechanical equipment by the stevedores is closely linked with their future role and their continued functioning in the private sector. The stevedores at Bombay represented to us that it would be difficult for them to decide on their investment programmes in view of the element of uncertainty. The hesitancy on the part of the stevedores was also commented upon by the International Association for Ports and Harbours (I.A.P.H.) in its Study Team Report on Major Ports of India, 1968. We trust the Government will take an early decision in this matter.

16.75. Another aspect to which we would call attention relates to the employment of monthly paid workers by the stevedores. The basic idea behind the Dock Workers (Regulation of Employment) Schemes was to bring about complete decasualization through regularization of employment. In actual practice, however, the strength of monthly paid workers with the stevedores has not registered any increase over the year. In fact it has gradually declined. In Calcutta it is reported that the number of monthly paid workers with the stevedores declined from 3,000 in 1953-54 to less than 900 in 1968-69. In Bombay, however, the number of monthly paid staff employed by the stevedores during the last decade appears to have fluctuated between 750 and 900.

16.76. The deficiencies in the present system of stevedoring activities require, in our opinion, quick remedial measures. The first is to scrutinize the present strength of the stevedores at the ports and the need for allowing fresh entrants into the field. Already some of the Major Ports impose certain conditions for admitting new entrants. For example, at the ports of Bombay and Madras parties applying for the grant of stevedoring licence are required to furnish proof of their ability to undertake this work, their financial standing, their ability to meet liabilities and to compensate workmen whenever necessary and that ship-owners or their agents are willing to engage their services. Similarly, at the Cochin port, factors like the total tonnage handled by the stevedores, and the general level of stevedoring in the port, are considered before admitting new entrants. The Commission is not satisfied with the effectiveness of the present exercise of the scrutiny made by the port authorities.

16.77. Besides the restriction of fresh entrants into stevedoring business, there is also the need to screen the existing stevedores closely to ensure that the number is consistent with the needs of a particular port. This may be done by prescribing definite standards

to which a stevedores must conform for his continuance on the register, namely, the quality and quantum of work, the availability of resources in men and material, etc. As a general rule, at all the Major Ports, the stevedores registered and licenced by the Port Trust are those who worked as stevedores when the Dock Workers (Regulation of Employment) Scheme came into operation or worked for two years preceding the Scheme at the port concerned. At present, some ports have laid down certain standards for the renewal of the stevedoring licence such as the possession of minimum handling gear, the strength of permanent employees, and the minimum tonnage handled. The need to adhere to these regulations has also been emphasized by the Tripartite Expert Committee for Calcutta Docks. It observed that in the Calcutta Port, the majority of the stevedores seemed to function as mere middlemen rather than as stevedores. In the light of the recommendations of this Committee, the Government of India has prepared a Draft Scheme for the regulation of the private stevedores at the Calcutta Port. The Scheme lays down that a minimum of 75 per cent of the total requirement of the work force by the trade should be on the monthly register of employers within two years of this Scheme being put into effect. We commend that similar schemes be evolved for adoption at the other Major Ports as well.

CHAPTER 17

EX GRATIA PAYMENT TO PORT EMPLOYEES

The terms of reference to the Major Ports Commission include an item which runs as follows—

“To consider the capacity of the ports to enhance the current rate of *ex gratia* payment.”

Though under the Payment of Bonus Act, 1965, ports were specifically excluded from the operation of the said Act, the Government of India, by an agreement with the labour, approved the *ex gratia* payment of four per cent of salary or wage for the financial year 1965-66 to the Port Trust employees. This benefit was extended to Class I and Class II officers under certain conditions from the accounting year 1966-67. The *ex gratia* payment has been continued.

17.2. The assessment of the capacity of the ports to enhance the current rate of *ex gratia* payment at four per cent was to be made in the light of a variety of factors, such as the development programmes of ports, with special reference to the changing shipping and port technology, the national needs, the management, finance and personnel of the Major Ports and their methods of working.

17.3. Considerable interest was evinced by the representatives of various interests whom we interviewed, during our visits to all the Major Ports, on this question of *ex gratia* payment and we have received several memoranda on the subject. There were some who opposed the very idea of payment of any kind of *ex gratia* to port employees. They questioned its needs from a rather legalistic point of view. There were others who opposed it on the ground that the Port Trusts were service organizations and not profit-making bodies. The Federation of Association of Stevedores, Bombay, in its memorandum forcefully argued that the exemptions in the Payment of Bonus Act, particularly those in Section 32, as applicable to the Port Trusts were provided with the deliberate intention of not subjecting such establishments to the burden of bonus since they were run without any profit motive and were for public benefit.

17.4. Shri A. Ramaswami Mudaliar, who tendered evidence before us representing the Indian Shipowners' Association and also followed it up with a memorandum, argued that “the port is not like other commercial organizations working for a profit. While I advocate ordinary commercial practice to be adopted by the ports in their management and working.....there should not normally arise any question of being left with any allocable surplus for payment of *ex gratia* to the port employees.” He added that as the Port Trusts were now making *ex gratia* payments it would be necessary to continue with them but the rate of *ex gratia* payments should not exceed four per cent.

17.5. A view was canvassed by the Bombay Port Trust that the payment of bonus should be linked to "productivity, performance and efficiency" of labour. Serious difficulties were, however, envisaged in evolving a scheme of linking bonus to productivity and they were extensively dealt with by the Bonus Commission itself in its Report (1964). The Bonus Commission stated:

"In view of the objections to the proposal by large sections of employers as well as by almost all unions and the practical difficulties inherent in any such proposal, we are unable to recommend that the concept of bonus based on profits should be replaced by an annual bonus linked with production or productivity. It is doubtless true that properly devised incentive systems in manufacturing concerns form a useful part of the wage structure and would help to increase production; but they cannot be suggested as a substitute to replace the annual profit sharing bonus."

These observations apply with equal force to the ports.

17.6. The representatives of labour have urged before us that, precisely because the ports were not run as commercial institutions they were rendering many of the services below cost and, therefore, in their opinion a minimum *ex gratia* payment of 20 per cent of the wages should be paid to the port workers. The All India Trade Union Congress and Port, Dock and Waterfront Workers' Federation of India stated in a joint memorandum that "with the peculiar accounting procedure followed in ports, it is also difficult to evolve a formula immediately until and unless the accounting procedures are rationalized." They added that "our organizations would, therefore, submit that the Commission should make a recommendation providing for 20 per cent of annual earnings as the *ex gratia* payment, as an interim arrangement, until a formula can be evolved through bipartite talks later on..." They also urged that the *ex gratia* payments should not be dependent on the surplus generated by the various ports. A special impost, on the basis of tonnage, was suggested to be levied on all the cargo handled at the ports, on the analogy of what was being paid to the dock workers. A view was also canvassed by the representatives of the National Union of Waterfront Workers at Calcutta and echoed by the Goa Dock Labour Union that the *ex gratia* payable to port employees should be based on the bonus declared by the shipping companies to their employees. The argument ran that the port being a service organisation and lacking profit motive, the *ex gratia* to be paid to the port employees should be based on the profits generated by the principal user of the port, namely, the shipping companies.

17.7. We are unable to countenance the suggestion of a predetermined *ex gratia* percentage or the levy of a special cess on the cargo handled at the ports. There is some force in the contention that the rating policy in some of the ports has not been evolved on a rational or economic basis or correlated to the value of the commodities or the capacity of the traffic to bear. But, in our view, it is not a sufficient argument for accepting the suggestion that a predetermined rate of *ex gratia* payment be made irrespective of the capacity

of the port to pay it. We are also unable to accept the other suggestion that the *ex gratia* payment to the port workers should be related to the bonus paid by the principal user of the port, namely, the shipping companies to their employees.

17.8. We are not also able to agree with the view that, because of the peculiar functioning of the Port Trusts, the *ex gratia* should be frozen at the current rate of four per cent. Apart from the terms of reference requiring us to assess the capacity of the ports to pay enhanced *ex gratia*, we wish to evolve a scheme for the payment of *ex gratia* linked to the financial working of the ports. Differing rates of *ex gratia* payments, related to the surpluses earned by the ports from year to year, will thus become inevitable.

17.9. There was another suggestion before the Commission, namely, that the divisible surpluses of all the Major Ports should be pooled and the workers paid a uniform *ex gratia* at all the Major Ports. But we came to the conclusion that, since each port was a separate legal entity, it would not be possible to create a fund for all the ports out of which *ex gratia* payments could be distributed. Besides, the operating results of the ports varied with the volume and composition of traffic and the financial results of each one would correspondingly differ.

17.10. For ascertaining the capacity of the ports to make *ex gratia* payments and evolving an appropriate scheme thereof, we looked to the Payment of Bonus Act for guidance. The legislation was the outcome of a detailed study made by the Bonus Commission which was set up as a tripartite body by the Government of India with wide terms of reference. The Bonus Act takes into account various obligations which industry has to discharge by way of depreciation, statutory reserves, taxation, dividends, etc., and has provided a basis for ascertainment of the divisible surplus between the shareholders, the institution and the labour. The Act was amended in January 1969 and, as a result, the available surplus for bonus payment was further enlarged. The National Commission on Labour which recently completed its labours came to the conclusion that the Payment of Bonus Act as amended should be given a longer period of trial before making any further changes in it.

17.11. Though our initial reaction was to make the Payment of Bonus Act applicable *in toto* to the Port Trusts, we came across a number of considerations which would render such an application difficult. One such consideration was that the port accounts, till recently, were not drawn up on identical basis, and interport comparisons were, therefore, difficult to make as discussed in Chapter 7. Further, the principles of commercial accounting, including the drawing up of a profit and loss account, have not been followed by the Port Trusts, until very recently. Another consideration was that unlike in the case of commercial undertakings, port developments are largely financed by loans from Government and they impose upon the Port Trusts the obligations for servicing the loans. Further, calculation of bonus under the Act is based on a number of assumptions which are inapplicable in the case of Port Trusts such as return of

8.5 per cent on equity, provision of development rebate, etc. Moreover, the ports are not liable to pay income tax unlike other commercial organizations, which is a permissible deduction under the Bonus Act in the calculation of available surplus.

17.12. Though we have come to the conclusion that the Bonus Act formula *per se* does not furnish us an appropriate basis for determining the capacity of the ports to make *ex gratia* payments, we have nevertheless endeavoured to keep in mind those basic principles in the Bonus Act which are capable of being applied to the ports. The ports' capacity to make *ex gratia* payments worked out on the basis of the Bonus Act (including the calculations of the national income tax) is, however, given in Appendix I.

17.13. Four members of the Commission have suggested an alternative formula for the payment of *ex gratia* to the port employees. They are of the view that *ex gratia* payment should be related to the total tonnage of cargo handled at the ports during an accounting year and not to their operational results. They have suggested this formula for two reasons, (i) that there should be a uniformity in the method of bonus calculated for both the port and dock workers and (ii) the financial working of the ports is such that sufficient surpluses are unlikely to be available for payment of *ex gratia* above the minimum level of four per cent on the basis of the Commission's formula relating to capital employed which is dealt with in para 17.21.

17.14. They have pointed out that the registered dock workers at Bombay have been in receipt of bonus since the year 1949 as a result of an agreement between the Transport and Dock Workers' Union, Bombay and the Bombay Stevedoring Association Limited. When it was introduced, the payments were made on an *ad hoc* basis at Rs. 10, Rs. 40 and Rs. 50 per head respectively to the different categories of workmen. From the year 1955 onwards, the payment of bonus has been linked to the tonnage handled by the workers and the rate per tonne is settled from time to time by negotiation between the employers (Stevedoring Association) and the employees (the Union). The amount is collected by the Dock Labour Board as a specific contribution from the stevedores. In this context, the four members have stressed the need for uniformity in wages, conditions of service, etc., of the port and dock workers of the Major Ports as they are engaged in work of a similar nature and are sharing several common benefits including incentive schemes. In their view, therefore, a uniform scheme for *ex gratia* was highly desirable.

17.15. They have also referred to many of the ports rendering several services below cost and the lack of uniformity in the accounting procedure. There have been considerable variations in the past at the ports in respect of capital financing, provisions for replacement, repayments of loans, etc. As many ports have undertaken considerable expansion and modernization programmes, they apprehend that it would be difficult for the ports to achieve the target of a minimum return of 12 per cent on the capital employed. They have also added that even the three ports (namely Cochin, Visakhapatnam and Mormugao) which would have the capacity to pay *ex gratia* above the minimum of four per cent might not be in a position to make this

payment in future after completing their expansion and modernization programmes.

17.16 The details of the formula suggested by these members are set out below—

- (i) for each accounting year, the total amount of *ex gratia* payment to be made by each port authority to their employees should be at the rate agreed upon by negotiation at port levels on the basis of the dead-weight tonne of cargo handled by the workers. The handling should include all handlings, each operation being separately accounted for and included in the total cargo tonnage handled, as in the case of the stevedoring labour at the port of Bombay;
- (ii) the amount arrived at under (i) above, should be pooled and to it should be added the sum of money arrived at by multiplying the tonnage of all cargo mechanically handled including petroleum, oil in bulk and bunder, Inland Vessels Wharves traffic and cargo stored in the yards, dumps and warehouses of each port;
- (iii) the amount arrived at in (i) and (ii) above should be distributed to the employees on the basis of percentage of wages earned by each employee during the accounting year. The definition of wages would remain, as at present, for this purpose; and
- (iv) the payment of *ex gratia* would be subject to a minimum of four per cent of the gross wages in vogue at present.

17.17. Whilst the payment of *ex gratia* linked to the volume of traffic handled at the port has the merit of simplicity, it suffers from quite a few infirmities. In the terms of reference, the Commission has been asked to assess the capacity of the ports to increase the current rate of *ex gratia* payment of four per cent. The majority of the members of the Commission are of the view that the capacity of the ports to pay a higher *ex gratia* than four per cent could only be related to the availability or otherwise of the surpluses after providing for working expenses, depreciation, interest and a reasonable provision for reserves and repayment of loans. The mere volume of cargo handled in a port is by no means an index or guarantee of a financial surplus; handling of low rated commodities, for example, might actually leave the ports with a deficit in their working.

17.18. Further, in the case of dock workers, a substantial majority of them is connected directly with cargo handling. This is, however, not the case with the employees of the Port Trusts. The Bombay Port Trust pointed out that the tonnage formula adopted by the stevedores for the payment of bonus applied to about 6,000 workers—4,500 directly concerned with the loading and unloading of cargoes and about 1,500 of other categories of workers. On the contrary, in the Bombay Port Trust the number of employees directly concerned

with the handling of cargo is hardly about 6,500 out of total complement of over 30,000. Also, the cargo handled by the port and dock workers is not identical. At some ports commodities like dry bulk cargoes, which are not handled by the port workers do, however, constitute a sizeable segment of the traffic and to apply to the majority of port employees, who are not connected with cargo handling at all, a basis of payment related to tonnage handled would not only be inappropriate but might place too heavy a burden on the ports' finances.

17.19. The extreme difficulty in making precise calculations of the profits of stevedore operations of stevedores and the bonus due to the individual dock worker who works in rotation with the different stevedores may provide an explanation for the adoption of the tonnage formula for the stevedore workers but it is not so in the case of Port Trust employees. The Bonus Commission had also considered this issue and came to the conclusion that stevedore labour should not *per se* be ineligible for bonus but, at the same time, in view of the difficulties in separating the profit in stevedoring, from other lines of business, it endorsed the prevailing practice of a tonnage basis payment evolved by negotiations between the Bombay Stevedores' Association and the Transport and Dock Workers' Union. The Bonus Commission also added. "We are clear that our general formula would be inapplicable; so also any system of minimum and maximum bonus" and recommended the extension of the bonus pool system for stevedoring labour as prevalent in Bombay to the other ports. But whereas in the case of ports, we are in a position to ascertain the surplus after providing for the normal obligations, it will not be logical to extend the tonnage formula for the payment of *ex gratia* to port employees. The tonnage formula, therefore, does not commend itself to us for the determination of *ex gratia* payment to the port employees. However, as four members of the Commission have proposed the tonnage formula, we are bringing it to the notice of the Government of India.

17.20. Our formula for assessing the capacity of ports to make the *ex gratia* payment takes note of all the financial obligations cast on the Port Trusts and making adequate provision for them and suggests that the surplus, if any, should be divided between employees and Port Trusts in the ratio of 60:40. In our view, the return of 12 per cent on capital employed after providing for depreciation on historical cost, is the minimum necessary for a port to meet its normal obligations. It broadly corresponds to the sums deductible as prior charges from the gross profits of an industrial undertaking as mentioned in Section 6 of the Payment of Bonus Act.

17.21. According to our formula, first the working expenses should be deducted from the gross earnings, to arrive at the gross surplus. Then out of the gross surplus, provision should be made for depreciation calculated on the straight-line method on the historical cost of the assets and 12 per cent return on capital employed to arrive at the available surplus. The available surplus should then be shared between the employees and the port in the ratio of 60 : 40. If, according to the above calculation, there is no available surplus

the port shall make the minimum *ex gratia* payment of four per cent to its employees. Our formula is thus as follows—

1. Gross earnings.
2. Less working expenses.
3. Gross surplus
4. Less
 - (a) Annual depreciation on historical cost.
 - (b) 12 per cent return on capital employed.
5. Available surplus.
6. Share of employees : 60 per cent of (5).
7. Share of port : 40 per cent of (5).

In the chapter on "Terms of Government Lending to Ports", we have recommended that the Government of India should provide an outright grant to the tune of 20 per cent of the cost of civil works in certain circumstances. We have also laid down in that chapter that the grant portion is expected to earn a return only of five per cent. For the purpose of calculating the available surplus for the payment of *ex gratia* the same basis should be adopted in so far as the grant portion is concerned.

17.22. It would be clear from our formula that no deduction should be made either in respect of income tax or development rebate or development allowance in arriving at the available surplus. The categories of employees eligible for *ex gratia*, the basis for the computation of the wages, provision for set-on and set-off etc., would be governed by the provision of the Payment of Bonus Act.

17.23. In assessing the capacity of the ports to make *ex gratia* payment, it was argued by some of the interests affected that those activities which are not directly connected with the ports' operations should be excluded from the purview of the *ex gratia* payment. For example, it was argued that the maintenance of the estate was not a part of a port's operations and, therefore, along with other non-operating transactions, the income therefrom should be excluded from the *ex gratia* calculation. Similarly, the demurrage charges recovered by the ports did not, according to them, constitute a regular and permanent source of income of the port and should be excluded in arriving at the return on capital. The Commission is unable to subscribe to these views. It would be difficult to dissect the various activities at the ports and the services rendered by them to arrive at the dubious conclusion that only some of the ports' services or activities are essential for their working and not the others. In the Commission's view all the operations of the ports should be treated in their totality and the financial results thereof viewed as a composite entity. It may be noted that the Supreme Court has observed in the case of Associated Cement Companies Limited vs. their workmen,¹ "where the employer makes profits in the course of carrying on trade and business, it would be unreasonable to enquire whether each one of the items of said profits is related to the contribution made by the labour."

¹ 1959 ILLJ pp. 644—82.

17.24. As mentioned earlier the Major Ports have switched over to the new accounting system with effect from 1 April 1969 and their audited accounts for 1969-70 are not available. The Commission has, therefore, attempted recast of the accounts of the ports for the year 1967-68 on the principles of commercial accounting to determine the return on capital at each of the ports. The details of the gross and available surpluses, the quantum of *ex gratia* payable, etc., are set out in Appendices II and III.

17.25. It remains for the Commission to recommend the date from which the *ex gratia* payments should be given effect to. The Commission was constituted on 14, February 1968, that is, during the accounting year 1967-68 and we have drawn up the accounts as for the accounting year 1967-68. The Commission recommends its proposal be given effect to from the accounting year 1967-68.

17.26. The Commission would here like to refer to the suggestion made by the members of the Commission associated with port and dock labour as also from the representatives of trade unions who appeared before it that the terminology "*ex gratia*" be substituted by "bonus". Since the terms of reference to the Commission use the terminology "*ex gratia*", the Commission does not feel called upon to make any recommendation in this behalf.

CHAPTER 18

MAIN CONCLUSIONS AND RECOMMENDATIONS

CHAPTER 4—Traffic projections

1. The capital intensive nature, long period of construction and the comparative durability of port facilities call for a realistic assessment of the growth of traffic in different commodities at various ports in India at least in the next 15 to 20 years. Tables given below indicate the projected growth of traffic at the Major Ports in 1973-74 and 1985-86 worked out by the Planning Commission and the Director, Transport Research, Ministry of Shipping and Transport respectively.

TABLE 1

(In million tonnes)

Year	Cal- cutta	Bom- bay	Mad- ras	Co- chin	Visa- khapat- nam	Kan- dla	Mor- mugao	Para- dip	Man- ga- lore	Tuti- corin	Total
1968-69	.. 7.95	16.40	5.38	5.19	8.12	2.04	8.78	1.24	..	..	55.10
1973-74	.. 14.64	17.11	8.55	5.65	10.35	2.65	10.58	4.20	1.35	1.60	76.68
1985-86	.. 45.01	31.90	16.22	11.33	25.14	25.47	13.32	10.88	16.25	7.43	202.95

TABLE 2

(In million tonnes)

Years	etroleum- products	Iron ore	Coal	Fertilizers including raw materials	Food grains	Others	Total
1968-69	17.95	15.08	1.00	3.73	4.95	12.39	55.10
1973-74	.. 23.67	25.50	1.80	6.71	1.00	18.00	76.68
1985-86	.. 58.75	45.00	22.00	36.93	Nil	60.67	223.351

¹ Includes 20.40 million tonnes of traffic to be handled at the ports of Porbunder, Okha/ Mithapur and Salaya.

Para 4.1 & Tables 1, 2 and 4

CHAPTER 5—*Utilization of port facilities*

2. In Indian ports berth occupancy in some cases is as high as 95 per cent to 97 per cent which creates numerous problems. The high rate of occupancy has resulted in considerable waiting for ships in the stream, neglect of maintenance dredging at the berths and the delays in the sheds. Noting that the standing charges for the vessels range from Rs. 10,000 to Rs. 18,800 per day, it will be realized how expensive it is for a ship to be detained at our ports and how much the detention charges go towards increasing the freights of our foreign trades.

5.8 and 5.9

3. The gradual introduction of the bigger and more modern ships for carriage of general cargo might will reduce the number of available berths and also affect the quay space. The consequent reduction in berthing capacity needs to be off-set by improvements in the cargo handling methods.

5.10

4. Although there has been a significant rise in traffic in bulk cargo which constituted 78 per cent of the total traffic in 1968-69, adequate facilities were not created for the loading and unloading of increasing quantities of bulk cargo, commensurate with the size of ships. The ports used the general cargo berths for handling imported bulk cargo like foodgrains and fertilizers which resulted in reduced availability of berths for other cargo and led to an abnormal detention of the ships at the ports. To avoid such detentions in future, there is an urgent need to put in specialized bulk cargo handling facilities at all the ports where traffic forecasts indicate the need for them. It must be ensured that the speed of loading/unloading cargo through mechanical equipment is adequate and comparable to those in use in the more advanced countries. Specialized deep water berths are under construction in various ports and they should be completed as early as possible so that the cargo handling capacity is substantially improved.

5.12 and 5.13

5. The size of ships for coastal bulk cargo, such as salt, coal and oil is likely to increase in future as the older coastal ships are replaced by more modern ones. It should be ensured that both the loading and unloading ports have the necessary and matching facilities. As an interim measure, the Commission recommends that all ships which are acquired for the coastal coal/salt traffic are equipped with structure in the light of technological developments.

5.14

6. The average rate of general cargo loading/unloading at Indian Ports compares unfavourably with their counterparts in the western countries. For improving the average rate of handling, it is essential that suitable incentive piece-rate schemes should be introduced for cargo handling workers at all the ports wherever they do

not exist at present. Further, the ports should be equipped with suitable mechanical equipment to aid the workers as indicated below—

- (i) the large use of forklift trucks in conjunction with suitable pallets for cased and bagged cargo; ,
- (ii) to use high capacity shore cranes and portable or mobile cranes for slinging and unitizing items like steel in order to increase the perhook load;
- (iii) to bring into use suitable machines like pneumatic equipment front-end loader (pay loader) with a bucket for handling parcel loads and bulk cargoes.

5.15

7. For ensuring the speedy clearance of import cargo, the recommendations contained in the Report of the Study Team on Clearance of Cargo (April 1967) should be actively pursued.

5.17

8. In view of the considerable increase in road deliveries from the ports, the Port Authorities should examine the question of improving the road facilities by widening the existing roads and providing new ones and suitable parking areas for the trucks in the interest of a quicker clearance of the cargo as also of improved arrivals in the docks of the goods meant for export.

5.18

9. The Commission recommends that definite dates should be fixed for every ship for opening and closing of exports taking into consideration the nature of the cargo, the frequency of the calling of ships and shipping space and punitive charges levied for defaulters. The Commission further invites the attention of the Jute Commissioner, the industry and the Ministry of Foreign Trade to the undesirable practice prevailing in the shipment of gunnies towards the end of the month, which leads to a temporary congestion in the transit sheds, a scramble for shipping space and loss of exports by the shutting out of cargo. All these parties should sit together and modify the pattern of shipment. Every impediment to our export trade should be removed as early as possible in the interest of ensuring quicker turn-round of ships and promoting larger exports.

5.19

10. Because of technical changes in shipping and in cargo handling methods, it is necessary that wherever possible the existing transit sheds should be modified and redesigned so as to have a minimum number of columns and proper floor space to enable free movement of forklifts.

5.20

11. The warehouses which are being provided at considerable capital cost should be made full use of and economic rents charged.

5.21

12. In view of the high cost of installing and operating quay cranes, we recommend that our ports should also get away from the practice of using cranes and go over to using more mobile equipment.

However, for high loads per hook and for handling unitized loads of bigger weights which cannot be lifted by derricks or carried by forklifts, shore cranes would still be useful, but their number should be strictly limited. In many ports, particularly where heavy engineering goods are handled in large quantities, it would be advisable to equip a selected number of berths with a few cranes of capacities between 15 and 20 tonnes. 5.24

13. The Study-group has given a general indication of the additional mobile equipment required by the ports during the Fourth Plan. The Commission trusts that the ports will implement these recommendations to the fullest extent possible. Owing to the time taken on repairs and maintenance of the mechanized equipment at the ports, the percentage of available equipment works out on an average to about 66 $\frac{2}{3}$ which requires a detailed probe by the Port Authorities. In fact, if a system of pre-maintenance check was established at all the ports, a good deal of the equipment could be kept in good condition and breakdowns avoided. 5.26

14. Even after taking all the factors into consideration, the performance of some of the dredgers is far from satisfactory even though the number of days utilized may appear to be satisfactory. Since dredgers are very costly equipment and expensive to operate, it should be ensured that a maximum output is obtained from them. The Commission, therefore, recommends—

- (i) the maintenance of detailed information of dredging work and their analysis;
- (ii) the utilization of dredging fleet on round-the-clock basis or at least on a two-shift basis which would have the effect of raising the output of the dredgers and also bring down the unit cost of dredging;
- (iii) the adoption of uniform manning scales for dredgers;
- (iv) avoidance of delay in procuring the spare parts; and
- (v) to overhaul the system of training so that officers with adequate knowledge and experience of modern methods of dredging and of different types of dredgers are employed on the dredgers and a refresher course in intensive training for a period of at least three months for existing dredging staff.

5.31 to 5.34

15. The practice of keeping tugs idle one day every week to permit a weekly holiday to the crew should be discontinued by engaging relieving crews so that the tugs could be utilized throughout the week. 5.35

CHAPTER 6—Ports modernization and expansion programmes and containerization

(i) Ports modernization and expansion programmes

16. Bulk cargoes comprising P.O.L., iron ore, coal, foodgrains and fertilizers (including raw materials) constitute more than three-fourth of the trade handled at the Major Ports in India. The bigger tankers and bulk carriers, due to economies of scale, have both lesser capital and reduced operating costs per tonne. There has, therefore, been a trend to acquire large-sized tankers and bulk carriers.

6.2

17. As traffic in P.O.L. is expected to increase from 17.95 million tonnes in 1968-69 to 23.67 million tonnes in 1973-74 and the import of crude oil may be of the order of 37.5 million tonnes by 1980-81, right type of port facilities for handling mineral oil traffic should be provided at various Major Ports taking into consideration their cost and also the investments required in other infra-structure such as storage facilities, internal transportation, etc.

6.4, and 6.6

18. In regard to the economies of scale in size of the ships and loading equipment, it is gathered that a four-fold increase in the bulk carriers from 10,000 d.w.t. to 40,000 d.w.t. or equally from 15,000 d.w.t. to 60,000 d.w.t. brings about a fall of approximately 40 per cent in the capital cost per d.w.t. In addition, operating cost of bulk carriers also falls as large ships are used. The traffic in iron ore exports, which is expected to be of the order of 25.5 million tonnes by 1973-74, will constitute 33 per cent of the total traffic and 48 per cent of the total dry cargo traffic expected in that year. It must be ensured that we are not priced out in our export markets by our competitors. Immediate steps should be taken to lower the ocean freight of India's iron ore exports by the employment of large sized ships and by providing deep drafted ports to enable our iron ore to compete effectively in overseas markets.

6.10 and 6.14

19. In order to ensure the return on the investment made by the Port Authorities in providing the specialized facilities, the user organizations should assure a minimum traffic. In this connection, the Commission was informed that an agreement was signed by the Coromandel Fertilizers Limited with the Visakhapatnam Port Trust in December 1964 for the construction of a deep draft berth for discharging imported fertilizer raw-materials for which the firm guaranteed minimum wharfage on 2.1 lakh tonnes per annum. The Commission recommends that the State Trading Corporation, the Minerals and Metals Trading Corporation, Food Corporation of India, etc., should particularly take steps to enter into similar arrangements with the Port Authorities in respect of commodities highly suited for handling at earmarked berths.

6.19

20. Break-bulk loading of general cargo at the port of origin necessitates break-bulk unloading at the port of destination and this fact together with high labour and stevedoring cost in the developed

countries, on whose markets our exports predominantly depend, make for high freight rates. This necessitates improvement in handling rates of general cargo in Indian ports, particularly at the ports where a considerable volume of general cargo is handled. The improvement in handling rates could be achieved only by utilization and mechanized handling. Steps in this direction should be taken urgently in view of the considerable increase in general cargo traffic which is expected in the next five to ten years.

6.21

21. Palletization, which is an 'intermediate technology', improves the stowage rates in the ship's hold by permitting block stowage; it also permits dunnage work being done while stowing is in progress. Since the investment required in palletization and also the displacement of the labour are far smaller than in other forms of mechanization, the commodities which are eminently suited for palletization should be palletized. However, for making palletization an economic proposition, the railways must provide wagons with sufficient wide boards to cater to originating/destination traffic. The additional forklifts required by the Port Authorities to introduce palletization should be acquired by them as early as possible.

6.22 and 6.23

22. The commodities packed in bales such as cotton, wool, jute, etc., and those packed in bundles such as iron and steel, bars rods, angles, rails etc., are most suited for pre-slinging. Although pre-slinging does not result in any significant advantage in the port of loading, it significantly increases the rate of discharge and thus reduces the overall cost of transportation. The Commission, accordingly, recommends the pre-slinging of suitable commodities.

6.24

23. As the cost of providing new facilities has become prohibitive, it is very essential that before providing any new facilities a detailed cost benefit study is undertaken.

6.26

(ii) Containerization

24. Containerization exploits the ultimate principles of the unitized load system to provide faster, safer, more economical door-to-door delivery. The main advantages flowing from containerization are rational cargo handling, easy storage, minimization of pilferage and damage to the cargo and ultimate reduction of the over-all cost of transportation.

6.27

25. Apart from the economies of container operations which have been established it would be very essential to provide container facilities at least on one port each on the east and west coasts of India so as to be in consonance with the world trend. Haldia on the east coast and Bombay (Nhava-Sheva) on the west coast should be developed immediately as full-fledged container ports with all modern facilities.

As regards the provision of full-fledged container facilities at other ports they should be undertaken only after a detailed cost-benefit analysis is made and the investment justified on merit.

6.34 and 6.35

26. Only when fully containerized ships are handled at our ports, the unit demand for cargo handling labour *per se* would go down significantly. But then the redundant labour could be expected to be absorbed in stuffing and unstuffing the containers in the port premises itself which is the practice in respect of a substantial portion of the containers handled at the foreign ports. Moreover, the projected growth in general cargo at the Major Ports would be of such dimensions that the existing levels of employment would hardly be affected. There would also be cargo left over that will be continued to be handled as break-bulk which would create additional job opportunities at the ports. Further, the skilled jobs for drivers for straddle carriers, loaders, gantry cranes, etc., would be created in a large number providing for higher earnings by the workers. The Commission is confident that the labour would extend utmost cooperation in the provision of full-fledged container facilities and that labour and management would be willing to resolve the social problems that may arise consequent on the introduction of containerization. The principles we have laid down for the close involvement of labour in the introduction of new technological steps, the sharing of the gains of productivity, schemes for voluntary retirement, etc., would apply to this sphere also.

6.37 and 6.38

CHAPTER 7— *Port finances and accounts*

27. The ports' accounts disclose a wide variety of practices in their financial and accounting procedures which rendered the task of comparison of financial results of one port with another particularly difficult.

7.3

28. Although the Revenue and Capital Accounts provide for a detailed analysis of expenditure the information not being classified on a functional basis, rendered difficult the ascertainment of actual costs of providing the different services of the ports.

7.4

29. The policy followed in making the annual provision for depreciation had hardly any uniformity; nor was the procedure systematic. The financial statements for these reasons did not reflect the true state of affairs of the ports.

7.11

30. An unrealistic picture of the finances of the ports also resulted from the practice of the ports to work out surplus or deficits of a year after charging to it capital expenditure, loan repayments and *ad hoc*

contributions to various funds and reserves, as also the adoption of different yardsticks in regard to life of the assets and the limit of expenditure for allocation between the assets and the limit of expenditure for allocation between Capital and Revenue.

7.12

31. The funds for Capital Base in the ports have been drawn from four principal sources, namely, loans advanced by Government, external loans, debentures and self-financing. The extent to which the ports have resorted to these different sources shows great variations.

7.15 and 7.16

32. Prior to the Five Year Plans the older ports depended mostly on their internal resources and market borrowings. The ports which came later did not hold the same attractions to the capital market and were necessarily dependent on Government for funds for development. With the commencement of the Five Year Plans the most important source has been the internal resources of the ports themselves with loans from Government of India next in magnitude.

7.17

33. The ports have practically given up market borrowings for development and have relied increasingly on Government loans. Future development of ports should normally be financed to a large extent by their internal resources and market borrowings, and the views of the Committee on Transport Policy and Co-ordination on this aspect are endorsed.

7.25

34. The Major Ports have not followed any uniform policy in regard to their Reserve Funds. The Reserve Funds were maintained by *ad hoc* contributions from year to year. This applies also to the Renewals and Replacement Funds for which at least a more systematic procedure would have been expected to be followed.

7.28

35. The Commission would stress the need for evolving a uniform and systematic policy in respect of the contributions to, and the utilization of, the balances in the Reserve Funds.

7.29

36. Investment of reserves outside the port should not exceed 25 per cent of its capital employed at any given time and the surplus, if any, should be utilized for port development, relief to port users and welfare amenities to the labour, etc.

7.30

37. The implications of charging depreciation on replacement cost basis are very complex in actual application.

7.38

38. Depreciation of the ports' assets should be provided for on the historical cost basis on the straight-line method.

7.39

39. With the introduction of the revised system of accounting by all Major Ports, the Managements should be able to exercise an effective financial control on the ports' working, aided by a greater degree of comparability of the financial figures and statistics as between the different ports.

7.43

CHAPTER 8—*Financial objectives for Major Ports*

40. With the commencement of Planning and the steep increases in the costs of construction and replacement, Major Ports have been called upon to raise considerable sums for their development programmes

8.2

41. Ports should necessarily aim at raising sufficient surpluses to finance a part of their development programmes while keeping in view the public interest.

It is necessary to lay down on ports the obligation to earn a proper return which will cover depreciation, current costs of replacement of assets, payment of interest and contingencies.

8.3

42. The rate of return should be linked to the capital employed.

8.4

43. A rate of return of not less than 12 per cent on the capital employed arrived at as follows is recommended for the Major Ports—

6 per cent towards interest charges;

3 per cent towards replacement, rehabilitation and modernization of the capital assets; and

3 per cent towards reserve for development, repayment of loans and contingencies.

8.9

44. In cases where a cash grant is extended by the Government, ports should endeavour to earn 5 per cent on the grant portion of the advance and 12 per cent on the balance of the capital employed.

8.11

45. Although, during 1967-68, a 12 per cent return was achieved by the ports of Cochin, Visakhapatnam, Mormugao and Madras, the position is likely to change with the implementation of the Wage Board's recommendations. It is hoped that necessary adjustments in the rate structure will be made to maintain these financial performance laid down.

46. The Bombay Port should make every effort to achieve the minimum return of 12 per cent by 1970-71.

8.12

It is hoped that the Port of Calcutta will attain the objective of a minimum 12 per cent return of on the capital employed in five years from the commissioning of the Haldia dock system.

8.13

47. Kandla and Paradip ports should attain a return of not less than 6 per cent by 1973-74, not less than 9 per cent by 1976-77 and not less than 12 per cent by 1978-79.

Mangalore and Tuticorin ports should attain a return of not less than 6 per cent within five years from the commissioning of these projects, not less than 9 per cent within a further three years and not less than 12 per cent within another two years.

8.14

CHAPTER 9—*Port rates and charges*

48. On the effectiveness of the system of rates and charges to produce a level of earnings adequate to meet the working expenses, depreciation and fixed charges depends the viability of the ports.

9.1

49. In view of the multiplicity of commodities, the individual rates differentiated according to the classification and variations in the costs of handling and the services to vessels, it is not possible to attempt a proper inter-port comparison.

The extent of increase on the average earnings per tonne of traffic since 1950-51 has been considerable.

9.4

50. There are wide variations in the charges levied by the different ports on the commodities imported or exported.

9.5

51. The use of different terminology by the ports in regard to wharfage rates is apt to be confusing. The Commission recommends uniform terminology to be introduced in all the ports with the least possible delay.

9.6

52. In view of the rise in the cost of materials and rates of wages, the Major Ports have revised their tariffs and charges several times since 1947-48, with frequent recourse to the imposition of surcharges. Such revisions have been more or less on an *ad hoc* basis, and not on the basis of any definite principles.

9.8

53. Since each port has in respect of traffic an individuality of its own and relies on certain commodities from which the bulk of its revenue is derived, there are practical difficulties in a uniform rate for all ports.

9.9

54. The Commission considers that the actual rates on commodities should range between the two limits, of direct costs—the actual costs of handling the traffic without any provision for depreciation or overheads—and the ability of the traffic to bear. The revenue realized should be adequate to cover total costs and yield a proper return.

9.12

55. The Commission recommends that the results of cost analysis should be taken into account in deciding upon the rates and charges. With the setting up of a Costing Cell, a continuous review of the cost of the services will enable gaps to be bridged.

9.13

56. Public interest may necessitate preferential tariffs for certain kinds of commodities and for certain periods.

9.14

57. Cross subsidization will ensure the fuller utilization of the port facilities.

The Commission recommends a quinquennial review of the rates structure in the light of technological developments.

9.15

58. If in the national interest it becomes necessary to give concessions, to exports, such assistance should be borne directly by the authority concerned rather than by the ports. The ports should be entitled to reimbursement of the difference between the rates charged and the cost of the service (including six per cent interest).

9.16

59. In regard to coastal cargoes the Commission considers that the principles applied to other cargoes should be applied to these as well.

9.17

60. The goods proceeding to Nepal through the Port of Calcutta free of charge places the port at a financial disadvantage. As the port management incurs expenditure in handling them, it is entitled to the charges therefor.

9.18

61. It is in the public interest that ports should be sensitive to a reasonable exercise of their monopoly power.

9.19

62. The Commission considers that a Port Rates Authority should be constituted, composed of three members, one of whom should be an economist, another a person with administrative experience, and the third an expert in finance and accounts. The Authority will be advisory and will have jurisdiction over cases in which (1) there is difference in opinion between the Chairman and the Board on recommendations on rates made by the Costing Cell; (2) there is difference between the Port Trust and the Government; (3) there are complaints

of the user of undue preference, undue or unreasonable prejudice, or disadvantage in any respect whatever or unreasonable charges, and (4) cases which the Government may refer to the Authority on any other matter.

9.20

63. The Commission recommends that in the initial years a reference to the Port Rates Authority should be made only through the Government and expects it to decide the issues referred to it expeditiously.

9.21

64. The rationalization of the system of rates and charges which the Commission has recommended should be carried out on systematic and comprehensive lines.

9.22

CHAPTER 10—*Terms of Government lending to ports*

65. *Ad-hoc* policies were adopted for financing capital development from internal resources and they were not backed by a growth-oriented rating policy to sustain a constant flow of funds from this source.

10.3

66. Even though Kandla Port Trust was constituted in 1964, the terms of Government outlay on the Port, prior to that year, have still not been decided, and this has introduced an element of serious uncertainty regarding the port's financial administration.

10.10

67. As a result of the dependence of the ports on Government loans to a large extent resources of some of the ports have been strained even for the payment of interest.

10.12

68. The extent of reliance by the ports on Government loans would be further accentuated during the Fourth Five Year Plan period.

10.16

69. During the Fourth Five Year Plan the internal resources at the ports of Calcutta, Cochin, Kandla and Paradip are unlikely to materialize to any appreciable extent in contrast to the Government's expectation, and the Central Government's loan assistance to these ports may have to be stepped up.

10.17

70. The period of repayment of loans for the construction of certain assets falls far short of the life of the assets. Since ports have to find cash resources for the repayment of the loans even before they are fully written off, the ports are constantly under financial strain.

The Government loans carry firm obligation for the payment of interest from the first anniversary of the drawal of the amount. The practice of paying interest even during the construction period puts a further strain on the resources of the ports.

10.18

71. The present lending policy of the Government of India is one of the major factors contributing to the difficult ways and means position of the Major Ports.

10.19

72. The suggestion to give loans in perpetuity to the ports has not been favoured.

10.21

73. The suggestion to provide a longer period for the repayment of the loans extending to 40—45 years, with no payment of interest during the construction period but only its capitalization, interest alone payable during ten years after the commissioning of the project and repayment of loans from the eleventh year of the commencement of the project in 25 to 30 years, will not benefit the ports of Kandla and Paradip as also the ports in the making, namely, Mangalore and Tuticorin.

10.22 to 10.24

74. In view of the quantum, composition and direction of the traffic anticipated at the ports of Mangalore and Tuticorin it would be difficult to adjust the rate structure at these ports to ensure the generation of sufficient surplus.

10.25

75. Since ports in India have varying financial capacities, a single uniform system of relief is not recommended.

To the ports of Kandla, Paradip, Mangalore and Tuticorin, Government of India should—

- (i) provide an outright grant to the extent of 20 per cent of the capital cost of civil works including berths, breakwaters, reclamation, capital dredging, etc., but exclusive of the expenditure on mechanical handling plants and equipment;
- (ii) limit the obligation of these ports to the payment of interest and repayment of the principal to only 50 per cent of the capital outlay after deducting the cash grant. These ports would be required to pay the appropriate rate of interest as applicable to all long term loans advanced by Government during that year;
- (iii) permit the interest to be capitalized during the construction stage of the project;
- (iv) apply a repayment schedule for the loan during a period of 30 years, the first instalment of repayment to commence from the eleventh anniversary of the commissioning of the project;

- (v) treat the balance 50 per cent of the capital outlay after deducting the cash grant as "deferred redeemable capital", which will carry no obligation to the payment of interest nor have any regulated schedule of repayment. The ports would, however be required to pay Government reasonable return if there is a surplus in the ports' financial working after meeting the obligations of the operating expenses, depreciation, and a fair return of six per cent on the capital employed. The "deferred redeemable capital" would also be eligible for redemption after the loan capital portion is repaid, the repayment period may be 20 equal annual instalments but this would be subject to a review by Government in consultation with the Port Authorities; and
- (vi) review the general financial and traffic situation at these four ports at intervals of ten years for making such adjustments as may be necessary in the circumstances then prevailing.

10.27

76. The formula under item 75 above should be applied to the ports of Kandla and Paradip with retrospective effect, even for the initial capital outlay made till the formation of these Port Trusts. The formula be applied to the ports of Mangalore and Tuticorin on the investments made at these ports till the establishment of their Port Trusts.

10.29

77. For the other ports the cash grant of 20 per cent of the capital of civil works, including berths, breakwaters, reclamation, capital dredging, etc., but exclusive of the expenditure on mechanical handling plants and equipment, may be given for development works undertaken in the future.

For major expansion of ports, which shall constitute those schemes on which an outlay amounting to 25 per cent or more of the net fixed assets of a port is provided for in a Plan period, Government should grant loans on the following terms—

- (i) During the construction period or five years, whichever is longer. Interest accruing on the loan will be capitalized.
- (ii) For the next five years. Only interest will be paid and no repayment of principal will be made.
- (iii) For the next twenty years Interest will continue to be paid and the principal repaid in 20 equated annual instalments.

No concessional rate of interest is to be offered to the ports for financing these major expansions.

10.30

CHAPTER 11—*Port management*

78. The conversion of the present Boards of Trustees of the Major Ports into a functional executive Board comprising four or five members including the Chairman, the Traffic Manager, the Chief Engineer, the Financial Adviser and the Conservator, assisted by an Advisory Council representative of different interests will, in the Commission's opinion, create more uncertainties and problems that it would solve. Ports in India have developed over the years in response to the needs and circumstances of this country and any reform that is attempted should accord the appropriate weight for this consideration. The complete elimination of the user interests from participation in decision-making is not in the best interest of the port administration.

11.9

79. With regard to the proposal of a Central Authority, the Commission considers that the size and distances and the magnitude of the country are such that over-centralization of functions and authority will hardly be conducive to efficiency; nor is the Commission convinced that the analogy of the Railway Board is at all applicable to the ports. While the Railways are operationally linked to each other, the ports function in a disjuncted manner.

11.12

80. As the direct cost of rendering a service varies from port to port, the Major Ports should have a larger measure of autonomy in fixing the rates and charges.

The need for co-ordination in respect of planning, capital investment, regulation of traffic in specific commodities and in the compilation of statistics should not be minimized.

11.13

81. The domination of the Trust Board by the user interests had justification in the earlier period when the Port Trust Boards themselves found the finances for running the ports and when the demands for developments were also few.

With the massive investments by the Central Government for port development under the Five Year Plans, the need for balanced representation of all interests in the Trust Boards has become urgent. Under these changed circumstances, the Commission considers that the strength of the user interests in the Port Trust Boards should be brought down. The Boards of the bigger ports may comprise not more than 17 members including the Chairman of which eight will be official members and eight non-official. For smaller ports, the total membership need not exceed 13, consisting of the Chairman, six officials and six non-officials.

11.14

82. There should be no bar to an employee representing the labour to be a Trustee on the Port Board. The Commission recommends to the Government an amendment of the existing legislation to remove the present disability.

11.15

83. There are wide variations in the powers of the Chairman and the Board of Trustees as under the various Acts and the regulations framed thereunder with reference particularly to the charging of expenditure to capital in the older ports. Greater financial powers should be bestowed on the Chairman and the Port Trust Boards and it is recommended that—

- (1) for schemes included in the Annual Plans and for which administrative approval has been accorded by Government, the Port Trusts should have the power to sanction individual items upto Rs. 25 lakhs as well as approve tenders for the same value;
- (2) cases of escalation by over ten per cent and of material change in the scope of the project should go to the Government for approval, and
- (3) the revenue and capital budgets should continue to receive the approval of the Central Government.

11.16

84. The time of the Trust Boards is unnecessarily lost on personnel matters and they should devote their entire attention to the policies and programmes of port development, port management, etc., rather than on administrative details such as appointments, disciplinary proceedings etc.

The Commission recommends that the creation of all posts carrying a pay scale of Rs. 1,250.00 should vest in the Chairman, posts between the pay scale of Rs. 1,250.00 to Rs. 2,000.00 with the Board of Trustees, including the Chairman and posts above Rs. 2,000.00 with the Central Government. The appointments of the Chairman, the Deputy Chairman and General Manager may be made by the Central Government and the Heads of Departments and incumbents of posts carrying a maximum salary of over Rs. 2,000.00 by the Chairman with the prior approval of the Central Government and of all other persons by the Chairman of the Port.

11.17

85. Appeals against the orders made by the Heads of Departments should lie with the Chairman and appeals against the orders made by the Chairman should go to the Ministry of Shipping & Transport.

11.18

86. The Commission recommends the constitution of an advisory body, the Major Ports Council with the Minister for Shipping and Transport as the Chairman, the representatives of the Ministry of Finance and the Planning Commission and the Chairmen of the Major Ports. The Secretary of the Ministry in charge of ports should

be the *ex-officio* Member-Secretary of the Council. The Council will provide a forum for the consideration of major issues of planning, investment, traffic, common administrative and financial problems among Major Ports and thus help to improve the efficiency of the port operations.

11.19

87. The Major Ports Council, which will be purely an official organization, business-like in character, will deal with vital problems of development, such as co-ordination of traffic, investment, port facilities and the like.

11.20

CHAPTER 12—Port railways

88. The trend in many ports of the world is for the road transport to handle an increasing share of the port traffic. But this may not be applicable to the Indian ports because of the predominating proportion of bulk cargo in the future traffic forecast for them. The railways are, therefore, bound to continue to handle a substantial volume of the ports' traffic for many years to come.

12.4

89. Owing to special conditions or historical reasons, there are considerable variations in regard to the relationship of the ports to the railways in the port areas. The railways in the ports of Calcutta, Bombay, Madras, Visakhapatnam and Mormugao are owned and worked by the respective Port Authorities. At Cochin, the port owns the railway, but it is worked by the Southern Railway; at Kandla, railway is owned and operated by the Western Railway.

12.5

90. The Commission's attention has been drawn to the unsatisfactory physical condition of the rolling-stock of the Port Railways which has adverse effects on their operational efficiency and on the turn-round of the ships, resulting in increasing costs all round.

12.12

91. The Port Railways at Calcutta and Bombay have been operating at very heavy losses for the past several years. The special efforts made by them have not produced any tangible results. On the contrary the losses have been increasing.

12.13

92. In fairness to the ports it should be stated that the proposals for revision in the rates of Port Railways require the approval of the Railway Board and often these approvals have been given after considerable delays. Such delays have an adverse effect on the earnings of the Port Railways, and we recommended that the Railway Board should take special steps to see that such delays are avoided.

12.14

93. The Port Trusts have a legitimate grievance in respect of the terminal charges received by them as these have by and large remained unchanged although the overall freight rates have been

enhanced from time to time by the Indian Railways. The Commission recommends that the Ministry of Railways should view the claim of the Port Railways more pragmatically and the revisions from time to time in the railway freight rates, should be simultaneously followed by a *pro-tanto* adjustment in the terminal charges paid to the Port Railways.

12.15

94. Regarding the management of the Port Railways by the Indian Railways, despite advantages such as economy in the operation of the Port Railways, better maintenance, etc., the dislocation resulting from the transfer of Port Railways to the Trunk Railway system will far outweigh the advantages of the Indian Railways. The integration of the workers in the Port Railways with these will throw up innumerable problems. The Commission recommends that the Port Railways operated by the Port Trusts namely at Calcutta, Bombay, Madras, Visakhapatnam and Mormugao, should continue to do so. In the case of Kandla, the Western Railway should continue to operate the Port Railways. The Commission is of the opinion that in view of the heavy financial burdens involved and the time required for these ports to achieve financial viability, the Major Ports of Kandla, Paradip, Mangalore and Tuticorin need not be saddled with the operation of the Port Railway system and that the Indian Railways should own and operate the railways of these ports. At Cochin, the Commission recommends the continuance of the present practice under which the Southern Railway is operating the Port Railway. The Commission recommends that the operation of the Port Railways may be reviewed after a period of ten years from the date of the Report.

12.16

CHAPTER 13—*Port Trusts liability for cargoes and security arrangements in ports*

95. The period for which the ports assume responsibility for the safe custody of goods entrusted to them varies from port to port. The period should be fixed at seven days at all the ports.

13.6

96. The extent of protection extended under various Port Acts to the Port Trusts out of the action of their employees varies. The grant of absolute exemption from liability even for any act or omission or done without any good faith is totally unjustified. While the protection afforded to an act done or intended to be done in good faith is accepted as a sound principle of jurisprudence, total negation of liability even for acts done in bad faith will not be considered reasonable. The provision in this regard embodied in the Major Ports Trusts Act, 1963 should be extended to all the ports.

13.14, 13.15 & 13.16

97. Considerable losses occur due to the reluctance in the issue of outturn reports by the ports because of the non-provision in some Port Acts of the period during which such reports should be issued and the limitation on period for filing suits against Port Trusts for such losses which incidentally varies in various Port Acts. The limit

for the issue of outturn reports should be fixed at 45 days and every effort be made in the meantime by the port authorities to trace the goods misplaced/shortlanded. Also the period for filing the suits against the Port Trusts be fixed uniformly at six months for all the Major Ports.

13.18 and 13.19

98. The security arrangements should be strengthened at the ports. Security arrangements for the Major Ports may be reorganized and strengthened in accordance with the provisions of the Central Industrial Security Force Act, 1968 which is applicable to the Major Ports.

13.24

CHAPTER 14—*Legislation for the Major Ports in the country*

99. There are wide differences in the provisions contained in the Acts of the three older ports among themselves and those contained in the Major Port Trusts Act, 1963. The Commission considers that as the three older Acts have become out-of-date in the present-day conditions in respect of several provisions, it is advisable to bring about a measure of uniformity for the governance of all Major Ports. The Act of 1963 being recent contains several flexible provisions and gives liberal powers to the Port Trusts in respect of financial matters and power to Central Government to frame regulations.

14.4

100. The conditions under which the older ports used to find their own finances and, therefore, enjoyed a measure of autonomy are no longer valid as from the beginning of the Planning era, decisions regarding investments, deployment of resources, development projects, etc., are taken in accordance with the plan priorities by the Central Government, and the Port Trusts have largely become executing agencies.

The Commission is of the firm opinion that in the ultimate analysis, the Government should have the power to issue directions on questions of policy.

14.6

101. Regarding the special provisions in the Port Trust Acts of Calcutta and Bombay relating to municipal taxation of port properties, the Commission does not consider that these provisions need be retained in their present form.

14.8

102. The Commission recommends that the Madras municipal practice of taxing the Port Trust properties be adopted for all the Major Ports subject to a provision for increasing or decreasing the rate by say one quarter per cent for every one per cent on the general increase or reduction effected in the rate of the tax on other properties within the jurisdiction of the Municipal Corporation.

14.9 and 14.10

103. The Commission has reached the conclusion that the balance of advantage lies clearly in applying a uniform legislation to all the Major Ports for which the Act of 1963 can serve as a basis.

14.11

104. The Commission recommends that the Government may consider the advisability of assuming powers for giving directions to the Port Trusts on all matters involving "public interest".

14.12

105. While carrying out the amendments to the Act of 1963 for the introduction of uniform legislation, the Commission recommends that the existing provision in the Calcutta Port Act regarding certain special functions, namely, the training of the river Hooghly, provision of landing places and bathing ghats, etc., should be incorporated.

14.13

CHAPTER 15—*Coordination between Major and Minor Ports*

106. The Minor Ports, which handle only about one-seventh of the total traffic of Major Ports, are only roadsteads where the loading and unloading operations are carried on with the help of lighters. Despite the double handling. Minor Ports offer certain advantages due to their proximity to the hinterland and lower port charges and have helped in relieving the congestion of traffic at Major Ports.

15.3

107. There have been proposals in the past towards improvement and development of Minor and Intermediate Ports and even of transferring the subject of Minor Ports from the Concurrent List to the Union List of the seventh Schedule of the Constitution. But conditions have vastly changed in the recent years owing to the emergence of bulk cargo as the governing factor in our port operations.

15.4 and 15.5

108. As the utilization of larger capacity vessels has resulted in a distinct freight advantage from economies of scale, progressively larger vessels of 100,000 d.w.t. and above are replacing the older ships. The deeper draft and the sophisticated mechanical equipment calling for heavy capital investment which the larger type vessels call for can be provided only at a few ports.

15.6

109. In the light of these considerations as well as the increasing competition from other modes of transport in the country, the Commission has come to the conclusion that the future role of Minor Ports would be progressively on the decline.

15.13

110. The Commission, however, does not rule out the need for the development of selected Minor Ports where the factors mentioned above may not apply or have only a limited application as,

for example, the location in a Minor Port of harbours for deep-water fishing, or the export of a special type of cargo, such as bricks, chillies, etc., to the neighbouring countries.

15.15

111. The use of larger vessels for cargo as well as for containerized vessels for general cargo calls for the development of adequate facilities of the international standard, to receive such vessels at least in one port on the west coast and one port on the east coast. The Commission recommends that the new satellite port of Nhava-sheva on the west coast and the Haldia Dock System on the east coast, may be fully developed to meet these modern requirements.

15.16

112. The Commission finds that both the value and the importance of the Minor Ports have considerably declined and, therefore, considers that further investments on Minor Ports should be made strictly on the basis of felt-need and proven viability.

15.17

113. As it would be uneconomic for Minor Ports to deal with such problems, as siltation, entrance barriers and absence of better handling facilities, surveys and navigation needs, the Major Ports adjoining them should come to their aid in a planned manner.

15.18

114. With the existing eight Major Ports and the two new under construction, there is considerable overlapping of the hinterland of the ports. Taking this into account as well as the lack of adequate traffic in some of the ports to enable them to become financially viable within a reasonable time, the Commission has reached the conclusion that there is no need for any new Major Port in the foreseeable future. Before another Major Port is developed, the need should be examined by a Commission in the light of the existing port facilities, the traffic flowing and the likely development of traffic, and the financial viability of the scheme as a whole.

15.20

CHAPTER 16—*Port labour*

(i) **Labour Productivity and Port Operations**

115. For improving labour productivity, the Major Ports have made considerable progress during the last two decades both in regard to the decentralization of cargo handling labour and in evolving a progressive wage structure.

16.2

116. The scheme for payment by results prevails in all Major Ports, except at Paradip, but with varying extent of coverage.

16.3 to 16.8

117. Statistics of output relating to some ports, like Calcutta, Bombay, Cochin and Visakhapatnam reveal that by and large, the overall effect was one of improved performance after the incentives were offered. Generally, such improved outputs have led to a speedier handling of the cargoes at the berths as well as quick turn-round of the ships and have had beneficial effects on the earnings of the workers.

16.10

118. Many of the basic premises on which the incentive schemes were evolved at Bombay have undergone a substantial change in the last 14 years. The direction of our trade, and trade pattern, have altered. Further, the wage levels of workers have been revised from time to time. In spite of significant changes in various directions the incentive schemes have continued to remain essentially intact, except for a few minor adjustments in individual datum lines. An appropriate machinery should be evolved to review comprehensively the incentive schemes in the ports associating labour with such a review.

16.14 and 16.15

119. There is no compelling need to have for other ports identical integrated incentive schemes for the dock and shore workers, as are prevailing in Bombay, Madras and Cochin. Any incentive scheme designed to enhance the productivity of the workers should be extended as widely as possible. To achieve higher output, the incentive schemes, be it of the piece-rate or datum type, should carry an element of progression. In the case of Calcutta, the Central Wage Board for Port and Dock Workers has formulated an incentive scheme for the dock workers and early action on the scheme needs to be taken.

16.16

120. The existing coverage of transit shed staff by incentive schemes at the various ports is not uniform. Similarly, the supervisory shed staff at most of the ports is left out of the purview of incentive schemes. As the co-operation of the supervisory staff is vital to the maximization of the output in the chain of operations from the ship to the transit sheds and *vice versa* they should also be covered by incentive schemes.

16.19 and 16.20

121. There is considerable idle time in the working of port operations with its adverse effects all round. In view of its all-pervasive effect, it is essential that the proportion of idle time should be reduced to the minimum. Delays caused by cargoes not being ready for loading, repairs to cranes, provision of special gear, etc., can be minimized by proper planning.

16.21 and 16.22

122. As a result of the various progressive measures undertaken by the ports, considerable progress has been made in extending job security to the shore workers. The strength of 'C' category workers, which was substantial in the past few years in some ports,

has now gone down considerably. Every effort should be made for the early absorption of the 'C' category workers into the 'B' category. Further, the number of 'C' category workers should be kept at the minimum. Endeavour should be made by other ports to eliminate progressively contractors and contract labour on works which are of a regular and continuous nature.

16.27

(ii) Impact of Ports' modernization on labour

123. Any scheme of modernization should take into account the conditions peculiar to our country. With relatively scarce capital, comparatively low wages and widespread unemployment and under-employment, it would be more appropriate to concentrate in our ports on simpler types of equipment involving less capital cost, fewer maintenance problems and which would save physical efforts and displace fewer workers.

16.29

124. However, in certain sectors of our port operations a high degree of mechanization has become inevitable, particularly in bulk commodities like ores, fertilizers and fertilizer raw-materials. This problem should be approached with a sense of caution and with appropriate safeguards against the adverse effects of employment.

16.30

125. To realize the objective of mechanization, there is need to achieve the optimum utilization of the mechanical appliances which in turn calls for the training of labour in new skills and elimination of unproductive time. It is essential that the expenditure on the mechanical appliances should be more than off-set by the savings in the expenditure on labour. As most of the cargo handling work at the ports is now in gangs, the successful introduction of mechanization will require readjustment of the gang strengths. Although the gang size at our ports has now become a matter of convention, whenever there are substantial additions or modifications to mechanical aids, the scope for adjustment in gang strength will require to be looked into.

16.31

126. Regarding mechanization of general cargo handling at our ports, palletization has been attempted on a limited scale. The determination of gang strengths will have to take into account the conditions prevailing at our ports in terms of types of cargo handled, the mode of packing and the extent of mechanization.

16.32

127. There should be considerable flexibility in the fixation of gang strengths and there is no need to have a uniform strength for all the commodities at a port.

16.34

128. With the revision of manning scales, a review of the wage structure of port labour should also be undertaken with a view to giving labour a share in the increased productivity resulting from mechanization. The principles suggested by the National Productivity Council and endorsed by the National Commission on Labour may be accepted and implemented in the case of port and dock industry including the provision for consumer interest.

16.35 and 16.36

129. The impact of mechanization on employment levels would not obviously be uniform at the various ports. It will depend on the extent of mechanization as also the composition and quantum of traffic particularly for bulk cargo and for general cargo. A substantial portion of iron ore handling labour at the ports of Madras, Visakhapatnam and Mormugao comes under the Dock Labour Boards and the impact of mechanization would, therefore, be felt by them.

16.37 and 16.38

130. Due to a pronounced decline anticipated in foodgrains traffic, surpluses are likely to arise in the foodgrain handling labour.

16.40

131. In the next five to ten years, barring the Calcutta Port, there may not be any serious problem of surplus labour at the ports. However, considerable surpluses of labour are forecast in respect of the work force under the purview of the Dock Labour Boards. It is necessary to take steps well in advance to minimize the adverse impact on labour.

16.42 and 16.43

132. While introducing mechanization, every effort should be made to avoid hardships to labour and the port authorities as well as the Dock Labour Boards should endeavour to absorb in alternative jobs the labour displaced. The port authorities would also have to provide training facilities for the redundant workers for absorption in the new occupations requiring new skills. The training of our dockers calls for a considerable organization including the establishment of proper training schools. Appropriate schemes should be evolved by the port authorities in this direction.

16.44 and 16.45

133. Serious consideration should be given to the formation of attractive schemes of voluntary retirement for port labour. Appropriate schemes for voluntary retirement should be drawn at all ports in consultation with labour and they should be applicable over a reasonably long period of time.

16.46

134. It is surprising to find that the problems of manpower planning have not received sufficient attention of the port authorities. In view of the progressive resort to mechanization of cargo handling and the consequent surplus of labour, the specialized skills required, etc., it is urged that the port authorities should devote serious thought to the preparation of manpower plans.

16.48 and 16.49

(iii) Coordination of the agencies employing labour at the ports

135. Mere improvements at the ports by way of better berthing facilities, cargo handling equipment, storage accommodation, etc., will not achieve the benefits expected of them, unless the agencies engaged in the various cargo handling operations are properly co-ordinated.

16.50

136. There is no uniformity in respect of the services directly rendered by the ports and in the pattern developed either as to the categorization of the workers or to the types of cargo handled by the port authorities.

16.51 and 16.52

137. Even among the various tasks discharged by the employing agencies, there is no uniformity among the ports. The diversity of such practices is reflected in the magnitude of the labour force employed by the principal agencies at the ports.

16.56

138. Owing to lack of interchangeability amongst the workers, excessive work force is maintained at the ports resulting inevitably in irregularity of employment and differing levels of earnings and productivity. Surplus labour, besides necessitating higher degree of co-ordination, also accounts for rising costs at some of our ports. With the installation of fast-moving appliances for handling the cargo, the problem of excess labour is likely to intensify and the task of solving it becomes one of increasing urgency.

16.59 and 16.60

139. Compartmentalization of workers places an uneven burden on any one category of trade when its traffic declines, as for example, in the case of the salt trade at Calcutta.

16.61

140. Occasional marginal surpluses are not unusual in the port industry, but the matter for concern is the anomaly of pronounced surplus in certain areas of operation concurrently with shortages in other areas. The surplus is brought about not only by variations in the volume of traffic, but also in its pattern.

16.62

141. We emphasize that unless all the three operations in the cycle of discharge, removal and clearance are properly dovetailed, high levels of productivity cannot be maintained.

16.63

142. The principal difficulties arising out of the present set-up for employing labour are: (i) the problem of co-ordination; and (ii) proper utilization of labour force. The conflicting interests of the various employing agencies and their respective labour groups

make co-ordination difficult. If one authority is charged with the responsibility of moving cargo from the ships, holds till the point of loading on the consignees, vehicles or *vice versa*, such an authority could more effectively plan the work at various stages. The cumulative effect of the deficiencies in the present set-up cannot be overcome except by consolidating the employing agencies and their labour groups.

16.65

143. The logical choice of a unified agency would be the Port Trust. While a unified agency would be an ideal solution, yet the difficulties in the wake of a sweeping change cannot be overlooked. The unification of the entire labour in the port area would be a long drawn process and the machinery to implement this change would have to vary from port to port.

16.67 and 16.68

144. A beginning should, however, be made to stop further additions to the existing employing agencies and simultaneously attempts should also be made to secure a reduction in their number by bringing under the purview of the Listing Schemes the various categories of cargo handling labour now employed by agencies other than the Port Trusts and the Dock Labour Boards.

16.70

145. The attempts made at Visakhapatnam under the Visakhapatnam Unregistered Dock Workers (Regulation of Employment) Scheme, 1968, to ensure adequate supply and stability of employment of the dock workers, the economic turn-round of vessels and speedy transit of the cargo through the port opens up possibilities for similar experiments at the other ports.

16.71 and 16.72

146. Far too many stevedores function at the Major Ports than appear to be necessary for the efficient handling of the cargo. It has led to a number of serious defects and deficiencies and there is need to overhaul the present functioning and regulation of stevedores.

16.73

147. In India the question of making capital investments on mechanical equipment by the stevedores is closely linked with their future role and their continued functioning in the private sector.

16.74

148. Another aspect to which we would call attention relates to the employment of monthly paid workers by the stevedores which has not registered any increase over the years, especially in Calcutta.

16.75

149. The deficiencies in the present system of stevedoring activities require quick remedial measures. First, the present strength of the stevedores at the ports and the admission of fresh entrants into the field have to be scrutinized. Secondly, the existing stevedores have to be screened closely to ensure that the number is consistent with the needs of the particular port. This may be done by prescribing definite standards to which a stevedore must conform for his continuance on the register, namely, the quality and quantum of work, the availability of resources in men and material, etc. The Draft Scheme prepared recently for the regulation of the private stevedores at the Calcutta Port lays down that a minimum of 75 per cent of the total requirement of the work force by the trade should be on the monthly register of employers within two years of the Scheme being put into effect. Similar schemes should be evolved for adoption at the other Major Ports as well.

16.76 and 16.77

CHAPTER 17—*Ex gratia* payment to the port employees

150. Although the rating policy in some of the ports has been evolved without reference to a rational or economic basis, or without being correlated to the value of the commodities or the capacity of the traffic to bear, it is not a sufficient argument for a predetermined rate of *ex gratia* payment to be made, irrespective of the capacity of the port to pay it.

The suggestion that the *ex gratia* payment to the port workers should be related to the bonus paid by the principal user of the port, namely, the shipping companies to their employees, is not acceptable.

17.7

151. The Commission does not agree with the view that because of the peculiar functioning of the Port Trusts, the *ex gratia* should be frozen at the current rate of four per cent.

17.8

152. It would be legally difficult to enforce and administratively inexpedient to adopt the suggestion for pooling the divisible surpluses of the ports to ensure payment of a uniform rate of *ex gratia* at all the Major Ports.

17.9

153. The Bonus Act formula *per se* does not furnish an appropriate basis for determining the capacity of the ports to make the *ex gratia* payment.

17.12

154. The capacity of the ports to pay a higher *ex gratia* than four per cent could only be related to the availability or otherwise of the surpluses after providing for working expenses, depreciation, interest and a reasonable provision for reserves and repayment of loans.

17.17

155. The view that the *ex gratia* payment should be related to the total tonnage of cargo handled at the ports during an accounting year does not commend itself to the Commission as it is not logical to extend the tonnage formula for the payment of *ex gratia* to port employees.

17.19

156. From the Gross Surplus arrived at after deducting the working expenses from the gross earnings, provision for depreciation on straight-line method and historical cost and 12 per cent return on capital employed should be made to arrive at the available surplus. The available surplus should be shared between the employees and the port in the ratio of 60:40. If there is no available surplus the port should pay the minimum *ex gratia* payment of four per cent to its employees.

When the Government provides an outright grant to the tune of 20 per cent of the cost of civil works in certain circumstances, the prior deductions from the gross receipts for the purpose of *ex gratia* calculations could be the working expenses (excluding interest), depreciation and a return of five per cent on the cash grant portion, if any, and 12 per cent on the balance of capital employed.

17.21

157. No deduction should be made either in respect of income-tax or development rebate or development allowance in arriving at the available surplus.

The categories of employees eligible for *ex gratia*, the basis for the computation of the wages, provision for set-on and set-off, etc., be governed by the provisions of the Payment of Bonus Act.

17.22

158. All the operations of the ports should be treated in their totality and the financial results thereof viewed as a composite entity instead of dissecting them and creating a distinction between the operating and non-operating functions of the ports.

17.23

159. The Commission's recommendations regarding the *ex gratia* payments should be given effect to from the accounting year 1967-68.

17.25

160. Though members of the Commission associated with port and dock labour as well as some representatives of trade unions suggested substitution of terminology 'bonus' for *ex gratia* the Commission does not feel called upon to make any recommendation in this behalf.

17.26

MINUTES OF DISSENT

By SARVASHRI S. R. KULKARNI AND MAKHAN CHATTERJEE

CHAPTER 9—*Port rates and charges*

It has been recommended by the majority in the Commission that to obviate certain difficulties alleged to have been faced by some of the Port Chairmen in persuading the Port Trustees to accept proper revision of rates and charges, a Port Rates Authority should be constituted. It has been further recommended that the Port Rates Authority should be composed of three members, one of whom be an economist, another a person with administrative experience, and the third an expert in finance and accounts. According to the majority in the Commission, the Port Rates Authority will be advisory in character and will have jurisdiction in the following cases—

- (1) cases where on the recommendations of the Costing Cell (Rates Cell) the changes proposed have not been accepted by the Board and the Chairman considers that, in the interest of the administration of the port, the proposed rates should be approved;
- (2) cases of difference between the Port Trust and the Government;
- (3) cases of complaints of the user of undue preference, undue or unreasonable prejudice or disadvantage in any respect whatever or unreasonable charges; and
- (4) cases which the Government may refer to the Authority on any other matter.

2. We regret our inability to subscribe to the above views of our colleagues in the Commission for the following reasons.

3. The recommendation to constitute Port Rate Authority to resolve disputes concerning rates amongst the various interests concerned with the Port Trust will not serve any useful purpose, since it will be a purely advisory body without any powers to enforce its findings. It is not unlikely that even where the Port Rates Authority may find that the rate is unduly low and could be raised without detriment to the public interest, the Government and the Port Trust Administration would be able to see to it that no increase in rates is effected. It may be noted that the Central Wage Board for Port & Dock Workers recently examined the question of the capacity of the Ports to pay increased wages as required by its terms of reference, and by a majority came to the conclusion that all Major Port Trusts had adequate capacity to enhance their revenue, and that since the existing rates and charges were unduly low, they could be raised adequately without detriment to the public interests. It may be of interest to mention here that all the

unanimous and majority recommendations, including the findings of the Wage Board relating to the capacity of the Ports to increase their port rates and charges, have been accepted by the Government of India at the highest level. One of the honourable members of the Wage Board is a noted economist in the country, who was also a member of the Finance Commission set up by the Government of India. The recommendation made by the majority in the Commission to set-up a Port Rates Authority is like adding a fifth wheel to the coach and the only useful purpose it will serve is to open avenues of employment to retired Government officials and defeated and disgruntled politicians. We have no doubt that such a step will not be in the interest of the Port Trust nor will it improve the financial stability of the Ports.

4. Though our colleagues in the Commission have recommended a substantial reduction in the number of Trustees on the various Boards with a view, perhaps, to eliminate the domination of the vested interests, it cannot be said that such a step will altogether eliminate the powerful influence the vested interests are having in the matter of functioning of the various Boards of Trustees. It is not unlikely that with a view to delaying the proposals put forward by the Chairman to enhance the rates and charges, some interested parties may try to obstruct smooth passage of the resolution at the meetings of the Board, and even if such resolutions may be passed by a majority, its implementation will be delayed under one pretext or the other.

CHAPTER 11—*Port management*

We have very carefully perused the chapter on 'Port Management' and we would like to regretfully submit that we are not in agreement with certain views expressed by the majority of our colleagues in the Commission. Since 'port management' is one of the important aspects of the port working, we deem it our duty to offer our considered views on this subject.

2. While the chapter relating to 'port management' discusses at length the nature and composition of Port Trust Boards, it contains no discussion on the equally important subject of the top executive management of the Ports. There is no discussion whatsoever about the manner of appointment of the Chairman and of the Deputy Chairman (or the General Manager). Although para 11.11 mentions the majority recommendations regarding the nature of the Port Trust Boards, made in the joint report of the Indian Institute of Management and the Management Group of the Committee on Plan Projects, Planning Commission (1966) and the report of the Study Team of the International Association of Ports and Harbours (1968), there is no mention of the recommendations contained in these reports regarding the top executive management of the Ports. Similarly, there is no mention of the recommendation on this subject made by the Colombo Plan Commission in 1955-56. We believe that this is an important subject and the recommendations made thereon by the aforementioned expert bodies should be given anxious consideration.

3. The Colombo Plan Commission, headed by Sir Eric Milbourn, which toured the Indian Ports at the invitation of the Government of India in 1955-56, made the following recommendations on the subject—

“Form of Port Administration

20. In no circumstances, we think, should the Chairman or Board attempt to carry out the day-to-day executive and managerial functions of the port. These should be the responsibility of the Chief Executive Officer (we suggest that he might be called “General Manager” in the major ports and “Port Manager” in the lesser ones) who will be both the technical adviser to the trade and responsible to them for carrying out the policy which they determine. He must be capable of accepting very wide responsibility and must have authority through the various senior Officers over every fact of the port’s work. He should normally be a man of wide experience who has made port operation his professional career in life. To put it in a nutshell, port operation has become too technically complicated to be run by amateurs”.

4. The Indian Institute of Management and the Management Group of the Planning Commission’s Committee on Plan Projects, which jointly carried out a study of the Visakhapatnam Port in 1966, recommended as follows regarding the Chairman of the projected National Ports Boards—

“Like Railway Board, he should have spent the greater part of his career working in the ports” (p. 174 of the Report, Vol. I).

5. We submit that the above recommendation applies with even greater force in regard to the Chairman of the Port Trust Board, since wide experience of Port working is desiderated even at the higher level of the Chairman of the National Ports Board.

6. The Study Team of the International Association of Ports and Harbours which toured the Indian Ports at the invitation of the Government of India in 1968, made the following recommendations in its report—

“Port Trust Organisation

We have previously presented our general impressions of the relationships which exist between first, second and third level officials at major ports. We add here that while there are many obvious weaknesses in the relationships between these officials, the majority of Chairmen at the individual ports who are members of the Indian Administrative Service (I.A.S.) or, in a few cases, the Indian Civil Service (I.C.S.), have had extensive administrative experience. As we have said, the basic fault we find is the very fact that these individuals are administrators rather than managers. This appears to be more a fault of the “system” than of the individuals.

We have found that, with one exception, the current Port Chairmen have had little or no experience in the areas of port development, operations, shipping, or, in fact, in any field of transportation. Nevertheless, such Chairmen are expected to direct effectively the efforts of subordinate officers and to evaluate their performance. Likewise these officials are at times called upon to participate in meetings on international trade conventions, agreements between ship-owners, Chambers of Commerce programmes, etc.

"In our opinion, it is unrealistic to expect a Port Administrator or Manager to develop insight and appreciation of the complexities of port operation and international trade overnight. There is no short cut or substitute for experience and the fact that most of the current Port Chairmen at Indian Ports have not had the benefit of each experience is neither fair to them as individuals nor is it in the best interests of India".

7. We submit that the question of top executive management of the Ports is an important subject in view of the wide range of functions discharged by the Indian Ports and also in view of the fact that the Port Trust Boards, which are mostly composed of persons with inadequate experience of Port management, are generally guided by the Chairman and the Deputy Chairman in all important matters. The top executive echelon of the Ports must be functional and not merely ornamental, if the ports are to function effectively. Functional efficiency can be achieved in ports only if top executives have wide experience of port management; it cannot be achieved by experience of district administration supplemented by experience of Secretariat departments. Moreover, the Port personnel contain Officers who are in no way inferior in calibre and ability to the average member of the I.A.S.

8. We regret to observe that our colleagues have not paid adequate attention to the above important aspects of port management and, therefore, we strongly feel that our views may be given due consideration by the Government while taking its decision on the Report.

9. We also disagree with the majority recommendation relating to the powers of the Boards of Trustees *vis-a-vis* the Chairman in the matter of administration details, such as appointments, disciplinary proceedings, etc. It has been recommended by the majority that the creation of all posts carrying a pay scale of Rs. 1,250 should vest with the Chairman, posts between pay scales of Rs. 1,250—Rs. 2,000 with the Board of Trustees, including the Chairman, and posts above Rs. 2,000 with the Central Government. The appointments of the Chairman, Deputy Chairman and General Manager may be made by the Central Government and the Heads of Departments and incumbents of posts carrying a maximum salary of over Rs. 2,000 by the Chairman with the prior approval of the Central Government, and of all other persons by the Chairman of the Port.

10. In accordance with the existing provisions of the older Port Trusts Act, the Chairman is competent to create posts carrying the maximum pay scale of Rs. 1,000 and the Board of Trustees are competent to create posts of Officers drawing salary above Rs. 1,000.

It is interesting to note that the above salary limits were laid down several decades ago, and in the context of new changes in the country in the post-independence era, suitable amendments should have been made to the relevant provisions of the Act. We, therefore, strongly feel that the Board of Trustees or the Commissioners of the Port should be vested with powers to create any posts irrespective of salary limits, and the decisions of the Trustees or Commissioners in such matters should be treated as final and there need be no interference from the Government. The Port Authorities being autonomous in character, the Board of Trustees or Commissioners should be the final authority in the matter of prescribing service conditions of their employees, excluding the Chairman who may be appointed by the Government of India. At present, the Chairman and the Board of Trustees are competent to prescribe service conditions in respect of employees whose salary does not exceed Rs. 1,000. Instead of giving the Chairman more powers by curtailing the powers of the Board of Trustees, as proposed by the majority in the Commission, we recommend that the Boards of Trustees or the Commissioners should be vested with wider powers.

11. In the matter of existing disciplinary procedures, the majority has recommended certain radical changes. It has been felt by the majority in the Commission that the present system of the Trustees or the Commissioners hearing appeals against the orders of the Chairmen is far from appropriate. The majority has, therefore, recommended that appeals against the orders passed by the Heads of Departments should lie with the Chairman and appeals against the orders made by the Chairman should go to the Ministry in charge of Ports. This, we are sorry to say, is the most retrograde step proposed by the majority in the Commission and runs counter to all canons of natural justice and of principles of fair play. There is no denying the fact that the Board of Trustees, including the Chairman, are the employers of all persons employed in the Trust. It is, therefore, fair and natural that the Board of Trustees should not be deprived of their powers to hear the appeals from their employees against the order of the Chairman and take appropriate decisions. The decisions taken by the Board of Trustees in such matter need not be subject to the approval of the Central Government, as the aggrieved party can take suitable action under the provisions of the existing law.

12. The majority in the Commission has recommended constitution of an advisory body styled the "Major Ports Council" with the Minister for Shipping and Transport as the Chairman, the representatives of the Ministry of Finance and the Planning Commission and the Chairmen of all Major Ports. We have no quarrel with this recommendation, but we are surprised to note that our colleagues have not thought it proper to recommend inclusion of the representatives of the Ministry of Labour and Employment and the representatives of the port employees in the proposed Major Ports Council. We, therefore, strongly recommend that the objects and functions of the Major Ports Council should be well defined and the representatives of the Ministry of Labour and Employment as well as the genuine representatives of the Port employees should also be included in the proposed Major Ports Council.

13. During the course of the deliberations of the Commission on this subject, we had strongly advocated the formation of All-India Port Service on the lines of the Indian Administrative Service (I.A.S.), Indian Foreign Service (I.F.S.) and the Indian Police Service (I.P.S.). We regret to note that our views have not been incorporated in the chapter relating to port management. We, therefore, strongly recommend that an All-India Port Service (A.I.P.S.) should be created and appointments to posts of Chairmen, Deputy Chairmen and General Managers should be made from the proposed A.I.P.S.

14. We have vehemently argued that the service conditions of Class I and Class II officers in the employment of the Major Ports should not be tailored according to the service conditions applicable to Class I and Class II officers in the Central Government in view of the fact that the Government of India have accepted that the Port transport industry is a distinct industry by itself and the service conditions of the employees of the Major Ports should not necessarily be on the pattern of the service conditions of the Central Government employees. In pursuance of the decision taken by the Government of India, at the highest level, a Wage Board was appointed for all Class III and Class IV employees and the recommendations made by this Wage Board have been accepted by the Government.

15. Equity and fair play demand that similar treatment should be given to Class I and Class II Officers in the matter of revision of their scales of pay, emoluments and other benefits including liberalization of retirement benefits, etc. We, therefore, recommend that the existing service conditions applicable to Class I and Class II employees in the employment of Major Ports should be totally delinked from those of the Government employees and a suitable machinery should immediately be set up to revise their pay scales, emoluments and other service conditions, as has been done in the case of Class III and Class IV employees. Any delay on the part of the Government to set up a machinery as proposed by us will accentuate the frustration amongst the officers including technical personnel, such as Pilots, Dredging Masters, Marine Engineers, Assistant Harbour Masters, Harbour Masters, Civil and Mechanical Engineers, etc., and such state of affairs will not be conducive to industrial harmony and peace at the major ports.

16. During our visits to various ports as members of the Commission, it was represented to us that the service conditions and particularly the scales of pay admissible to Chairmen of all the Major Ports are not identical, though their duties and responsibilities are similar. We have also noted that the Chairmen of some of the Major Ports are paid lower salary than even the General Manager or the Deputy Chairman at some other ports. This position is highly anomalous. We, therefore, recommend that the Government should take appropriate administrative steps to remove the disparities that exist between the pay scales of Chairmen of various Major Ports.

CHAPTER 13—*Port Trusts liability for cargoes and security arrangements in ports.*

We do not subscribe to the views expressed by the majority of the members regarding the effectiveness of the present security arrangements in the Ports and particularly the role of the watch and ward staff. It is not correct to say that because the watch and ward do not have powers to arrest or apprehend the person about to commit a crime within the port area, their effectiveness in preventing theft and pilferage is negligible. On the other hand it is the absence of proper co-ordination between the various agencies entrusted with the security arrangements in the ports that has contributed to the incidences of pilferage in the docks. The faulty procedures of clearance of cargoes in the docks and the loopholes in the existing rules and regulations regarding to the clearance of cargoes from the docks is also a contributory factor to the incidence of thefts and pilferages in the docks. It is also not correct to say that the members of the watch and ward staff employed by the Major Port Authorities are ineffective to prevent theft and pilferage in the docks because they are allowed to join the trade unions or that they have been given a right to strike. It is well known that in many developed countries, including U.S.A. and Canada, the Police Force is given rights to join trade unions of their choice and allowed to go on strike to secure improvement in their service conditions. It is, however, no-body's case that the efficiency of the Police Force in those advanced countries has suffered because of the trade union rights enjoyed by them.

2. We also do not agree with our colleagues in the Commission that the Central Industrial Security Force Act 1968 is applicable to the Major Ports. The recommendations made by the majority that security arrangements for the Major Ports may be reorganized and strengthened in accordance with the provisions of the Central Industrial Security Force Act 1968 is obviously based on certain statement made by the Minister of State in the Ministry of Home Affairs in the Rajya Sabha on the 24 December 1969. With due respect to the Minister concerned we would like to state that by no stretch of imagination it could be said that the Port Trusts are covered under the provisions of the Central Industrial Security Force Act 1968. We are also opposed to the extension of the provisions of the said Act to the Major Ports on the following grounds among others—

- (1) the entry of Industrial Security Force in the ports will be looked with disfavour by the concerned State Governments including the trade unions of Port and Dock Workers for obvious reasons;
- (2) there will be an inevitable conflict between the State Police and the Industrial Security Force regarding the performances of their respective functions in the matter of law and order as well as preventive measures for curbing incidences of pilferage and thefts in the docks; and

- (3) all employees in the Watch and Ward Department may not be absorbed in the Industrial Security Force and those who may be absorbed will be deprived of the rights they have been enjoying as the employees of the autonomous bodies.

CHAPTER 16(c)—*Co-ordination of the agencies employing cargo handling labour at the ports.*

We disagree with the views expressed by the majority members regarding pooling of labour employed by the various agencies in the docks. Such propositions will not be acceptable to different sections of the workers, for the obvious reason, that the employment potential will be considerably reduced. Mere indication that such steps are contemplated may cause unrest amongst labour, and a fear of uncertainty amongst their employers.

2. The main factor which has contributed to the existing compartmentalization of labour is the historical circumstance that when the contract system of employment was in vogue, the persons who were engaged for the supply of labour brought the required labour force from a particular area or region, and the regional affinities which developed during the contract system of employment continue to persist strongly, while also contributing to the homogeneity amongst the members of the several gangs. It cannot be denied that the homogeneous character of the several gangs is conducive to improvement in the level of productivity.

3. The pooling of labour under one agency and deploying them to perform different types of cargo-handling operations may involve disturbing the current set-up of gangs, which will certainly be resented to by labour, and the net result will be the very opposite of what the majority of the Commission hope for a decline in the level of productivity.

4. Any move to disturb the existing arrangements will provide a lever to reactionary forces to cynically exploit the opportunity to disturb the harmonious relations prevailing amongst various sections of the Port and Dock workers.

CHAPTER 17—*Ex-gratia payment to port employees*

One of the most important terms of reference made to the Major Ports Commission was to assess the capacity of the ports to enhance the current rate of *ex-gratia* payment in lieu of bonus to their employees. We have to regretfully put on record our considered opinion, that this Commission has failed to discharge the obligations cast upon it by the terms of reference. The recommendations made by the majority in respect of enhancement of *ex-gratia* payment to the Port Trust employees will, we most earnestly submit, defeat the very purpose for which the Commission was set up.

2. Before we deal with the drawbacks in the "majority" recommendations, it would be appropriate to recapitulate the events which led to the constitution of the Major Ports Commission, and the formulation of the specific terms of reference made to it by the Government relating to the enhancement of the rate of *ex-gratia* payment in lieu of bonus to port employees.

3. Prior to 1956, there had been constant labour agitations in almost all the Major Ports on the question of removal of disparities in rates of wages and emoluments paid to the employees of the Port Trusts on the one hand, and those employed by their counterparts employed in the private sector in the Port Transport Industry. In 1956, the Government of India by an agreement with the All India Port & Dock Workers Federation appointed an Officer on Special Duty, Shri P. C. Chaudhuri, to inquire into the conditions of service of the Port and Dock Workers. Even though the terms of reference made to him were highly restricted, and primarily related to the question of removing anomalies in the scales of pay in the light of the pay scales admissible to similar categories of employees in Government establishments under the recommendations made by the First Pay Commission, Shri Chaudhuri accepted the principle of equal pay for equal work. It is pertinent to note that in the year 1956 the stevedoring workers, and the supervisory staff employed by the stevedores and shipping companies in the docks were being paid bonus every year, while the employees of the several Port Authorities were denied any type of bonus or payment in lieu thereof. One of the reasons advanced by the Port Authorities against the payment of bonus was that a Port Trust was not a profit-making body, and consequently the employees were not entitled to any share in the surpluses earned by a Port Authority. This attitude on the part of the Port Authorities perpetuated the disparities in wages and emoluments between the employees of the Port Authorities and their counterparts employed in the private sector, though doing identical work.

4. In the meanwhile, the All India Port & Dock Workers Federation continued the agitation for removing the patent disparity in the annual emoluments between the two sets of employees doing identical work side by side but in the service of employers in two sectors, the Private and the Public. The Federation did not take any drastic action to secure justice to the port employees, in the hope that the Port Authorities and the Government would see reason and do justice to the port employees. This is precisely why the Federation appeared before the Bonus Commission and pleaded that the Port Trust employees like their counterparts in the Private Sector should be made eligible to the benefit of bonus. When the recommendations of the Bonus Commission were accepted by the Government, with certain modifications, the Federation was informed that the Major Ports were exempted from the original terms of reference to the said Commission, and therefore they would also be exempted from the payment of bonus under Section 32(iv) of the Payment of Bonus Act 1965.

5. When the Federation failed to secure justice in the matter of payment of bonus to the port employees it served a notice of nationwide strike on the Port Authorities in July 1966. With a view to averting the nationwide stoppage of work by port employees, the Government of India invited the representatives of the All India Port & Dock Workers' Federation and the Port Authorities to a high level Tripartite Conference at New Delhi in August 1966. The

representatives of the Ministry of Food and Agriculture and Chairmen of the Dock Labour Boards were also invited to attend this Conference. After detailed discussions and negotiations, the Government of India appreciated the justness of the claims put forth by the Federation for payment of bonus to the employees of the Port Authorities, Dock Labour Boards, and to the foodgrain handling workers, and accepted the principle that the concerned employees and workmen should be made eligible to bonus euphemistically styled "*ex gratia*".

6. Pursuant to the agreement reached by the Government with the Federation, the Government of India advised the Port Trusts in November 1966 to make uniform *ex gratia* payments in lieu of bonus at the rate of four per cent of salary or wages to all their employees. The Ministry of Food and Agriculture and the Dock Labour Boards also made similar *ex gratia* payments to their employees engaged for work in the docks.

7. The Federation was not satisfied with this minimal quantum of bonus and pressed its claim for a bonus of 20 per cent of annual earnings for port employees.

8. The Government of India once again held a Tripartite Conference in August 1967 and announced that the claim of the Federation for a bonus of 20 per cent of annual earnings would be settled after consideration of the recommendations that may be made by a Commission of inquiry which was to be set up by the Government to enquire into all aspects of the Major Ports. It was also agreed that the proposed Commission would be required to assess the capacity of the Port Authorities to enhance the current rate of four per cent *ex gratia* payments. The Federation has been contending, that the ports have got unlimited capacity to pay 20 per cent of wages as bonus, but due to the domination of vested interests in the several Boards of Trustees all the legitimate sources of revenue to the ports have not been exploited, and consequently several services were being rendered to the users at below cost. It was also argued by the Federation that, in the ultimate analysis, the financial capacity of a Port Authority depends upon the capacity of the users of the ports' services, and as such the Commission should first ascertain the capacity of the users to pay adequate charges for the services rendered to them by the several Port Trusts.

9. When dealing with the question of the existing schedules of rates and charges at the various ports, the Commission has come to the conclusion that the existing rates and charges are so inadequate, that several services rendered by quite a few ports do not recover even the direct cost incurred by them. The Commission has, therefore, made certain recommendations to revise the rates and charges levied by the Port Trusts on sound commercial principles.

10. The findings of the Commission have proved beyond doubt that there is enough capacity for each Port Trust to augment its revenues by raising its rates and charges for the services rendered by it. Therefore, the requirements of the specific terms of reference have been fully met, and logically the recommendation that the

Commission should make is that all port employees who have been deprived of their legitimate share of 20 per cent of their wages as bonus should be paid this rate of *ex gratia* in lieu of bonus, with retrospective effect from the financial year 1965-66.

11. We, therefore, do not agree with the recommendations made by the other members of the Commission that their proposal should be given effect to only from the accounting year 1967-68.

12. We are opposed to the formula proposed by the majority of our colleagues to ascertain the "available surplus" for the purpose of payment of *ex gratia* in lieu of bonus on the following grounds amongst others —

(a) The majority of members have recommended that before a port can make a payment of an *ex gratia* amount in excess of four per cent, it should earn a return of at least 12 per cent on the capital employed. From para 8.4 of Chapter 8 Financial Objectives for Major Ports, it is seen that the term capital employed is used to mean the aggregate of the net value of the assets and the quantum of the working capital. The return of 12 per cent is expected to cover the following—

6 per cent towards interest charges;

3 per cent towards replacement, rehabilitation and modernization of the capital assets; and

3 per cent towards reserve for development, repayment of loans and contingencies.

It is the view of the majority of the members of the Commission, that the financial objective of Port Trusts should be to earn a minimum of 12 per cent rate of return on the capital employed. That is to say, from its income, a Port Trust should be able to meet all its financial obligations, such as working expenses, depreciation, etc., and have a balance which would amount to at least 12 per cent of the capital employed. If the surplus realized is more than 12 per cent of the capital employed, the employees of the Port Trust would be entitled to a share of 60 per cent of such excess, and the balance of 40 per cent would be retained by the Port Trust for strengthening its financial resources.

It will be seen that the proposed rate of return on capital employed and the payment of *ex gratia* in excess of four per cent are interdependently related to the capacity of the Port Trusts to earn sufficient income, the net value of the assets, and the development plans for expansion and modernization which will add to the value of the assets.

The ability of a Port Trust to earn income is directly related to the level of the rates and charges levied by the Port Trust on ships, on goods and on services. In para 9.12 of Chapter 9—Port rates and charges—the majority of members have expressed the opinion, that the actual

rates on commodities should range between the two limits of "the direct cost" and the ability of the traffic to bear the "full cost". It is also clarified in para 9.10 *ibid* that by the term 'direct cost' is meant the actual cost of handling the traffic, without any provision for depreciation or overheads as distinguished from the expression 'cost of service' which means actual cost plus 6 per cent interest. The other expression 'full cost' includes depreciation, overheads and a minimum return on the capital employed. It is clear from these recommendations, that even in a port where it is possible to fix rates that would enable the "full cost" of all services to be recovered, the level of the rates should be so fixed according to the majority of the Commission so as to ensure only the minimum rate of return on capital employed. If this recommendation is rigidly followed by the Port Authorities, no Port Trust would be required to pay an *ex gratia* amount in lieu of bonus of more than four per cent of the annual wage bill.

- (b) The reason why the Commission was required to examine whether the current four per cent rate of wages as *ex gratia* could be enhanced by the Port Trusts was to secure industrial peace and harmony in our ports. The recommendations made by the majority of the members of the Commission will not be conducive to securing industrial peace and harmony, and inevitably will sow the seeds of discord between the employees and the Port Trust Administrations. It is unfortunate, that instead of adopting an original approach in formulating their recommendations, they have been content to draw upon what was done by the Electricity Boards.
- (c) A port which has not carried out any big developmental work during the last 10 years may find a big available surplus for payment of *ex gratia* in lieu of bonus. But that available surplus may be wiped out, the moment any major development or modernization programme is undertaken. When such investment is made, for several years the minimum rate of bonus of four per cent would be payable during the period of construction and the inevitable time lag for full utilization of new capacities and for higher port charges to be fixed for an available surplus to emerge. The net result will be that the rate of *ex gratia* may plunge steeply on an expansion or modernization programme being undertaken, resulting in serious labour discontent
- (d) The cost of developmental work for creation of a particular quantum of port capacity may vary significantly from port to port, and if the additional capacity is created at a relatively higher cost for the same quantum of increase in port capacity, at one port than at another port, those employed in the port where higher costs have

been incurred for the given increase in port capacity will be eligible to a lower rate of bonus than those employed at a port where the cost of expansion has been lower.

- (e) The repayment rates of loans may vary from port to port. The repayment of loans may be over a shorter period at one port than for loans borrowed by another port. In such an eventuality, the workers in the former port may be eligible to a much lower rate of *ex gratia* payment than at other ports.
- (f) The discontent prevailing amongst labour on account of a low rate of *ex gratia* payment may manifest itself in the shape of agitation for augmenting port charges so that an adequate surplus may emerge. There will be also resistance from labour against any developmental work being undertaken for fear that it may result in a reduction in the rate of *ex gratia* being paid to them.
- (g) Though it is advisable to fix port charges to get a return higher than 12 per cent on capital employed, the nature of the traffic or the cargo will determine the level of port charges, and not the cost of port development. Thus a costly cargo like oil may bear high rate of port charges, whereas a cargo like iron ore may not attract an adequate rate to meet the desideratum of a 12 per cent return on the capital employed.
- (h) In a port like Calcutta where export cargoes constitute more than 50 per cent, of the total tonnage handled, there will be great resistance from the trade to increase adequately port charges on the export commodities lest any such increase should affect adversely the volume of exports. The net consequence will be that for the purpose of earning adequate foreign exchange, workers employed in such a port will be denied adequate or fair *ex gratia* payment.
- (i) *Ex gratia* was allowed to the port workers to ensure industrial peace, so that the discrimination between the stevedore workers getting bonus and port workers being denied it would be eliminated. The greatest source of labour discontent in the ports has been caused by the discrepancies in the wage structure at different ports. This was sought to be eliminated, at long last, by the Wage Board prescribing standard pay scales and allowances at all the Major Ports for all categories to ensure industrial harmony. Just as this objective is to be reached, the formula advocated by the majority of the members of the Commission will throw a highly explosive apple of discord amongst the workers employed at the several ports. Normally the bigger establishments in any industry are in a position to pay higher rate of bonus on account of higher profitability arising out of economies consequent on the scale of operations. The formula suggested by the majority is going to unset this normal expectation under which the paradoxical situation will

emerge of relatively smaller ports being able to pay higher rates of *ex gratia*, than would become payable to the workers employed at the bigger ports. No Machiavelian agitator could concoct a more potent formula for raising a storm of discontent at the bigger ports, which account for more than 75 per cent of the foreign trade of India, than the bonus formula so innocently conceived by the majority of the members of the Commission.

- (j) The immediate prospect seems to be that iron ore exports will form the bulk of the increase in the traffic through the ports. There is bound to be strong resistance from the exporters to pay adequate port charges so as to ensure an excess of 12 per cent return on the capital employed, taking into account the high developmental costs for creation of berthing capacities for the modern monster bulk carriers. The new development programmes will ensure only a minimum rate of bonus for workers employed in such ports where port expansion schemes are under execution.
- (k) The efficiency of any port is gauged by the rate of turn-round of vessels. However efficient a port may be by this universally recognized criterion, the effort put in by labour to achieve high rates of efficiency will not be reflected in the rate of *ex gratia* payable, under the formula advocated by "majority" members.
- (l) For reasons of national policy, strategic, political or otherwise, a port may be developed at immense cost. But however, efficiently the workers may work, or the administration may manage, there will be no rational or fair correlation to the *ex gratia* payment under the formula proposed by the majority of the members of the Commission.
- (m) Whereas the desideratum is to induce labour to accept modernization and development, the formula proposed by the majority will run counter to this objective, since any expenses incurred on such modernization may negative or attenuate the bonus otherwise payable.

13. It is unfortunate that the majority of the members on the Commission have yielded to doctrinaire and theoretical considerations. Such an attitude is not conducive to ensure industrial peace so vital for harmonious and efficient port working. It would have been desirable for the Commission to have adopted a pragmatic approach when dealing with the workers' demand for an increase in the rate of payment of *ex gratia*. An original and imaginative outlook is necessary if this problem is to be satisfactorily solved. Merely adopting the procedure followed by the Electricity Boards will do more to harm than help industrial contentment. It is only reasonable, that if as a result of massive investment the traffic at a port increases, the workers should get their share in the increased trade handled by the Port Trust, and they cannot be denied their legitimate claim for higher rate of bonus or *ex gratia* for the increased traffic because of theoretical considerations of inadequacy of the rate of return on the capital employed.

14. We, therefore, strongly recommend that the formula proposed by us and some of our colleagues on the Commission, namely, the linking of the payment of *ex gratia* in lieu of bonus to the volume of traffic handled at the ports should be accepted by the Government. The details of the formula proposed by four of us is briefly embodied in Chapter 17 of the Report. Our formula is based on the pattern of the agreement reached between the Transport & Dock Workers' Union, Bombay and the Bombay Stevedores' Association Ltd., Bombay. As a matter of fact even the Bonus Commission has recommended the extension of the principles underlying the said agreement to other categories of port and dock workers employed in the Major Ports.

15. Before we conclude this note of dissent we would like to remove certain inaccuracies in the comments made by our colleagues with regard to the factual position of the working of the tonnage formula at Bombay. It is stated that in the case of the dock workers, an overwhelming majority of them is connected directly with cargo handling, whereas it is not so in the case of employees of the Bombay Port Trust. This is an erroneous statement and ignores the facts relating to port working and particularly regarding the functions of Port Authorities *vis-a-vis* those of the stevedores. The stevedores are not called upon to discharge all the functions that are required to be performed by the Port Trusts and consequently stevedore employers are required to engage lesser number of workers compared to Port Authorities.

16. However, the fact remains that the stevedoring companies do employ a large number of persons other than cargo handling workers. In the matter of payment of bonus, the stevedores are required to pay the same quantum of bonus in terms of number of days' basic wages as is computed every year in respect of cargo handling stevedore workers in accordance with the terms of the agreement between the Transport & Dock Workers' Union and the Bombay Stevedores' Association Ltd., Bombay. The employees who are not directly connected with the loading/unloading operations are also paid the same quantum of bonus in terms of basic wages, but such payments are made to them separately by the employers. That is why in the year 1967-68 the stevedore employers at the port of Bombay paid an aggregate amount of Rs. 16 lakhs to their 6,000 employees, including those who are not connected with the cargo handling operations, whereas for the same year the Bombay Port Trust which employed approximately 28,000 workers paid only Rs. 33 lakhs by way of *ex gratia*.

BY SHRI MAKHAN CHATTERJEE

CHAPTER 9—*Port rates and charges*

In Appendix II to Chapter 9 revenue per tonne of traffic handled at Major Ports has been given. In my opinion these figures do not help anyone to come to a useful conclusion. The average earnings per tonne vary from port to port due to many reasons, one of which is the average charges. The main reason for such varying average earnings is that all the ports do not render the same services to trade and consequently the question of comparable earnings does not arise. The revenue of a port is not derived from one source only but from many sources, such as cargo, vessels, land, railways, dry docks, etc. Many services rendered by the port of Calcutta are performed by other agencies in other ports, such as, loading of wagons and lorries, coal stevedoring, foodgrain handling, etc. Similarly, there are no dry docking facilities for ocean-going vessels excepting in Calcutta and Bombay ports till now. Thus, if Calcutta port's charges are higher that is only because Calcutta port renders a larger range and variety of services than any other port in the country. Calcutta port handles a large volume of non-shipment and railway/road traffic which has not been taken into consideration in calculating average earnings per tonne.

2. I think without the above explanation, the Appendix mentioned above will lead to incorrect conclusion and cause unnecessary confusion.

REPORT OF THE COMMISSION ON MAJOR PORTS.
VOL. II—APPENDICES
JUNE, 1970

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CHAPTER 1—APPENDIX I (i)

GOVERNMENT OF INDIA

MINISTRY OF TRANSPORT AND SHIPPING

New Delhi, 14 February, 1968.

RESOLUTION

No. 19-PG(101)/67—The Government of India have decided to set up a Commission on Major Ports consisting of the following:—

Chairman

Shri R. Venkataraman.

Members

Shri N. Dandekar, M. P.

Shri M. P. Bhargava, M. P.

Shri M. N. Naghnoor, M. P.

Shri S. R. Kulkarni

Shri B. B. Ghosh.

Prof. V. V. Ramanadham.

A representative of the Ministry of Finance (Shri P. N. Jain Joint Secretary).

2. The terms of reference of the Commission will be as follows:—

- (i) To examine the methods of working of major ports with a view to improve their operational efficiency.
- (ii) To consider broadly their development programmes in the context of present and future national needs with special reference to the changing shipping and port technology.
- (iii) To examine specifically the following aspects of port working—
 - (a) Management (b) Financing and (c) Personnel.
- (iv) To consider in the light of the above, the capacity of the ports to enhance the current rate of *ex-gratia* payment.
- (v) To review the arrangements that exist for coordination among the different ports.
- (vi) To make recommendations on the above and other ancillary matters.

3. The Commission will have a full time Secretary of the rank of a Deputy Secretary to the Government of India.

4. The Commission will be assisted by special consultants to be appointed in specific fields wherever necessary.

5. The Commission will submit its report within a period of six months.

6. The Commission will devise its own procedures. It may call for such information and take such evidence as it may consider necessary. The Ministries/Departments of the Government of India will furnish such information and render such assistance as may be required by the Commission.

Sd. (S. CHAKRAVARTI)

Secretary to the Govt. of India

ORDER

Ordered that the Resolution be published in the Gazette of India, Part I, Section I.

Ordered also that a copy of the Resolution be communicated to all Ministries/Departments of the Government of India, Maritime State Government/Administrations of Union Territories and all other concerned.

Sd. (S. CHAKRAVARTI)

Secretary to the Govt. of India

CHAPTER 1—APPENDIX I (ii)

GOVERNMENT OF INDIA

MINISTRY OF TRANSPORT AND SHIPPING

New Delhi, 21 September, 1968

RESOLUTION

No. 19-PG(101)/67—The Government of India are pleased to appoint the following persons as additional members of the Commission on Major Ports, set up *vide* Ministry of Transport & Shipping Resolution No. 19-PG(101)/67 dated the 14th February, 1968:—

- (1) Dr. (Smt.) Maitreyee Bose, M. P.
- (2) Shri Indrajit Gupta, M. P.
- (3) Shri Vasant J. Sheth.
- (4) Shri P. A. Narielwala.

2. The Government of India have also been pleased to extend the term of the Commission till 28 February, 1969.

Sd. (S. CHAKRAVARTI)

Secretary to the Govt. of India

No. 19-PG(101)/67.

Dated the 21st December, 1968

ORDER

Ordered that the Resolution be published in the Gazette of India.

Ordered also that a copy of the Resolution be communicated to all Ministries/Departments of the Government of India, Maritime State Governments/Administrations of Union Territories and all others concerned.

Sd. (S. CHAKRAVARTI)

Secretary to the Govt. of India

CHAPTER 1—APPENDIX I (iii)

GOVERNMENT OF INDIA
MINISTRY OF SHIPPING & TRANSPORT
(TRANSPORT WING)

New Delhi, 17 April, 1969

RESOLUTION

No. 15-PG(1)/69—The Government of India are pleased to appoint the following persons as additional members of the Commission on Major Ports, set up by Ministry of Transport and Shipping Resolution No. 19-PG(101)/67 dated 14 February, 1968:—

- (1) Shri M. V. Bhadram, M. P.
- (2) Shri Makhan Chatterjee.
- (3) Shri L. M. Nadkarni.

2. The Government of India are also pleased to re-appoint Shri S. R. Kulkarni, who had resigned from the membership of the Commission as a member of the Commission.

Sd. (K. NARAYANAN)

Joint Secretary to the Govt. of India

15-PG(1)/69

Dated the 17th April, 1969

ORDER

Ordered that the Resolution be published in the Gazette of India.

Ordered also that a copy of the Resolution be communicated to all Ministries/Departments of the Government of India, Maritime State Governments/Administrations of Union Territories and all other concerned.

Sd. (K. NARAYANAN)

Joint Secretary to the Govt. of India

CHAPTER 1—APPENDIX I (iv)

GOVERNMENT OF INDIA
MINISTRY OF TRANSPORT AND SHIPPING
(TRANSPORT WING)

New Delhi-1, 24 April, 1969

CORRIGENDUM

No. 15-PG(1)/69—In the Resolution of the Government of India in the Ministry of Shipping and Transport (Transport Wing) No. 15-PG(1)/69 dated the 17th April, 1969:—

For the existing entry against S. No. 1 in para 1,

Read Shri M.V. Bhadram, M.P. vice Shri Indrajit Gupta, M.P. resigned.

Sd. (K. NARAYANAN)

Joint Secretary to the Govt. of India

CHAPTER 1—APPENDIX II
COMMISSION ON MAJOR PORTS

Appointed on: 14 February, 1968

COMPOSITION

Chairman

Shri R. Venkataraman

Members

Shri M. P. Bhargava

Shri M. N. Naghnoor

Shri B. B. Ghosh

Shri V. V. Ramanadham

Dr. (Smt.) Maitreyee Bose

Shri Vasant J. Sheth

Shri P. A. Narielwala

Shri M. V. Bhadram

Shri Makhan Chatterjee

Shri L. M. Nadkarni

Shri S. R. Kulkarni

Shri P. N. Jain

Secretary

Shri D. Sridharan

NOTE—Other member associated with the work of the Commission was Shri N. Dandekar who resigned in October 1968.

Report signed on: 17 June, 1970.

CHAPTER 1—APPENDIX III

List of Organisations which Submitted Memorandum to the Commission on Major Ports.

(a) Labour Federations/Organisations/Unions/Dock Labour Boards, etc.

1. All India Trade Union Congress, New Delhi.
2. B.P.T. General Workers' Union, Bombay.
3. Bombay Dock Labour Board, Bombay.
4. Bombay Stevedores' Association Ltd., Bombay.
5. Calcutta Dock Labour Board, Calcutta.
6. Calcutta Dock Workers' Coordination Committee, Calcutta.
7. Cochin Dock Labour Board, Cochin.
8. Cochin Port Engineering Staff Association, Cochin.
9. Cochin Port Staff Association, Cochin.
10. Goa Dock Labour Union, Vasco-Da-Gama (Goa).
11. Indian National Port and Dock Workers' Federation, Calcutta.
12. Kandla Port Karamchari Sangh, Gopal Puri (Kutch).
13. Kandla Port Trust Officers' Association, Gandhidham.
14. Kandla Stevedores' Association Ltd., Kandla (Gandhidham).
15. Labour Supervisors' Association, B.P.T. Docks, Bombay.
16. Madras Dock Labour Board, Madras.
17. Mormugao Port and Railway Workers' Union, Vasco-Da-Gama (Goa).
18. Mormugao Port Trust Officers' Association, Goa.
19. Officers' Association Visakhapatnam Port Trust, Visakhapatnam.
20. Paradip Port Sramika Sangha, Paradip.
21. Port and Dock Workers of Mormugao Harbour, Goa.
22. Port Khalasis' Union, Visakhapatnam.
23. Port Officers, Tuticorin.
24. Tuticorin Boat Workers' Union, Tuticorin.

25. Tuticorin Harbour Workers' Union, Tuticorin.
26. Visakhapatnam Dock Labour Board, Calcutta.
- (b) *Export Promotion Councils/Commodity Boards etc.*
 27. Cashewnut Export Promotion Council, Ernakulam.
 28. Chemicals and Allied Products Export Promotion Council, Calcutta.
 29. Coir Board, Ernakulam.
 30. Cotton Textile Export Promotion, Bombay.
 31. Engineering Export Promotion Council, Calcutta.
 32. Marine Products Export Promotion Council, Cochin.
 33. Marine Products Export Promotion Council, Mormugao.
 34. Plastics and Linoleums Export Promotion Council, Calcutta.
 35. Spices Export Promotion Council, Ernakulam.
- (c) *Universities/Educational Institutes.*
 36. Aligarh Muslim University, Aligarh.
 37. Gauhati University, Gauhati.
 38. Indian Institute of Technology, Kharagpur.
 39. Indore University, Indore.
 40. Jiwaji University, Gwalior.
 41. University of Roorkee, Roorkee.
- (d) *Central Ministries/Departments/Subordinate Offices/Attached Offices/Maritime States.*
 42. Chief Controller of Imports and Exports, Ministry of Commerce, New Delhi.
 43. Department of Communication, Sardar Patel Bhavan, New Delhi.
 44. Development Adviser, Ministry of Transport & Shipping, New Delhi.
 45. Director General, Supplies and Disposals, New Delhi.
 46. Govt. of Goa, Daman & Diu, Industries and Power Deptt., Panjim.
 47. Govt. of Gujarat, Sachivalya, Ahmedabad.
 48. Govt. of Tamil Nadu, Madras.
 49. Govt. of Mysore, Bangalore.
 50. Indian Standards Institute, New Delhi.
 51. Ministry of Food and Agriculture (Deptt. of Agr.), New Delhi.

52. Ministry of Food & Agriculture, Office of the Joint Director, P.O. Eastern Region, Calcutta.
53. Ministry of Labour, Employment and Rehabilitation, New Delhi.
54. Ministry of Railways, Railway Board, New Delhi.
55. Post & Telegraph Deptt., New Delhi.
56. Salt Commissioner, Jaipur.

(e) *Federations/Associations/Chambers of Commerce etc.*

57. All India Exporters' Chamber, Bombay.
58. All India Importers' Association, Ernakulam.
59. All India Manufacturers' Organisation, Bombay.
60. All India Manufacturers' Organization, Ernakulam.
61. Andhra Chamber of Commerce, Madras.
62. Bharat Chamber of Commerce, Calcutta.
63. Bombay Chamber of Commerce and Industry, Bombay.
64. Bengal Chamber of Commerce and Industry, Calcutta.
65. Bengal National Chamber of Commerce, Calcutta.
66. Calcutta Jute Fabrics Shippers' Association, Calcutta.
67. Cochin Chamber of Commerce and Industry, Cochin.
68. Federation of Gujarat Mills and Industries, Baroda.
69. Fish Exporters Chamber, Tuticorin.
70. Federation of Indian Manufacturers, New Delhi.
71. Federation of Indian Mineral Industries, New Delhi.
72. Goa Mineral Ore Exporters' Association, Panjim.
73. Hindustan Chamber of Commerce, Madras
74. Indian and Tuticorin Chamber of Commerce and Industry, Tuticorin.
75. Indian Chamber of Commerce, Calcutta.
76. Indian Chamber of Commerce, Cochin.
77. Indian Chamber of Commerce and Industry, Calcutta.
78. Indian Chemical Manufacturers' Association, Calcutta.
79. Indian Jute Mills' Association, Calcutta.
80. Indian Tobacco Association, Guntur.

81. Madras Chamber of Commerce and Industry, Madras.
82. Madurai Ramnad Chamber of Commerce, Madras.
83. Merchant Chamber of Commerce, Calcutta.
84. Oriental Chamber of Commerce, Calcutta.
85. Orissa Chamber of Commerce and Industry, Cuttack.
86. Salt Manufacturers' and Merchants' Association, Tuticorin.
87. South India Chamber of Commerce and Industry, Madras.
88. Tuticorin Spinning Mills Ltd., Tuticorin.

(f) Shipping Lines/Shipping Councils/Ship Owners.

89. All India Shippers' Council, New Delhi.
90. Bombay Consultative Committee of Overseas Shipping Interests, New Delhi.
91. Calcutta Consultative Sub-Committee of Shipping Interests in the Overseas Trade, Calcutta.
92. Chowgule and Company Private Ltd., Goa.
93. Commodore Incharge (Naval Head Quarters), Cochin.
94. Eastern India Shippers' Association, Calcutta.
95. Embarkation Commandant, Bombay.
96. Embarkation Commandant, Calcutta.
97. Export—Import—Shipping—Clearing—Forwarding—Custom House, Agent (Shri M. K. Sivagaminathan), Tuticorin.
98. Great Asiatic Lines, New Delhi.
99. Hooghly Docking Engineering Co. Ltd., Calcutta.
100. Indian Marine Service (P) Ltd., Calcutta.
101. Indian National Shipowners' Association, Bombay.
102. Kandla Port Steamship Agents' Association, Gandhidham, Kandla.
103. Karmoham Conference, Bombay.
104. Mackinnon, Mackenzie and Co. Ltd., Bombay.
105. Madras Steamer Agents' Association, Madras.
106. Mitsui and Co. Ltd., Calcutta.
107. Mogul Lines Ltd., Bombay.
108. Mormugao Ships' Agents Association, Mormugao.

109. Ship Ancillary Industries Ltd., New Delhi.
110. South Indian Shipping Corporation, Madras.
111. Tuticorin Harbour Development Council, Tuticorin.
112. Tuticorin Sailing Vessel Owners' Association, Tuticorin.

(g) *Public Enterprises/Corporations/Individuals etc.*

113. Bharat Heavy Electricals, New Delhi.
114. Cochin Refineries Ltd., Ernakulam.
115. Corporation of Calcutta, Calcutta.
116. Food Corporation of India, Kandla.
117. Heavy Engineering Corporation Ltd., Ranchi.
118. Hindustan Machine Tools, Bangalore.
119. Hindustan Steel Ltd., Ranchi.
120. Indian Council of Foreign Trade, Bombay.
121. Indian Oil Corporation, New Delhi.
122. Indian Telephone Industries Ltd., Bangalore.
123. Minerals & Metals Trading Corporation of India (Regional Office), Calcutta.
124. Minerals and Metals Trading Corporation of India, New Delhi.
125. Mining and Allied Machinery Corporation, Durgapur.
126. S. K. Batra C/o Kandla Commercial Publications, Adipur (Kutch).
127. State Trading Corporation of India Ltd., New Delhi.

CHAPTER 1—APPENDIX IV

Various Organization which Tendered Evidence before the Commission during its Visits to Major Ports

1. Administrative Body for Listed Workers, Madras.
2. All India Manufacturing Organization, Ernakulam.
3. Andhra Chamber of Commerce, Madras.
4. Assistant Salt Commissioner, Calcutta.
5. Balailal Mukherjee and Co., Paradip.
6. Bengal Chamber of Commerce and Industry, Calcutta.
7. Bengal National Chamber of Commerce, Calcutta.
8. Bharat Chamber of Commerce, Calcutta.
9. Bombay Consultative Sub-Committee, Bombay.
10. Bombay Dock Labour Board, Bombay.
11. Bombay Port Trust Employees' Union, Bombay.
12. Bombay Port Trustees, Bombay.
13. Bombay Port Trust General Workers' Union, Bombay.
14. Bombay Port Trust Railwaymen's Union, Bombay.
15. Bombay Port Trust Workers' Union, Bombay.
16. Bombay Stevedores' Association, Bombay.
17. Bombay Stevedores' and Dock Labourers' Union, Bombay.
18. Calcutta Jute Fabrics Shippers' Association, Calcutta.
19. Calcutta Master Stevedores' Association, Calcutta.
20. Calcutta Port and Dock Workers' Union under Port, Dock and Waterfront Workers' Federation of India, Calcutta.
21. Calcutta Salt Association Ltd., Calcutta.
22. Calcutta Tea Merchants' Association, Calcutta.
23. Calcutta Tea Traders' Association, Calcutta.
24. Canara Chamber of Commerce, Mangalore.
25. Chambers of Commerce and Industry and Kandla Steamship Agents' Association, Kandla.

26. Cashew Export Promotion Council, Ernakulam.
27. Chemicals and Allied Products Export Promotion Council, Calcutta.
28. Chemicals and Allied Products Export Promotion Council, Madras.
29. Clearing Agents' Association, Cochin.
30. Coal Controller, Calcutta.
31. Coal Shippers, Calcutta.
32. Cochin Chamber of Commerce, Cochin.
33. Cochin Dock Labour Board, Cochin.
34. Cochin Port Staff Association, Cochin.
35. Cochin Port Trustees, Cochin.
36. Cochin Port Workkers' Union, Cochin.
37. Cochin Shipping Company, Cochin.
38. Cochin Thuramugha Thozhilali Union, Cochin.
39. Current Chamber of Commerce, Tuticorin.
40. Customs Clearing and Shipping Agents' Association, Madras.
41. Dock Labour Board, Calcutta.
42. Dock Labour Board, Mormugao.
43. Dock Labour Board, Visakhapatnam.
44. Dry Fish Exporters' Chamber, Calcutta.
45. Eastern India Shippers' Association, Calcutta.
46. Eastern Railway, Calcutta.
47. Engineering Export Promotion Council, Calcutta.
48. Engineering Export Promotion Council, Madras.
49. Ernakulam Chamber of Commerce, Ernakulam.
50. Fishery Industries, Cochin.
51. Food Department, Calcutta.
52. Food Corporation of India, Kandla.
53. Forbes, Forbes, Campbell and Co., Bombay.
54. Foreign Shipping Interests, Cochin.
55. F.W. Heilgers and Co. (P) Ltd., Paradip.
56. Gandhidham Municipality, Gandhidham (Kutch).
57. Great Eastern Shipping and Indian Shipowners, Bombay.

58. Goa Dock Labour Union, Vasco-Da-Gama (Goa).
59. Handloom Export Promotion Council, Madras.
60. Harbour Development Council, Tuticorin.
61. Heads of Departments of Visakhapatnam Port Trust, Visakhapatnam.
62. Hindustan Chamber of Commerce, Madras.
63. Indian Chamber of Commerce, Calcutta.
64. Indian Chamber of Commerce, Cochin.
65. Indian Council of Foreign Trade, Bombay.
66. Indian National Port and Dock Workers' Federation and the National Union of Waterfront Workers, Calcutta.
67. Indian National Trade Union Congress, Mormugao.
68. Indian Shipowners' Association, Calcutta.
69. Indian Jute Mills' Association, Calcutta.
70. Indian Tea Association, Calcutta.
71. International Clearing and Shipping Agency, Paradip.
72. Japan-Persian Gulf—Japan Conference, Bombay.
73. Jute Commissioner, Calcutta.
74. J.M. Baxi and Co., Paradip.
75. Kanara Vessel Owners' and Brokers' Association, Mangalore.
76. Kandla Port Trustees, Kandla.
77. Kandla Port Workers' Union, Gandhidham (Kutch).
78. Kandla Stevedoring Association and Kandla Customs House Association, Kandla, Gandhidham (Kutch).
79. Karmahom Conference, Bombay.
80. Karnataka Dock and General Workers' Union, Mangalore.
81. Leather Export Promotion Council, Madras.
82. Madras Chamber of Commerce, Madras.
83. Madras Dock Labour Board, Madras.
84. Madras Dock Labour Board Staff Association, Madras.
85. Madras Harbour Casual and Temporary Employees' Union, Madras.
86. Madras Harbour Workers' Union, Madras.
87. Madras Port and Dock Workers' Congress, Madras.
88. Madras Port and Dock Workers' Progressive Union, Madras.

89. Madras Port Trust Employees' Union Madras.
90. Madras Port Trust Railwaymen's Union, Madras.
91. Madras Port United Labour Union, Madras.
92. Madras Port Trust Subordinate Officers, Supervisory and Staff Association, Madras.
93. Madras Port National Workers Union, Madras.
94. Madras Refineries Ltd., Madras.
95. Madras Steamer Agents Association, Madras.
96. Madras Stevedores Association, Madras.
97. Malabar Steam-ship Company Ltd., Cochin.
98. Marcona Corporation U.S. Mining and Shipping connected with Kudremukh and Major Port, Mangalore.
99. Mackinon Mackenzia and Co. Ltd., Paradip.
100. Marine Products Export Promotion Council, Cochin.
101. Members of the Mangalore Port Trust Board, Mangalore.
102. Merchants Chamber of Commerce, Calcutta.
103. Minerals and Metals Trading Corporation, Calcutta.
104. Mine Owners Association, Goa.
105. Mineral Ore Exporters Association, Goa.
106. Mitsui and Company Ltd. (Buyers of Iron Ore), Paradip.
107. Mormugao Chamber of Commerce and Industry, Panaji, (Goa).
108. Mormugao Port and Railway Workers Union, Vasco-Da-Gama (Goa).
109. Mormugao Waterfront Workers Union Vasco-Da-Gama (Goa).
110. Mysore Minerals Ltd., Mangalore.
111. National Chamber of Commerce, Madras.
112. National Port Trust Employees Union, Visakhapatnam.
113. Oriental Chamber of Commerce, Calcutta.
114. Orissa Chamber of Commerce, Paradip.
115. Paradip Port Trustees, Paradip.
116. Plastic Export Promotion Council, Madras.
117. Port and Dock Workers Union, Mangalore.

118. Port Commissioners of Calcutta, Calcutta.
119. Sailing Vessels Owners' Association, Tuticorin.
120. Salt Manufacturers' and Merchants Association, Tuticorin.
121. Salt Producers Exporters Chamber, Tuticorin.
122. Scindia Steam Navigation Co. Ltd., Bombay.
123. Sea Food Exporters Association of India, Cochin.
124. Senna Exporters, Tuticorin.
125. Shaw Wallace and Co. Ltd., Bombay.
126. Shipping Corporation of India, Bombay.
127. Shipping Sub-Committee, Bengal Chamber of Commerce and Industry, Calcutta.
128. Shipping Sub-Committee, Cochin Chamber, Cochin.
129. South India Shipping Corporation Ltd., Madras.
130. Southern India Chamber of Commerce, Madras.
131. Southern India Skins and Hides Merchants Association, Madras.
132. South Eastern Railway, Calcutta.
133. South Kanara Market Committee, Mangalore.
134. Spices Export Promotion Council, Ernakulam.
135. Sramik Sangha, Representatives of Paradip Port, Paradip.
136. State Government Officers, Mangalore.
137. State Trading Corporation, Calcutta.
138. Steamships Agents Association, Mormugao.
139. Steamer Agents Association, Tuticorin.
140. Steel Exporters' Association, Calcutta.
141. Stevedores Association, Mormugao.
142. Stevedores, Shipping Agents, Chamber of Commerce, Ore Shippers, Shipping Employees Federation, Visakhapatnam.
143. Tamil Chamber of Commerce, Madras.
144. Tea Board, Calcutta.
145. Tobacco Export Promotion Council, Madras.
146. Transport and Dock Workers Union, Bombay.
147. Transport and Dock Workers Union, Madras.
148. Transport and Dock Workers Union, Panaji (Goa).
149. Trustees of Madras Port Trust, Madras.
150. Tuticorin Chamber of Commerce, Tuticorin.
151. Visakhapatnam Harbour and Port Workers Union, Visakhapatnam.
152. Visakhapatnam Port Trustees, Visakhapatnam.
153. Western India Tile Manufacturers' Association, Mangalore.

CHAPTER 3—APPENDIX I

Investment made on the development of Major Ports during the successive Plan periods

(Rs. in crores)

Name of Port	First Five Year Plan (1951—56)			Second Five Year Plan (1956—61)			Third Five Year Plan (1961—66)		
	Approved invest- ment	Actual expen- diture	Percent- age of (3) to (2)	Approved invest- ment	Actual expen- diture	Percent- age of (6) to (5)	Approved invest- ment	Actual expen- diture	Percent- age of (9) to (8)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Calcutta	12.07	3.49	28.9	31.13	15.73	50.5	34.51	26.67	77.3
Bombay	22.82	10.92	47.9	25.18	5.22	20.7	25.53	12.94	50.7
Madras	9.37	1.35	14.4	14.93	8.99	60.2	11.53	9.19	79.7
Cochin	3.24	0.59	18.2	5.00	3.00	60.6	3.23	1.88	58.2
Visakhapatnam ..	3.01	1.13	37.5	9.41	4.32	45.9	8.50	9.07	106.7
Kandla	13.76	8.84	64.2	12.40	8.24	66.5	4.98	3.71	74.5
Mormugao	..	..	..	..	..	..	12.02	1.75	14.6
Paradip	..	..	..	..	..	..	..	19.65	..
Mangalore	..	..	..	..	..	..	5.00	3.02	60.4
Tuticorin	..	..	..	..	..	..	5.00	5.07	101.4
Total	64.27	26.32	41.0	98.05	45.50	46.4	110.30	92.95	84.3

Source—Annual Administration Report of the Ministry of Shipping and Transport—1967-68.

CHAPTER 3—APPENDIX I—contd.

Name of Port	Annual Plans								
	1966-67			1967-68			1968-69		
	Approved invest- ment	Actual expen- diture	Percent- age of (12) to (11)	Approved invest- ment	Actual expen- diture	Percent- age of (15) to (14)	Approved invest- ment	Actual expen- diture	Percent- age of (18) to (17)
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
Calcutta	12.91	8.25	63.9	13.66	10.41	76.2	13.24	10.80	81.6
Bombay	9.85	4.39	44.6	10.28	5.60	54.5	9.48	9.01	95.0
Madras	2.67	2.32	86.9	7.67	2.72	35.5	6.50	7.46	114.8
Cochin	1.39	0.99	71.2	1.49	0.88	59.1	2.50	1.26	50.4
Visakhapatnam ..	2.76	1.59	57.6	4.17	1.94	46.5	3.50	3.01	86.0
Kandla	0.45	0.29	64.4	1.05	0.32	30.5	1.25	0.94	75.2
Mormugaon	0.37	0.04	10.8	0.71	0.37	52.1	2.00	0.54	27.0
Paradip	3.17	2.36	74.4	2.45	1.25	51.0	2.25	3.31	147.1
Mangalore	1.88	1.50	79.8	1.00	1.00	100.0	1.00	1.70	170.0
Tuticorin	1.93	1.93	100.0	1.00	1.00	100.0	1.00	1.64	164.0
Total	37.38	23.66	63.3	43.48	25.49	58.6	42.72	39.67	92.8

Source—Annual Administration Report of the Ministry of Shipping and Transport.

L/P(D)80M of S&T—15(a)

CHAPTER 4—APPENDIX I
Estimates of India's Exports 1980-81

(Value in crore rupees)

Serial No.	Commodities			Unit of Quantity	1980-81	
					Quantity	Value
(1)	(2)			(3)	(4)	(5)
I. Agriculture and allied Products	..	..	..	Value	..	958.0
1. Vegetable oils	..	..	..	Thou. tonnes	150.0	30.0
2. Oil cakes	..	..	..	Thou. tonnes	2,386.5	143.2
3 Tobacco unmanufactured	..	..	..	Thou. tonnes	110.0	69.3
4 Spices	..	..	..	Value	..	62.3
(a) Pepper	..	..	..	Thou. tonnes	46.0	23.9
(b) Others	..	..	..	Value	..	38.4
5 Sugar raw and refined	..	..	..	Thou. tonnes	583.0	35.0
6 Raw cotton	..	..	..	Thou. tonnes	50.8	20.3
7 Fruits and vegetables	..	..	..	Value	..	122.0
(a) Cashew kernels	..	..	..	Thou. tonnes	100.0	87.3
(b) Others	..	..	..	Value	..	34.7
8 Raw Wool	..	..	..	Thou. tonnes	14.1	7.9
9 Fish & fish preparations	..	..	..	Thou. tonnes	115.7	115.7
10 Tea	..	..	..	Mill. kgs.	253.0	190.0
11 Coffee	..	..	..	Thou. tonnes	49.5	26.7
12 Foodgrains	..	..	..	Thou. tonnes	500.0	90.0
(a) Pulses	..	..	..	Thou. tonnes	115.4	15.0
(b) Rice	..	..	..	Thou. tonnes	384.6	75.0
13 Other Agricultural products	..	..	..	Value	..	45.6
II. Minerals	..	..	..	Value	..	316.0
1 Iron ore	..	..	..	Mill. tonnes	47.0	251.5
2 Manganese ore	..	..	..	Thou. tonnes	1,514.6	15.6
3 Mica	..	..	..	Mill. kgs.	36.9	24.0
4 Other minerals	..	..	..	Value	..	24.9

CHAPTER 4—APPENDIX I—*contd.*

(Value in crore rupees)

(1)	(2)	(3)	(4)	(5)
III. Manufactures		Value	..	1,639.3
1 Cotton manufactures		Mill. metres	721.4	106.5
(a) Mill-made		Mill. metres	671.4	94.0
(b) Handloom		Mill. metres	50.0	12.5
2 Fabrics of art silk		Mill. metres	71.2	16.0
3 Woollen fabrics		Value	..	8.5
4 Clothing (incl. other cotton manufactures)		Value	..	70.0
5 Coir yarn and manufactures		Thou. tonnes	120.9	27.8
6 Jute manufactures		Thou. tonnes	910.0	273.0
7 Footwear		Mill. pairs	47.1	33.0
8 Leather and Leather manufactures		Value	..	112.0
(a) Leather tanned		Value	..	98.0
(b) Leather manufactures		Value	..	14.0
9 Engineering goods		Value	..	400.0
10 Handicrafts		Value	..	150.0
(a) Gems and jewellery		Value	..	95.0
(b) Other handicrafts		Value	..	55.0
11 Iron and steel		Value	..	145.0
12 Ferro-manganese and ferro-alloys		Value	..	8.0
13 Chemicals and allied products		Value	..	107.0
14 Cotton waste		Value	..	12.0
15 Fertilizers		Value	..	60.0
16 Other manufactures		Value	..	110.5
IV. Sub-Total (I+II+III)		Value	..	2,913.3
V. Other exports—unspecified		Value	..	106.7
VI. Total—all exports		Value	..	3,020.0

Source—Perspective Planning Division, Planning Commission, May, 1970.

CHAPTER 4—APPENDIX II

Estimates of India's Imports 1980-81

(Value in crore rupees)

Serial No.	Commodities				Unit of quantity	1980-81	
						Quantity	Value
(1)	(2)				(3)	(4)	(5)
1	Iron and steel	..	..	..	Value	..	111
	(a) Mild steel	..	..	..	Thou. tonnes	400	64
	(b) Special steel	..	..	..	Thou. tonnes	50	25
	(c) Ferro-alloys	..	..	..	Value	..	22
2	Non-ferrous metals and metalliferous ores and scrap	..	..	..	Value	..	339
	(a) Copper	..	..	..	Thou. tonnes	175	175
	(b) Zinc	..	..	..	Thou. tonnes	155	34
	(c) Zinc concentrates	..	..	..	Thou. tonnes	165	10
	(d) Lead	..	..	..	Thou. tonnes	140	31
	(e) Tin	..	..	..	Thou. tonnes	15	39
	(f) Nickel	..	..	..	Thou. tonnes	10	23
	(g) Others	..	..	..	Value	..	27
3	Machinery and transport equipment and metal products	..	..	..	Value	..	1,080
4	Crude oil and petroleum products	..	..	..	Value	..	330
	(a) Crude oil	..	..	..	Mill. tonnes	37.5	320
	(b) Petroleum products	..	..	..	Value	..	10
5	Fertilizer and fertilizer raw materials	..	..	..	Value	..	430*
	(a) Nitrogenous fertilizers	..	..	..	Thou. tonnes	400	60
	(b) Phosphatic fertilizers	..	..	..	Thou. tonnes	700	77
	(c) Potassic fertilizers	..	..	..	Thou. tonnes	1,800	108
	(d) Rock phosphate	..	..	..	Thou. tonnes	6,000	81
	(e) Sulphur	..	..	..	Thou. tonnes	902	39
	(f) Phosphoric acid	..	..	..	Thou. tonnes	505	51
	(g) Ammonia	..	..	..	Thou. tonnes	520	16
6	Chemicals including sulphur for non-fertilizer industries	..	..	..	Value	..	175
7	Rubber	..	..	..	Thou. tonnes	30	12
8	Asbestos fibres (raw)	..	..	..	Thou. tonnes	95	16
9	Non-metallic minerals manufactures	..	..	..	Value	..	65

*The total of Rs. 432 crores has been rounded to Rs. 430 crores.

CHAPTER 4—APPENDIX II—*contd.*

(Value in crore rupees)

(1)	(2)	(3)	(4)	(5)
10	Textile fibres and yarn	Value	..	71
	(a) Cotton (raw)	Thou. bales	350	47
	(b) Wool	Value	..	20
	(c) Others	Value	..	4
11	Paper and paper board, newsprint and pulp	Value	..	18
12	Vegetable oils and oil seeds	Value	..	15
13	Dairy products	Value	..	20
14	Cashew nuts (raw)	Value	..	36
15	Other fruits and vegetables	Value	..	27
16	Miscellaneous	Value	..	205
17	Total Non-foodgrain imports	Value	..	2,950
18	Foodgrain imports	Mill. tonnes	..	..
19	Total imports	Value	..	2,950

Source—Perspective Planning Division, Planning Commission, May 1970.

CHAPTER 4—APPENDIX III
India's Port Traffic 1975-76—1985-86

(Million tonnes)

Commodities	Year	Calcutta/ Haldia	Paradip	Visakha- patnam	Madras	Tuticorin	Cochin	Mangalore	Mormugao	Bombay	Kandla
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Crude Oil	1975-76	3.50	..	1.55	2.50	..	3.50	..	..	7.75	..
	1985-86	6.00	2.50	5.00	3.50	..	4.50	2.50	2.50	10.00	5.50
POL Products@ ..	1975-76	1.18	..	0.27	1.15	..	0.87	..	..	1.31	0.60
	1985-86	2.97	0.23	2.34	0.43	..	1.16	0.51	0.16	1.99	6.62
Foodgrains* ..	1975-76	..	..	..	..	..	..	..	..	..	..
	1985-86	..	..	..	..	..	..	..	..	..	..
Fertilizers ..	1975-76	5.11	0.75	0.74	0.21	0.81	0.90	0.45	0.55	2.14	1.23
Rockphosphate ..	1985-86	8.32	1.43	3.55	0.73	0.87	2.09	0.90	1.02	5.08	11.22
Sulphur and muriate of potash. }											
Phosphoric acid and liquid ammonia ..	1975-76	0.16	..	0.10	0.16	..	..	..	..	0.37	0.25
	1985-86	0.16	..	0.10	0.16	..	..	..	..	0.37	0.25
Oil Cakes ..	1975-76	..	..	..	..	..	0.10	..	..	1.82	2.89
	1985-86	..	..	..	..	..	0.54	..	..	2.74	5.45
Vegetable oils imports and exports ..	1975-76	0.17	..	..	0.17	..	0.17	0.16	0.01	0.22	0.57
	1985-86	0.46	..	..	0.19	..	0.40	0.43	0.03	0.97	1.51

Sugar	..	..	..	1975-76	0.09	0.03	0.33	0.11	..	..	0.01	0.11	0.48	..
				1985-86	..	..	..	0.11	..	..	0.06	0.69	0.95	..
Salt	..	..	..	1975-76	1.32	0.07	..	0.54	2.30	0.28	..	0.04	0.36	..
				1985-86	2.05	0.15	..	0.79	3.54	0.38	..	0.08	0.76	..
Cement/Clinker	..	..	..	1975-76	..	..	..	..	1.67	..	..	..	0.95	..
				1985-86	..	..	..	..	2.42	..	0.19	..	2.23	..
Coal	..	..	..	1975-76	4.00	..	..	0.50	..	0.50	0.50	..	..	..
				1985-86	12.00	..	..	1.00	..	1.00	5.00	..	..	..
Iron ore	..	..	..	1975-76	5.00	2.00	10.00	5.00	..	..	1.00	8.00	..	..
				1985-86	5.00	6.00†	12.00‡	8.00	..	..	6.00	8.00	..	..
Manganese ore	..	..	..	1975-76	0.26	..	0.55	..	..	..	..	0.80	0.53	..
				1985-86	..	..	1.19	..	..	..	..	0.56	1.39	..
Iron and steel Imports and export	..	..	..	1975-76	1.20	..	0.30	0.08	..	0.02	..	..	0.40	..
				1985-86	3.15	0.30	0.50	0.08	..	0.02	..	..	0.45	..
Machinery Imports and exports	..	..	..	1975-76	0.51	..	0.06	0.16	..	0.07	..	..	0.76	0.07
				1985-86	0.71	..	0.03	0.20	..	0.09	..	..	1.04	0.09
Other general cargo	..	..	..	1975-76	3.45	0.24	0.28	0.79	0.40	0.94	0.40	0.16	3.32	0.20
				1985-86	4.19	0.27	0.38	1.03	0.60	1.15	0.60	0.28	3.93	0.28
Total traffic	..	..	..	1975-76	25.95	3.09	14.18	11.37	5.18	7.35	2.52	9.67	20.41	2.92
				1985-86	45.01	10.88	25.14	16.22	7.43	11.33	16.25	13.32	31.90	25.47

@POL products : Traffic figures might undergo some changes.

*Foreign food-grain imports are Nil in 1975-76 and 1985-86, though there may be some coastal traffic.

† On the assumption that a rail connection from Barsua/Banaspani to Paradip will be provided by then.

‡ On the assumption that the second Vizag outlet will be ready before 1975 and Vizag capacity will be 15 m. tonnes.

Source—Director, Transport Research, Ministry of Shipping and Transport.

CHAPTER 5—APPENDIX I

Requirement of Cargo Handling Equipment During the Fourth Plan as Indicated by the Major Ports

Type of Equipment	Calcutta	Bombay	Madras	Cochin	Vizag	Kandla	Mormugao	Paradip	Mangalore	Tuticorin	Total
(1) Cranes											
1. Quayside cranes ..	8	..	4	4	10	5	14	3	5	8	61
2. Mobile cranes ..	15	10	1	1	3	..	4	..	1	8	43
3. Yard cranes ..	10	1	..	..	..	..	..	..	..	..	11
4. Shop cranes ..	5	2	..	..	..	..	..	..	..	..	7
5. Heavy lift cranes ..	3	..	..	..	..	..	1	..	1		6
6. Misc. cranes ..	..	4	..	..	..	..	..	..	1	..	5
(b) Fork lift trucks ..	22	..	40	13	2	4	18	..	6	22	127
(c) Tractor-trailer units ..	..	..	5	4	..	2	4	..	..	..	15

Source—Report of the Study Group on the question of standardization of floating craft and other items of equipment for port use and the bulking of ports requirements for phased orders on shipyards and other manufacturers.

CHAPTER 5—APPENDIX II
Age-wise distribution of dredgers

Name of the Port	Age	{ Above 40 years	30 to 40 years	25 to 30 years	20 to 25 years	15 to 20 years	Below 15 years	Total
Calcutta	..	1	..	..	..	4	8	13
Bombay	..	3	..	..	..	..	2	5
Madras	..	..	..	..	1	..	1	2
Cochin	..	1	1	..	..	..	1	3
Visakhapatnam	..	1	..	..	..	..	1	2
Kandla	..	..	..	..	..	..	1	1
Mormugao	..	..	..	..	1	..	1	2
Paradip	..	..	..	..	—	..	1	1
Total	..	6	1	..	2	4	16	29

Source—Port Authorities.

CHAPTER 5—APPENDIX III

Manning Scale for Trim Screw Stream Oil Fuel Suction Hopper Dredger

Deck:	1 Dredging Master
	1 Dredging Mate
	2 Winchmen
	2 Seacunnies
	1 Serang
	6 Seamer
Engine Room:	1 Chief Engineer
	1 Second Engineer
	1 Electrician
	3 Drivers
	1 Serang
	1 Cassab
	3 Greasers
	4 Firemen
Domestic Staff:	1 Cook-cum-servant
	1 Bhandari
	1 Topaz
Total	31

NOTE—The above scale does not include staff for watch keeping or leave reserve.

*Manning Scale for Dredgers for one shift of 8 or 12 Hrs**Running requirements*

Deck:	1 Senior Officer
	1 Junior Officer
	2 Seacunnies
	1 Serang
	6 Seamen

CHAPTER 5—APPENDIX III—*contd.*

Engine Room:	1 Senior Engineer
	1 Junior Engineer
	2 Drivers
	1 Serang
	1 Cassab
	2 Greasers
	4 Firemen

Special requirements

Deck:	2 Winchmen
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Pump Room:	1 Driver
	1 Greaser

General:	1 Electrician or Technician
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Other requirements

1 Cook-cum-servant
1 Bhandari
1 Topaz

Manning Scale for dredgers working on a trip basis as in Calcutta

	Daylight hours working i.e. 12 hrs.	24 hours working
Deck:	1 Dredging Master	2 Dredging Masters
	2 Dredging Mates	3 Dredging Mates
	2 Winchmen	3 Winchmen
	3 Seacunnies	4 Seacunnies
	1 Clerk	1 Clerk
	1 Serang	1 Serang
	1 Cassab	1 Cassab
	1 Tindal	1 Tindal
	2 Leadsman	4 Leadsman
	8 Seamen	12 Seamen

CHAPTER 5—APPENDIX III—*contd.*

	Daylight hours working i.e. 12 hrs.	24 hours working
Engine Room:		
	1 Chief Engineer	1 Chief Engineer
	1 Second Engineer	1 Second Engineer
	1 Third Engineer	1 Third Engineer
		1 Fourth Engineer
	1 Electrician	1 Electrician
	4 Drivers	6 Drivers
	1 Serang	1 Serang
	1 Tindal	1 Tindal
	1 Cassab	1 Cassab
	4 Greasers	6 Greasers
	4 Firemen	8 Firemen
Domestic Staff:		
	1 Cook	2 Cooks
	3 Servants	4 Servants
	2 Bhandaries	3 Bhandaries
	1 Topaz	1 Topaz
Total	.. 50	70

NOTE--1. This includes staff for watch keeping but not on account of leave reserve.

2. In case of a dredger having twin screw suction pipes, the number of Winchmen will be double.
3. In case of a dredger having two pumps, the number of Drivers and Greasers will be proportionately increased.
4. In case of a dredger having Diesel or Diesel electric drive, the number of Greasers and Firemen will be reduced.
5. In case of a dredger having remote control from the bridge for propulsion and/or for pump the number of Drivers will be reduced.

CHAPTER 6—APPENDIX I

Iron Ore, Total Sea-borne Trade, 1968

(Figures in '000 tonnes)

To : From:		U.K.	Germany	Italy	Other E.E.C.	U.S.A.	Japan	Others	Works 1968
(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Scandinavia	..	5,686	14,662	424	9,311	601	..	891	31,575
Other Europe	..	2,237	1,571	552	215	1	808	135	5,519
North Africa	..	274	294	1,660	489	..	..	988	3,705
West Africa	..	3,743	10,142	3,350	7,237	2,989	3,134	719	31,214
S E Africa	..	..	58	..	..	..	5,207	..	5,266
India	..	..	11	183	2	574	..	12,772	2,185
Malaya	..	..	..	..	..	..	5,116	27	5,143
Other Asia	..	4	1	5	15	..	3,523	260	3,849
Canada	..	..	3,347	2,199	1,272	593	7,127	1,977	19
Venezuela	..	..	1,696	1,664	968	..	10,478	..	..
Brazil	..	..	565	4,730	1,248	2,584	1,277	2,199	2,365
Chile	..	..	..	314	..	15	464	8,707	100
Peru	..	..	..	46	174	295	939	7,363	200
Australia	..	..	268	562	420	598	134	13,814	287
Not specified	..	..	67	2	4	4	1	3,545	3
World 1968	..	..	17,898	36,428	10,070	21,930	25,012	68,165	8,179

NOTES—Import statistics are used whenever possible. The Group (Others) is partly estimated. Imports to Japan from (Not specified) originate in U.S.A. Exports from Canada to U.S.A. *via* Great Lakes are excluded.

Source—Trades of World Bulk Carriers in 1968 Fearnley & Egers Chartering Co. Ltd.

CHAPTER 6—APPENDIX II

Iron Ore shipments, sizes distribution of vessels, 1968(Figures in % of total
Sea-borne trade of each area).

			Over 80,000 t.dw.	60— 80,000 t.dw.	40— 60,000 t.dw.	25— 40,000 t.dw.	18— 25,000 t.dw.	Others
<i>Exporting Areas</i>								
Scandinavia	..	..	1	27	24	18	5	25
Other Europe	..	..	..	3	3	3	11	80
North Africa	..	..	..	..	..	19	41	40
West Africa	..	..	4	16	32	30	5	13
S/E Africa	..	..	3	15	68	9	1	4
India	..	..	..	..	9	40	19	32
Malaya	..	..	..	..	9	26	35	30
Other Asia	..	..	..	..	..	2	18	80
Canada	..	..	2	14	37	19	7	21
Venezuela	..	..	..	2	71	15	10	2
Brazil	..	..	7	26	31	16	8	12
Chile	..	..	..	19	56	12	3	10
Peru	..	..	11	40	34	3	..	12
Australia	..	..	5	23	51	15	..	6
Others	..	..	2	37	43	3	9	6
<i>Importing Areas</i>								
U. K.	..	..	..	..	..	9	17	74
Continent	..	..	3	25	32	27	5	8
Italy	..	..	..	11	48	14	14	13
U.S.A.	..	..	..	7	63	18	5	7
Japan	..	..	5	19	36	16	8	16
Others	..	..	1	6	3	24	15	51
World 1968	..	..	3	17	34	19	8	19

Source—Trades of World Bulk Carriers in 1968—Fearnley & Egers Chartering Co. Ltd.

CHAPTER 6—APPENDIX III

Turn round of bulk carriers in ore ports

(Figures in days per call)

Loading ports						1965	1966	1967
(1)						(2)	(3)	(4)
Europe	..	..	Kirkenes	..	..	1.1	1.4	1.3
			Narvik	..	..	2.3	2.7	1.7
			Lulca	..	..	2.0	1.5	1.3
			Oxelosund	..	..	2.4	1.7	1.6
Asia	..	..	Goa	..	..	12.2	11.5	10.4
			Madras	..	..	8.8	3.9	4.9
			Visakhapatnam	..	..	..	2.9	2.5
			Dungun	..	..	7.1	6.8	6.3
			Kuala Rompin	..	..	6.2	6.2	6.0
Africa	..	..	La Gaulette	..	..	..	1.5	1.4
			Annaba	..	..	2.5	1.7	1.3
			Port Etienne	..	..	1.2	1.6	1.8
			Pepel	..	..	1.8	1.8	1.5
			Monrovia	..	..	1.6	1.4	1.6
			L. Buchanan	..	..	1.4	1.4	1.3
			Luanda	..	..	7.2	9.0	8.0
			Lobito	..	..	..	6.2	7.0
			P. Elizabeth	..	..	4.2	4.4	4.8
			Lour Marques	..	..	6.5	2.6	2.8
America	..	..	Seven Islands	..	..	1.2	1.6	1.8
			Port Cartier	..	..	0.9	0.8	0.9
			Puerto Ordaz	..	..	1.4	1.0	1.0
			Victoria Tub	..	..	8.2	3.9	2.1
			Rio de Janeiro	..	..	13.3	11.0	4.6
			Coquimbo	..	..	2.8	4.0	2.2
			San Francisco	..	..	..	2.9	3.6
Australia	..	..	Long Beach	..	..	2.3	2.1	2.1
			Port Hedland	..	..	..	..	2.4
			Dampier	..	..	..	..	1.1

Source—Trades of World Bulk Carriers in 1967—Fearnley & Egers Chartering Co. Ltd.
L/P(D)80MofS&T—16

CHAPTER 6—APPENDIX IV

Port conditions at some Ore Loading Ports Present and Anticipated

Serial No.	Country/Port	Present condition			Development Plan			
		Draft (Metres)	Maximum size of vessel that can be berthed (d.w.t.)	Average Loading (tons/day)	Year	Draft (Metres)	Maximum size of vessel that can be berthed (d.w.t.)	Average loading rate (tons/day)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	Australia							
	Dampier ..	12·8	70,000 (at high tide)	48,000	Sept., '69 April, '71	15·0 17·0	100,000 150,000	70,000
	Hedland ..	12·3	60,000	48,000	April, '69 April, '71	12·8 14·6	70,000 100,000	70,000
	Latta ..	..	70,000	48,000				
	Lambert ..	..	..	..	Mid. 70's	..	150,000	70,000
	Darwin ..	..	37,000	..	..	..	..	..
	SOUTH AMERICAN							
2	Brazil							
	Tubarao ..	15·8	130,000	60,000	Jan., '71	17·6	150,000	120,000 (2 loader of 60,000)
3	Peru							
	San Juan ..	..	100,000	20,000			..	..
	San Nicholas ..	14·0	100,000	40,000	Feb., '70	16·0	130,000	..
4	Chile							
	Huasco ..	12·2	55,000	20,000	Aug., '69 Oct., '69 Aug., '70	18·0	80,000 150,000 170,000	.. .. ..
	Caldera ..	..	50,000	Over 10,000				
	Guaycan ..	12·2	55,000	..	Jan., '70	16·0	130,000	..

AFRICA

5	Mozambique							
	Lourenco Marques	..	60,000	25,000	..	--	--	..
6	South Africa							
	Elizabeth	..	11.3	45,000	15,000	..	--	..
7	Angola							
	Maccamedes	..	..	60,000	0,000	Mid. '70's	--	150,000
	Luanda	..	..	35,000	..	Mid. '70's	..	100,000
8	Liberia							
	Monrovia	..	12.6	60,000	25,000	1970	--	75,000
	Buchanan	..	12.6	60,000	60,000	..	--	..
9	Mauritania							
	Etienne	..	..	70,000	30,000	Early 1970's	..	100,000
10	Sierra Leone							
	Pepel	..	..	40,000	25,000	June, '69	16.0	125,000
	NORTH AMERICA							
11	Canada							
	Texada	..	..	Over 45,000	21,000	..	..	..
	Norvie	..	..	50,000	..	..	..	..
	USA							
12	Long Beach	..	..	50,000	30,000		..	..
13	USSR							
	Iljichevsk	..	..	Over 40,000	15,000	..	..	..
	ASIA							
14	Malaysia							
	Sura	..	..	35,000	20,000	..	..	..
	Rompin	..	..	35,000	20,000	..	..	..

CHAPTER 6—APPENDIX IV—contd.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
15	India@ Haldia	.. 8.4	18,000 (Calcutta)	N.A.	1971	11.6/12.2 by 1971 & 12.8/ 13.4 by 1975-76	80,000	6,000*/8,000*
	Madras	.. 9.1 at South quay III and 10.7 at Jawahar Dock (East).	20,000 to 25,000	4,000 tonnes/ day at S.Q. III 6,000 tonnes/day at Jawahar Dock (East Berth)	1973/74	12.8	70,000 (initially) 100,000 (eventually)	6,000* (initially) 8,000* (eventually)
	Visakha patnam	.. 10.1 at high water and 9.1 at any stage of the tide.	35,000	2,650*	May, 1974	15.2 (initially) 16.5 (eventually)	100,000 (initially) 200,000 (eventually)	8,000* (initially) 16,000* (eventually)
	Mormugao	.. 8.2 at Berth No. 3 8.5 at Berth No. 6 9.1 on the rise of tide	25,000 to 30,000	270* at Berth No. 3 750* at Berth No. 6	1974	12.2	60,000	6,000*
	Paradip	.. 11.3	35,000	2,500*	1970	13.1	60,000	2,500*

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Source: Memorandum submitted to the Major Ports Commission by the Minerals and Metals Trading Corporation of India Ltd.

*Loading rate is given in metric tonnes per hour.

@Source for Indian Ports—Ministry of Shipping and Transport.

CHAPTER 6—APPENDIX V

Comparison of loading and unloading costs for general cargo

(In Rs.)

Route				Normal Cargo	Palletized	Container
				(Break bulk).		
U. S. East Coast to Great Britain	..	..	..	164·85	93·00	27·0
U. S. West Coast to Alaska	..	..	..	132·00	79·50	23·25
U. S. East Coast to South America	..	..	..	134·63	81·75	24·38

(Original figures in U. S. dollars)

(The above table taken from a paper on cargo containerhips' by Doros A. Argynadis read before the institution of Naval Architects gives a general idea of the anticipated savings in loading and un-loading general cargo by using palletized cargo or containers. The figures for container cargo will, of course, vary with the size of containers)

Source—4th National Maritime Day and Merchant Navy Flag Day Souvenir brought out by the local unit of Madras.

CHAPTER 6—APPENDIX VI

Outline of the estimated costs and revenues in the proposed container trades to U.S.A., Canada and the U.K./Continent

(In Million US\$)

Serial No.	Item						U.S.A./ Canada Trade (Amount)	U.K./ Continent Trade (Amount)
1	Capital Investment—							
	(a)	Ships	..	..	..	..	90.0	81.0
	(b)	Containers	..	..	..	..	16.0	12.0
2	Depreciation	..	..	..	..	..	7.7	6.5
3	Stevedoring costs per year	..	..	..	..	..	7.9	5.5
4	Port dues etc.	..	..	..	..	..	1.8	1.7
5	Operating costs	..	..	..	..	..	15.3	12.8
6	Commission and other miscellaneous expenses	..	..	..	..	..	5.7	3.8
7	Total expenses	..	..	..	..	..	38.4	30.3
8	Estimated annual revenue at—							
	(a)	Current freight rates	..	..	..	..	57.3	38.3
	(b)	90 per cent of present freight rates	..	..	..	..	51.6	34.5
	(c)	80 per cent of present freight rates	..	..	..	..	45.5	30.6
9	Revenue minus expenses							
	(a)	Present freight rates	..	..	..	..	18.9	8.0
	(b)	90 per cent of present freight rates	..	..	..	..	13.2	4.2
	(c)	80 per cent of present freight rates	..	..	..	..	7.1	0.3
10	Revenue minus expenses as percentage of additional investment (i.e., investment on containers only)—							
	(a)	Present freight rates	..	..	..	..	118.1	66.7
	(b)	90 per cent of present freight rates	..	..	..	..	82.5	35.0
	(c)	80 per cent of present freight rates	..	..	..	..	44.4	2.5

Source—"Survey of Overseas Transport & Freight Structure in India's export Trade".
By Operations Research Group, Baroda, June 1969.

CHAPTER 7—APPENDIX I-A

Financial Results of Working

Port of Calcutta

(Rs. in lakhs)

Year	Gross revenue	Working expenses	Depreciation	Net Revenue	Interest charges	Surplus	Loan repayments ⁽¹⁾	Total Capital Base
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1950-51	7,08.71	6,28.77	35.56	44.38	1,06.87	(—) 62.49	35.56	47,81.06
1951-52	8,09.02	6,87.81	42.11	79.10	1,10.77	(—) 31.67	42.11	49,72.19
1952-53	8,91.26	7,37.90	16.40	1,36.96	1,06.22	30.74	16.40	49,11.08
1953-54	8,42.48	8,00.12	24.90	17.46	1,07.30	(—) 89.84	24.90	50,81.42
1954-55	9,11.90	8,14.16	25.84	71.90	1,08.28	(—) 36.38	25.84	52,75.58
1955-56	10,26.69	8,28.33	28.42	1,69.94	1,05.50	64.44	28.42	55,64.18
1956-57	11,18.34	8,60.80	21.24	2,36.30	1,06.13	1,30.17	21.24	58,56.36
1957-58	13,13.03	10,19.93	25.51	2,67.59	1,10.58	1,57.01	25.51	62,41.97
1958-59	13,33.95	11,35.80	22.87	1,75.28	1,24.38	52.90	22.87	67,09.13
1959-60	13,36.74	11,41.98	23.04	1,71.72	1,41.69	30.03	23.04	70,65.96
1960-61	14,52.08	12,07.33	28.94	2,15.81	1,62.47	53.34	20.49	79,03.93
1961-62	15,44.53	12,41.13	31.27	2,72.13	1,90.94	75.19	22.82	84,44.06
1962-63	17,36.34	14,17.40	67.88	2,51.06	2,18.82	32.24	58.88	86,71.89
1963-64	18,28.03	14,05.35	1,12.43	3,10.25	2,44.91	65.34	97.43	92,64.33
1964-65	18,99.17	15,47.41	1,01.88	2,49.88	1,34.71	15.17	85.88	98,45.33
1965-66	19,09.86	16,92.75	1,30.44	86.67	2,54.99	(—) 1,68.32	1,13.94	103,32.35
1966-67	21,15.57	18,75.68	2,04.60	35.29	3,41.51	(—) 3,06.22	1,87.85	123,79.64
1967-68	25,08.36	20,25.35	2,11.75	2,71.26	3,65.02	(—) 93.76	1,95.00	134,47.89
1968-69	24,20.70	21,49.28	2,53.58	17.84	3,94.53	(—) 3,76.69	2,36.83	147,64.77

⁽¹⁾ These amounts have also been included under depreciation in Col. (4) as Calcutta Port treats contributions to the Sinking Fund as provision for depreciation.

Source—Annual Accounts of the Port for the respective years.

CHAPTER 7—APPENDIX I-B
Financial Results of Working
Port of Bombay

(Rs. in lakhs)

Year			Gross revenue	Working expenses	Depreciation	Net revenue	Interest charges	Surplus	Loan repayments	Total Capital Base
(1)			(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1950-51	..	..	5,58.50	4,03.11	0.57	1,54.82	60.12	94.70	41.16	41,27.40
1951-52	..	..	7,04.75	4,14.15	1.99	2,88.61	58.78	2,29.83	43.54	43,47.78
1952-53	..	..	6,61.41	4,56.42	41.99	1,63.00	50.97	1,12.03	37.66	43,10.84
1953-54	..	..	6,63.58	5,55.88	41.99	65.71	43.49	22.22	26.99	47,69.65
1954-55	..	..	6,95.67	5,00.31	41.94	1,53.42	42.53	1,10.89	27.95	52,74.42
1955-56	..	..	9,80.99	5,29.56	41.94	4,09.49	42.53	3,67.96	75.74	59,25.75
1956-57	..	..	11,27.21	6,46.47	1,23.59	3,57.15	41.21	3,15.94	76.05	64,77.52
1957-58	..	..	12,32.51	7,10.63	82.39	4,39.49	40.88	3,98.61	76.38	70,14.14
1958-59	..	..	10,85.59	6,93.73	82.39	3,09.47	40.54	2,68.93	76.73	73,87.98
1959-60	..	..	11,74.97	7,24.05	82.39	3,68.53	39.72	3,28.81	75.97	76,83.31
1960-61	..	..	12,73.62	7,50.12	82.39	4,41.11	34.24	4,06.87	66.59	81,41.27
1961-62	..	..	14,08.31	8,31.01	82.39	4,94.91	46.42	4,48.49	43.03	87,06.90
1962-63	..	..	14,29.30	10,77.27	82.39	2,69.64	56.17	2,13.47	32.52	91,30.03
1963-64	..	..	16,33.73	10,32.71	1,61.90	4,39.12	62.89	3,76.23	25.52	96,85.72
1964-65	..	..	17,39.81	11,43.77	1,61.78	4,34.26	63.34	3,70.92	24.83	101,31.16
1965-66	..	..	20,64.33	12,44.93	1,61.69	6,57.71	61.24	5,96.47	25.12	110,85.12
1966-67	..	..	20,77.71	14,37.58	1,61.69	4,78.44	59.19	4,19.25	24.95	115,61.85
1967-68	..	..	24,85.09	17,64.04	1,61.69	5,59.36	58.58	5,00.78	25.34	123,35.14
1968-69	..	..	22,92.88	16,93.67	2,00.38	3,98.83	66.83	3,32.00	20.44	126,07.33

Source—Annual Accounts of the Port for the respective years.

CHAPTER 7—APPENDIX I-C
Financial Results of Working
Port of Madras

(Rs. in lakhs)

Year			Gross revenue	Working expenses	Depreciation	Net revenue	Interest charges	Surplus	Loan repayments	Total Capital Base
(1)			(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1950-51	..	..	1,30.25	79.13	8.11	43.01	3.57	39.44	1.71	9,05.76
1951-52	..	..	1,45.03	89.94	11.28	43.81	3.54	40.27	1.85	9,48.80
1952-53	..	..	1,57.85	89.60	17.56	50.69	3.52	47.17	1.88	10,18.90
1953-54	..	..	1,32.67	85.33	11.38	35.96	2.27	33.69	0.91	10,65.91
1954-55	..	..	1,33.92	94.50	12.29	27.13	1.03	26.10	0.94	11,59.66
1955-56	..	..	1,73.71	98.73	12.12	62.86	1.00	61.86	0.97	12,78.29
1956-57	..	..	2,33.84	1,12.56	34.57	91.71	0.97	90.74	1.00	15,45.56
1957-58	..	..	2,71.86	1,31.58	11.00	1,29.28	6.33	1,22.95	1.03	18,19.63
1958-59	..	..	2,27.10	1,46.52	8.05	72.53	16.73	55.80	1.07	19,05.88
1959-60	..	..	2,36.14	1,48.16	6.79	81.19	21.67	59.52	1.52	20,57.64
1960-61	..	..	3,09.06	1,70.57	21.64	1,16.85	25.44	91.41	1.57	22,73.89
1961-62	..	..	3,72.59	2,27.09	36.09	1,09.41	31.73	77.68	2.94	24,95.95
1962-63	..	..	4,39.51	2,31.15	28.04	1,80.32	36.89	1,43.43	18.87	27,83.16
1963-64	..	..	4,45.82	2,35.70	52.95	1,57.17	43.62	1,13.55	35.15	29,26.61
1964-65	..	..	4,54.83	3,02.57	33.16	1,19.10	42.05	77.05	39.90	30,43.64
1965-66	..	..	5,49.24	3,65.34	37.78	1,46.12	42.21	1,03.91	37.59	32,43.71
1966-67	..	..	7,53.47	4,53.79	41.80	2,62.88	59.35	2,03.53	53.31	38,80.38
1967-68	..	..	7,74.62	5,14.24	54.47	2,05.91	65.87	1,40.04	54.98	42,64.55
1968-69	..	..	8,48.22	5,69.00	76.16	2,03.06	77.36	1,25.70	57.74	48,84.38

Source—Annual Accounts of the Port for the respective years.

CHAPTER 7—APPENDIX I-D
Financial Results of Working
Port of Cochin

(Rs. in lakhs)

Year			Gross revenue	Working expenses	Depreciation	Net revenue	Interest charges	Surplus	Loan repayments	Total Capital Base
(1)			(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1950-51	..	..	61.64	37.85	0.11	23.68	7.37	16.31	4.01	4,10.31
1951-52	..	..	75.40	40.35	0.11	34.94	7.20	27.74	4.18	5,02.90
1952-53	..	..	71.39	44.06	0.11	27.22	8.09	19.13	6.85	5,58.68
1953-54	..	..	73.53	41.81	0.11	31.61	7.88	23.73	9.06	5,76.99
1954-55	..	..	79.33	43.76	3.00	32.57	7.67	24.90	5.27	5,99.61
1955-56	..	..	78.99	45.42	3.00	30.57	7.44	23.13	5.50	6,87.97
1956-57	..	..	98.51	53.42	3.00	42.09	7.20	34.89	5.74	7,90.79
1957-58	..	..	99.81	60.72	3.00	36.09	9.27	26.82	6.33	8,63.94
1958-59	..	..	1,08.98	64.07	3.00	41.91	11.16	30.75	5.86	9,47.25
1959-60	..	..	1,16.61	66.12	3.00	47.49	13.42	34.07	6.23	9,89.23
1960-61	..	..	1,27.91	73.72	3.00	51.19	16.13	35.06	6.12	10,15.37
1961-62	..	..	1,36.44	80.24	3.00	53.20	15.10	38.10	56.64	10,06.97
1962-63	..	..	1,42.85	1,09.37	3.00	30.48	12.31	18.17	6.93	10,42.96
1963-64	..	..	1,74.82	1,04.29	3.00	67.53	15.34	52.19	8.54	11,04.94
1964-65	..	..	1,90.30	1,17.38	3.00	78.92	15.88	63.04	10.90	11,65.89
1965-66	..	..	2,19.62	1,38.82	20.00	60.50	15.40	45.10	12.51	12,22.49
1966-67	..	..	2,65.52	1,71.10	20.00	74.42	16.84	57.58	15.48	14,03.27
1967-68	..	..	3,93.43	2,07.70	20.00	1,65.73	19.61	1,46.12	18.75	16,33.50
1968-69	..	..	3,88.58	2,42.40	25.30	1,20.88	22.87	98.01	20.28	18,53.81

Source—Annual Accounts of the Port for the respective years.

CHAPTER 7—APPENDIX I-E
Financial Results of Working
Port of Visakhapatnam

(Rs. in lakhs)

Year			Gross revenue	Working expenses	Depreciation	Net revenue	Interest charges	Surplus	Loan repayments	Total Capital Base
(1)			(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1950-51	..	..	53·25	51·99	2·58	(—) 1·32	0·96	(—) 2·28	..	5,26·63
1951-52	..	..	72·59	56·77	2·76	13·06	0·70	12·36	..	5,11·23
1952-53	..	..	75·98	58·64	3·38	13·96	1·28	12·68	..	5,11·65
1953-54	..	..	80·14	60·97	4·00	15·17	1·67	13·50	..	5,43·43
1954-55	..	..	65·44	56·70	4·25	4·49	2·63	1·86	..	5,90·82
1955-56	..	..	83·47	57·02	5·00	21·45	4·98	16·49	..	6,68·44
1956-57	..	..	98·33	68·08	5·00	25·25	6·60	18·65	..	7,90·31
1957-58	..	..	145·92	78·75	7·00	60·17	9·01	51·16	..	8,79·76
1958-59	..	..	139·60	83·74	9·03	46·83	10·91	35·92	..	9,65·16
1959-60	..	..	160·63	84·72	20·27	55·64	13·02	42·62	..	10,63·18
1960-61	..	..	195·47	93·45	30·06	71·96	14·69	57·27	18·07	11,69·95
1961-62	..	..	172·51	106·62	30·06	35·83	27·16	8·67	..	12,73·63
1962-63	..	..	167·28	126·68	30·06	30·54	30·29	0·25	..	14,52·73
1963-64	..	..	220·05	125·03	30·06	64·96	33·59	31·37	..	17,78·14
1964-65	..	..	256·50	151·35	30·06	75·09	49·96	25·13	..	17,85·51
1965-66	..	..	345·77	225·71	30·06	90·00	50·43	39·57	..	18,36·56
1966-67	..	..	511·40	256·88	65·06	189·46	58·03	131·43	6·61	20,11·39
1967-68	..	..	581·08	296·68	65·06	219·34	60·85	158·49	7·71	22,34·28
1968-69	..	..	670·77	374·27	65·06	231·44	64·43	167·01	9·75	24,73·58

Source—Annual Accounts of the Port for the respective years.

CHAPTER 7—APPENDIX I-F
Financial Results of Working
Port of Kandla

(Rs. in lakhs)

Year			Gross revenue	Working expenses	Depreciation	Net revenue	Interest charges	Surplus	Loan repayments	Total Capital Base
(1)			(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1957-58	..	..	47.96	25.50	4.00	18.46	..	18.46	..	N.A.
1958-59	..	..	68.07	29.46	5.00	33.61	..	33.61	..	4,13.34
1959-60	..	..	66.41	42.41	4.08	19.92	..	19.92	..	5,58.58
1960-61	..	..	86.93	58.43	4.08	24.42	15.00	9.42	..	5,98.93
1961-62	..	..	84.21	52.46	4.08	27.67	15.00	12.67	..	6,24.39
1962-63	..	..	1,12.83	66.48	8.44	37.91	15.00	22.91	..	14,73.08
1963-64	..	..	1,17.22	64.15	34.85 ⁽¹⁾	18.22	..	18.22	..	16,27.29
1964-65	..	..	1,24.89	85.04	55.59 ⁽²⁾	(—)15.74	30.00	(—)45.74	..	19,74.89
1965-66	..	..	1,56.02	90.83	18.56	46.63	16.15	30.48	..	20,25.16
1966-67	..	..	1,84.86	1,09.64	21.56	53.66	17.59	36.07	..	21,01.00
1967-68	..	..	1,88.95	1,39.00	27.79	28.16	19.03	9.13	..	21,49.18
1968-69	..	..	2,10.98	1,45.62	23.34	42.02	19.89	22.13	..	22,29.27

(1) The increase in depreciation is on account of adjustment of arrears of depreciation for previous years.

(2) The interest charges include Rs. 15.00 lakhs being paid to Government *ad hoc* interest on capital debt pending finalization of quantum of capital debt and manner of repayment.

Source—Annual Accounts of the Port for respective years.

CHAPTER 7—APPENDIX I-G
Financial Results of Working
Port of Mormugao

(Rs. in lakhs)

Year		Gross revenue	Working expenses	Depreciation	Net revenue	Interest charges	Surplus	Loan repayments	Total Capital Base
(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1961-62	.. ..	1,53·56	57·82	..	95·74	..	95·74	..	3,84·33
1962-63	.. ..	1,25·74	64·27	..	61·47	..	61·47	..	4,63·85
1963-64	.. ..	1,24·52	45·26	..	79·26	..	79·26	..	5,38·42
1964-65	.. ..	1,45·75	73·91	..	71·84	0·03	71·81	..	7,24·48
1965-66	.. ..	1,81·29	76·09	72·09	33·11	4·13	28·98	9·05	2,28·48
1966-67	.. ..	1,97·75	86·20	22·96	88·59	5·86	82·73	12·76	9,75·10
1967-68	.. ..	2,25·37	1,11·87	18·93	94·57	5·20	89·42	..	10,83·81
1968-69	.. ..	2,21·54	1,20·05	22·88	78·61	4·52	74·09	..	11,69·94

Source—Annual Accounts of the Port for the respective years.

CHAPTER 7—APPENDIX I-H
Financial Results of Working
Port of Paradip

(Rs. in lakhs)

Year			Gross revenue	Working expenses	Depreciation	Net revenue	Interest ⁽²⁾ charges	Surplus	Loan repayments	Total Capital Base
(1)			(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1966-67	..	..	(¹)8·33	14·69	..	(—)6·36	120·65	(—)127·01	..	N.A.
1967-68	..	..	96·62	78·86	23·15	(—)5·39	134·38	(—)139·77	..	25,39·67
1968-69	..	..	1,11·37	61·36	37·80	(+)12·21	134·88	(—)122·67	..	28,51·31

(¹) Figures from 1-11-66 to 31-3-1967.

(²) Notional charges, not actually provided in the Accounts.

Source—Annual Accounts of the Port for the respective years.

CHAPTER 7—APPENDIX II

Adjusted Financial Results of Major Ports for 1967-68

(Rs. in lakhs)

Port		Gross revenue	Working expenses	Deprecia- tion on historical cost basis	Net revenue	Total Capital Base	Percent- age of col. (5) to col. (6)
(1)		(2)	(3)	(4)	(5)	(6)	(7)
Calcutta	..	25,08·36	20,25·35	2,40·55	2,42·46	134,47·89	1·8
Bombay	..	24,85·09	17,64·04	1,06·92	6,14·13	123,35·14	5·0
Madras	..	7,74·62	5,14·24	50,75	2,09·63	42,64·55	4·9
Cochin	..	3,93·43	2,07·70	24·40	1,61·33	16,33·56	9·9
Visakhapatnam	..	5,81·08	2,96·68	76·16	2,08·24	22,34·28	9·3
Kandla	..	1,88·95	1,39·00	29·31	20·64	21,49·18	1·0
Mormugao	..	2,25·37	1,11,87	21·68	91·82	10,83·81	8·5
Paradip	..	1,11·37	61·36	23·15	26·86	28,51·31	0·9

CHAPTER 7—APPENDIX III-A

*Sources of Finance**Port of Calcutta*

(Rs. in lakhs)

As on 31 March	Govt. loans	External loans	Debentures	Self-Financing (including miscellaneous)	Total Capital Base
(1)	(2)	(3)	(4)	(5)	(6)
1951	50·00	..	24,99·82	22,31·24	47,81·06
1952	50·00	..	25,75·00	23,47·19	49,72·19
1953	50·00	..	24,43·32	24,18·16	49,11·48
1954	1,25·00	..	25,43·33	24,13·09	50,81·42
1955	3,16·00	..	25,21·58	24,38·00	52,75·58
1956	5,16·00	..	24,87·52	25,60·66	55,64·18
1957	6,66·00	..	24,44·46	27,45·90	58,56·36
1958	8,16·00	..	24,18·96	30,07·01	62,41·97
1959	10,16·00	94·18	23,99·66	31,99·29	67,09·13
1960	11,16·00	1,90·92	23,99·66	33,59·38	70,65·96
1961	14,16·00	4,82·29	23,99·66	36,05·98	79,03·93
1962	15,64·01	6,89·08	23,99·66	37,91·31	84,44·06
1963	16,26·88	9,76·77	22,88·31	37,79·93	86,71·89
1964	17,14·15	12,28·26	23,88·31	39,93·61	92,64·33
1965	18,12·01	14,83·04	24,88·31	40,61·97	98,45·33
1966	20,15·51	16,73·07	24,88·31	41,55·46	103,32·35
1967	23,59·79	29,16·58	27,25·82	43,77·45	123,79·64
1968	31,82·31	29,61·98	28,72·02	44,31·58	134,47·89
1969	40,40·68	28,55·29	30,22·02	48,46·78	147,64·77

NOTE—Miscellaneous represents Sundry Outstandings.

Source—Annual Accounts of the Port for the respective years.

CHAPTER 7—APPENDIX III-B

*Sources of Finance**Port of Bombay*

(Rs. in lakhs)

As on 31 March	Govt. loans	External loans	Debentures	Self-Financing (including miscellaneous)	Total Capital Base
(1)	(2)	(3)	(4)	(5)	(6)
1951	1,61.55	..	12,08.93	27,56.92	41,27.40
1952	1,28.38	..	12,08.93	30,10.47	43,47.78
1953	1,05.78	..	9,95.60	32,09.46	43,10.84
1954	4,60.62	..	9,95.60	33,13.43	47,69.65
1955	7,14.49	..	9,95.60	35,64.33	52,74.42
1956	9,06.57	..	9,95.60	40,23.58	59,25.75
1957	9,50.34	..	9,95.60	45,31.58	64,77.52
1958	9,66.78	..	9,95.60	50,51.76	70,14.14
1959	9,88.87	..	9,95.60	54,03.51	73,87.98
1960	9,89.00	..	9,14.48	57,79.83	76,83.31
1961	9,89.00	..	7,92.33	63,59.94	81,41.27
1962	9,74.38	..	7,79.83	69,52.69	87,06.90
1963	9,48.45	..	7,66.33	74,15.25	91,30.03
1964	9,13.68	..	7,66.33	80,05.71	96,85.72
1965	8,75.50	..	7,29.83	85,25.83	101,31.16
1966	8,34.81	..	6,79.83	95,70.48	110,85.12
1967	7,91.29	..	6,64.83	101,05.73	115,61.85
1968	7,44.81	..	6,10.83	109,79.50	123,35.14
1969	6,96.48	..	5,35.83	113,75.02	126,07.33

NOTE—Miscellaneous represents Sundry Liabilities including credits pending adjustment but excluding provision for repayment of loans taken for Marine Oil Terminal.

Source—Annual Accounts of the Port for the respective years.

CHAPTER 7—APPENDIX III-C

*Sources of Finance**Port of Madras*

(Rs. in lakhs)

As on 31 March	Govt. loans	External loans	Debentures	Self-Financing (including miscellaneous)	Total Capital Base
(1)	(2)	(3)	(4)	(5)	(6)
1951	47.70	..	49.12 ⁽¹⁾	8,08.94	9,05.76
1952	46.85	..	49.12	8,52.83	9,48.80
1953	45.97	..	49.12	9,23.81	10,18.90
1954	90.05	..	..	9,75.86	10,65.91
1955	1,59.11	..	..	10,00.55	11,59.66
1956	1,83.14	..	..	10,95.15	12,78.29
1957	3,02.14	..	..	12,43.42	15,45.56
1958	4,44.10	..	..	13,75.53	18,19.63
1959	4,43.03	29.37	..	14,33.48	19,05.88
1960	4,41.50	1,00.26	..	15,15.88	20,57.64
1961	4,39.93	1,99.51	..	16,34.45	22,73.89
1962	4,36.99	2,52.82	..	18,06.14	24,95.95
1963	4,82.08	3,03.72	..	19,97.36	27,83.16
1964	4,76.33	3,50.75	..	20,99.53	29,26.61
1965	4,67.26	3,69.20	..	20,07.18	30,43.64
1966	5,34.37	3,77.93	..	23,31.41	32,43.71
1967	6,70.92	5,91.03	..	26,18.43	38,80.38
1968	8,56.89	5,50.08	..	28,57.58	42,64.55
1969	11,15.65	6,26.85	..	31,41.88	48,84.38

(1) Paid off in 1953 (Sterling Debentures).

NOTE—Miscellaneous represents Sundry Outstandings.

Source—Annual Accounts of the Port for the respective years.

CHAPTER 7—APPENDIX III-D

*Sources of Finance**Port of Cochin*

(Rs. in lakhs)

As on 31 March	Govt. loans	External loans	Debentures	Self-Financing (including miscellaneous)	Total Capital Base
(1)	(2)	(3)	(4)	(5)	(6)
1951	1,75.24	..	..	2,35.07	4,10.31]
1952	1,98.06	..	..	3,04.84	5,02.90
1953	2,16.21	..	..	3,42.47	5,58.68
1954	2,07.16	..	..	3,69.83	5,76.99
1955	2,81.88	—	..	3,17.73	5,99.61
1956	2,46.38	..	..	4,41.59	6,87.97
1957	3,17.13	—	..	4,79.66	7,96.79
1958	3,60.80	—	..	5,03.14	8,63.94
1959	4,04.94	..	..	5,42.31	9,47.25
1960	3,98.71	..	..	5,90.52	9,89.23
1961	3,92.60	..	..	6,22.77	10,15.37
1962	3,35.96	..	..	6,71.01	10,06.97
1963	3,49.04	..	..	6,93.92	10,42.96
1964	3,40.49	..	..	7,64.45	11,04.94
1965	3,29.58	..	..	8,36.31	11,65.89
1966	3,17.08	—	..	9,05.41	12,22.49
1967	3,34.05	62.76	..	10,06.46	14,03.27
1968	3,90.44	57.61	..	11,85.51	16,33.56
1969	4,45.65	52.12	..	13,56.04	18,53.81

NOTE—Miscellaneous represents Sundry Creditors.

Source—Annual Accounts of the Port for the respective years.

L/P(D)80N of S&T—17(a)

CHAPTER 7—APPENDIX III-E

*Sources of Finance**Port of Visakhapatnam*

(Rs. in lakhs)

As on 31 March	Govt. loans	External loans	Debentures	Self- Financing (including miscellaneous)	Total Capital Base
(1)	(2)	(3)	(4)	(5)	(6)
1951	..	4,24·81	..	1,01·82	5,26·63
1952	..	4,33·86	..	77·37	5,11·23
1953	..	4,42·42	..	69·23	5,11·65
1954	..	4,57·86	..	85·57	5,43·43
1955	..	5,01·00	..	89·82	5,90·82
1956	..	5,56·21	..	1,12·23	6,68·44
1957	..	6,38·01	..	1,52·30	7,90·31
1958	..	6,88·74	..	1,91·02	8,79·76
1959	..	7,40·77	..	2,24·39	9,65·16
1960	..	7,86·73	..	2,76·45	10,63·18
1961	..	8,14·34	..	3,55·01	11,69·95
1962	..	8,79·33	..	3,99·30	12,78·63
1963	..	9,97·80	..	4,54·93	14,52·73
1964	..	12,52·93	..	5,25·21	17,78·14
1965	..	12,52·93	..	5,32·58	17,85·51
1966	..	12,52·93	..	5,83·63	18,36·56
1967	..	12,52·93	..	7,58·46	20,11·39
1968	..	12,52·93	..	9,81·35	22,34·28
1969	..	12,52·93	..	12,20·65	24,73·58

NOTE—Miscellaneous represents Sundry Creditors and Bills Payable.

Source—Annual Accounts of the Port for the respective years.

CHAPTER 7—APPENDIX III-F

*Sources of Finance**Port of Kandla*

(Rs. in lakhs)

As on 31 March	Govt. loans	External loans	Debentures	Self- Financing (including miscellaneous)	Total Capital Base
(1)	(2)	(3)	(4)	(5)	(6)
1959 ..	3,12·43	..	..	1,00·91	4,13·34
1960 ..	4,20·92	..	..	1,37·66	5,58·58
1961 ..	4,47·38	..	..	1,51·55	5,98·93
1962 ..	4,52·28	..	..	1,72·11	6,24·39
1963 ..	12,60·59	..	..	2,12·49	14,73·08
1964 ..	13,76·99	..	..	2,50·30	16,27·29
1965 ..	16,77·26	..	..	2,97·63	19,74·89
1966 ..	17,02·26	..	..	3,22·90	20,25·16
1967 ..	17,27·26	..	..	3,73·74	21,01·00
1968 ..	17,42·26	..	..	4,06·92	21,49·18
1969 ..	17,77·26	..	..	4,52·01	22,29·27

NOTE—Miscellaneous represents Sundry Creditors and Credit Balances.

Source—Annual Accounts of the Port for the respective years.

CHAPTER 7—APPENDIX III-G

*Sources of Finance**Port of Mormugao*

(Rs. in lakhs)

As on 31 March	Govt. loans*	External loans	Debentures	Self- Financing (including miscellaneous)	Total Capital Base
(1)	(2)	(3)	(4)	(5)	(6)
1962 ..	2,94.24	..	..	90.09	3,84.33
1963 ..	2,92.62	..	..	1,71.23	4,63.85
1964 ..	2,92.62	..	..	2,45.80	5,38.42
1965 ..	2,92.62	80.91	..	3,50.95	7,24.48
1966 ..	2,92.62	72.86	..	4,63.00	8,28.48
1967 ..	2,92.62	1,01.52	..	5,80.96	9,75.10
1968 ..	2,92.62	88.75	..	7,02.44	10,83.81
1969 ..	2,92.62	75.99	..	8,01.33	11,69.94

*Capital Debt.

NOTE—Miscellaneous represents Advance wharfage on Ore, Deposits and Creditors.

Source—Annual Accounts of the Port for the respective years.

CHAPTER 7—APPENDIX III-H

*Sources of Finance**Port of Paradip*

(Rs. in lakhs)

As on 31 March	Govt. loans	External loans	Debentures	Self- Financing (including miscellaneous)	Total Capital Base
(1)	(2)	(3)	(4)	(5)	(6)
1968 ..	24,47·56	..	..	92·11	25,39·67
1969 ..	26,97·56	..	..	1,53·75	28,51·31

NOTE—Miscellaneous represents Sundry Creditors and Credit Balances.

Source—Annual Accounts of the Port for the respective years.

CHAPTER 7—APPENDIX IV

Details of External Loans taken by Major Ports

Source	Amount	Rate of Interest (per annum)	Payments Schedule
per cent			
(1) <i>Calcutta Port Commissioners/ World Bank</i>			
(a) First loan (2-10-1958) ..	US \$ 20 million	5½	31 semi annual payments as from 15-4-1963.
(b) Second loan (17-10-1961)	US \$ 21 million	5½	41 semi annual payments as from 15-5-1966.
(2) <i>Madras Port Trust</i>			
(a) Loan	World Bank US \$ 104.66 million	5½	Semi annual repayments from 1-4-1963 to 1-4-1978.
(b) M/s. N. V. Financiering Maatschipping Prins, The Hague.	Dutch Florins 1.44 million.	6	Semiannual payments in February and August from 1969 to 1978.
(c) M/s. Algemene Bank Nederland N.V.	Dutch Florins 4.26 million	7½	To commence on 30-9-1970.
(3) <i>Cochin Port Trust</i>			
M/s Algemene Bank Neder- land N.V.	Rs. 65.22 lakhs	3% per half year.	20 consecutive equal ins- talments with interest as from 4-1-1967.
(4) <i>Mormugao Port Trust</i>			
M/s. Algemene Bank Nederland N.V.	Dutch Guilders 77.38 million	5½ on 7-2-1965	20 half yearly instalments.

CHAPTER 7—APPENDIX V

Liquidity Position of Major Ports as on 31 March 1969

(Rs. in lakhs)

	Calcutta			Bombay			Madras			Cochin		
	Invest-ments	Cash	Total	Invest-ments	Cash	Total	Invest-ments	Cash	Total	Invest-ments	Cash	Total
1. General Reserve/Revenue Reserve/General Revenue ..	22·83	N.A.	22·83	11,91·41	N.A.	11,91·41	1,40·63	28·30	1,68·93	1,33·80	90·29	2,24·09
2. Renewal & Replacement's/Depreciation/Capital Asset Replacement ..	6·06	N.A.	6·06	N.A.	N.A.	N.A.	1,65·74	8·99	1,74·73	1,45·23	0·01	1,45·24
3. Pilotage Reserve ..	..	..	..	10·00	N.A.	10·00	2·00	3·37	5·37	..	..	..
4. Fire and Motor Insurance/Fire Insurance..	1,02·34	N.A.	1,02·34	16·88	N.A.	16·88	..	..	..	..	..	..
5. Vessels Replacement ..	1,56·52	N.A.	1,56·52	..	..	..	..	..	..	..	..	..
6. General Insurance ..	..	..	..	N.A.	N.A.	N.A.	41·64	1·15	42·79	..	..	..
7. Interest Equalization Fund ..	12·17	N.A.	12·17	..	..	..	..	..	..	..	..	..
8. Accident Fund ..	..	..	..	..	..	..	..	..	..	29·56	Neg.	29·56
9. Capital Account ..	..	..	..	..	..	..	35·00	76·25	1,11·25	..	..	..
10. Unallocated Investments ..	..	..	..	11,17·72	..	11,17·72	..	..	..	..	..	..
11. Cash Balances ..	..	4,26·08	4,26·08	..	17,28·81	17,28·81	..	..	..	..	..	..
Total ..	2,99·92	4,26·08	7,26·00	23,36·01	17,28·81	40,64·82	3,85·01	1,18·06	5,03·07	3,08·59	90·30	3,98·89

CHAPTER 7—APPENDIX V—contd.

Liquidity Position of Major Ports as on 31st March 1969

(Rs. in lakhs)

	Visakhapatnam			Kandla			Mormugao			Paradip			All Ports		
	Invest- ments	Cash	Total	Invest- ments	Cash	Total	Invest- ments	Cash	Total	Invest- ments	Cash	Total	Invest- ments	Cash	Total
1. General Reserve/ Revenue Reserve/ General Revenue	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	..	..	..	14,88.67	1,18.59	16,07.26
2. Renewals & Rep- lacements/Deprecia- tion/Capital Asset Replacement ..	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	..	..	..	3,17.03	9.00	3,26.03
3. Pilotage Reserve	..	..	..	..	..	..	..	..	..	..	..	..	12.00	3.37	15.37
4. Fire and Motor Insurance/Fire Ins- urance ..	..	..	..	..	..	..	..	..	..	..	..	..	1,19.22	..	1,19.22
5. Vessels Replace- ment ..	..	..	..	..	..	..	..	..	..	..	..	..	1,56.52	..	1,56.52
6. General Insurance	..	..	..	..	..	..	..	..	..	..	..	..	41.64	1.15	42.79
7. Interest Equaliza- tion Fund ..	..	..	..	..	..	..	..	..	..	..	..	..	12.17	..	12.17
8. Accident Fund	..	..	..	..	..	..	..	..	..	..	..	..	29.56	Neg.	29.56
9. Capital Account	..	..	..	..	..	..	..	..	..	..	..	..	35.00	76.25	1,11.25
10. Unallocated in- vestments ..	1,13.22	..	1,13.22	3,77.83	..	3,77.83	3,42.53	..	3,42.53	..	..	..	19,51.30	..	19,51.30
11. Cash Balances ..	..	44.15	44.15	..	3.16	3.16	..	12.71	12.71	..	30.31	30.31	..	22,45.22	22,45.22
Total ..	1,13.22	44.15	1,57.37	3,77.83	3.16	380.99	3,42.53	12.71	3,55.24	..	30.31	30.31	41,63.11	24,53.58	66,16.69

CHAPTER 8—APPENDIX I

Extent to which Revenues will have to be stepped up by Major Ports to achieve varying rates of return on Capital Employed

(Rs. in lakhs)

	Calcutta			Bombay		Kandla			Paradip		
1. Capital Employed as on 31 March, 1968	71,56·32	71,56·32	71,56·32	39,02·41	14,10·23	14,10·23	14,10·23	20,68·00	20,68·00	29,68·00	
2. Rate of Return on Capital Employed	6%	8%	12%	12%	6%	8%	12%	6%	8%	12%	
3. Gross Surplus required in 1967-68—											
(a) Return on Capital Employed	4,29·38	5,72·61	8,58·76	4,68·29	84·62	1,12·82	1,69·23	1,24·08	1,65·44	2,48·16	
(b) Depreciation on historical cost	2,40·55	2,40·55	2,40·55	1,06·92	29·31	29·31	29·31	23·15	23·15	23·15	
(c) Total (a+b)	6,69·93	8,13·16	10,99·31	5,75·21	1,13·93	1,42·13	1,98·54	1,47·23	1,88·59	2,71·31	
4. Gross Surplus available in 1967-68	5,28·01	5,28·01	5,28·01	5,54·53	40·84	40·84	40·84	18·19	18·19	18·19	
5. Difference (3c-4)	-1,41·92	-2,85·15	-5,71·30	-20·68	-73·09	-1,01·29	-1,57·70	-1,29·04	-1,70·40	-2,53·12	

CHAPTER 9—APPENDIX I
Port Income Realized in 1967-68

(In lakhs of Rupees)

				Calcutta		Bombay		Madras		Cochin		Visakhapatnam	
				Earnings	% of Total	Earnings	% of Total	Earnings	% of Total	Earnings	% of Total	Earnings	% of Total
1. Wharfage]	..	..	..	780.16*	31.10	674.84	27.16	270.95	34.97	248.59	63.19	381.42	65.64
2. Port & Dock dues	..	..	..	51.92	2.07	41.43	1.67	19.10	2.47	19.18	4.88	10.35	1.78
3. Land & Buildings	..	..	..	206.72	8.24	355.27	14.30	37.46	4.84	25.14	6.40	24.14	4.15
4. Railway Deptt.	..	..	..	276.42	11.02	142.51	5.73	99.98	12.91	..	..	56.45	9.71
5. Pilotage	..	..	..	26.71	1.07	29.95	1.21	21.27	2.75	14.42	3.67	5.44	0.94
6. Demurrage	..	..	..	323.00	12.88	448.17	18.03	71.22	9.19	..	..	..	..
7. Surcharge	..	..	..	143.46	5.72	190.95	7.68	122.72	15.84	..	..	..	..
8. Others	..	..	..	699.97	27.90	601.97	24.22	131.92	17.03	86.10	21.86	103.28	17.78
Total				2,508.36	100.00	2,485.09	100.00	774.62	100.00	393.43	100.00	581.08	100.00

CHAPTER 9—APPENDIX I—contd.

				Kandla		Mormugao		Paradip		Total	
				Earnings	% of Total	Earnings	% of Total	Earnings	% of Total	Earnings	% of Total
1. Wharfage	..	..	..	86.68	45.87	105.29†	46.72			2,547.93	35.60
2. Port & Dock dues	..	..	..	4.34	2.30	16.32	7.24	Not available		162.64	2.27
3. Land & Buildings	..	..	..	16.66	8.82	9.00‡	3.99			674.39	9.42
4. Railway Deptt.	..	..	..	..	..	25.81	11.45			601.17	8.40
5. Pilotage	..	..	..	4.99	2.64	10.52§	4.67			113.30	1.58
6. Demurrage	..	..	..	3.47	1.84	10.44	4.63			856.30	11.97
7. Surcharge	..	..	..	..	..	..	..			457.13	6.39
8. Others	..	..	..	72.81	38.53	47.99	21.30			1,744.04	24.37
Total				188.95	100.00	225.37	100.00			7,156.90	100.00

*Income from landing charges, shipping charges and river dues.

†Includes surcharge.

‡Assumed as income under 'lease and rents' as no further details are available in the account.

§Includes total income under Pilotage Account.

Source—Compiled from Port's Annual Accounts for 1967-68.

CHAPTER 9—APPENDIX II

Revenue per tonne of traffic handled at Major Ports

(In Rs.)

Year	Calcutta	Bombay	Madras	Cochin	Visakha- patnam	Kandla	Mormugao	Paradip
1950-51	9.30	7.98	6.22	4.47	5.63	..	..	..
1960-61	15.28	8.54	15.01	6.37	6.96	5.53	..	..
1961-62	16.60	9.55	16.48	5.97	6.05	6.08	2.36	..
1962-63	17.02	8.84	12.62	6.05	5.81	6.47	2.30	..
1963-64	16.71	9.28	10.73	7.12	6.25	6.59	2.09	..
1964-65	17.17	9.87	10.51	7.35	6.62	5.37	2.20	..
1965-66	19.39	11.21	11.22	7.64	7.76	6.19	2.31	..
1966-67	20.94	11.15	13.18	7.28	8.61	6.88	2.45	Not avail- able.
1967-68	27.90	14.38	13.80	7.25	8.93	7.58	2.77	

NOTE—These are based on figures given in Annual Administrative Reports of the ports.

CHAPTER 9—APPENDIX III

(i) *Revision of Port Charges made since 1950-51, Calcutta Port Commissioners*

Date	Percentage of increase on previous year's earnings			
	Port dues	Pilotage	Dues on goods	Misc.
1951-52				42.18 a
10-4-1952			9.52 b	
1-11-1953		7.64 c		
1-6-1954	43.54 d			
11-12-1958				9.88 e
21-1-1960			13.72 f	
16-5-1963		6.21 g		
1-8-1965			7.81 h	
1-6-1966	}	51.48 i		
22-9-1966				
1-4-1967			24.58 j	
4-4-1968			7.17	
1-8-1969				11.66 k

REMARKS—

a=Charges on railways.

b=Charges on goods and railways.

c=Charges on goods, vessels, railways and pilotage.

d=Charges on goods, vessels and railways.

e=Charges on railways.

f=Charges on goods and vessels.

g=Charges on goods, vessels, railways and pilotage.

h=Charges on goods, vessels and railways.

i=Charges on goods, vessels, railways and pilotage.

j=Charges on goods and railways.

k=Charges on railways.

Source—Information obtained from the Ports.

CHAPTER 9—APPENDIX III—contd.

(ii) Revision of Port Charges made since 1950-51, Bombay Port

Date	Percentage of increase in rates			
	Port dues	Pilotage	Dues on goods	Misc.
1-4-1950			33½	
16-11-1950			a	
1-4-1951			50 b	
27-12-1951			c	
1-2-1952			75 d	
1-7-1952			30-33½	
1-9-1952			25	
1-1-1953				12½ f
24-1-1953	50-100 g			
1-2-1953			50 h	
15-4-1953		20		
12-2-1955			j	
31-3-1955			12-36 i	
1-3-1956			60 D	
6-9-1956			75 D	
18-10-1956			k	
7-11-57				96-379 l
1-4-1964				36 m
16-4-1964			60 n	
1-4-1965	5		5 o	
19-4-1965				5 p
19-5-1965	5			
15-7-1965			q	
10-11-1966	57.5			60
19-11-1966	60 r	69		
18-1-1967	60 s			
7-12-1967	t			
29-2-1968				70 u
11-4-1968			10	
1-4-1969			v	
11-4-1969			2.05 w]	
31-7-1969				14 x

CHAPTER 9—APPENDIX III—*contd.*

REMARKS—

- a = New wharfage charge on passenger baggage introduced from 16-11-1950.
- b = The rates were exempted from the surcharge of 33½% on duty paid goods stored in bonded and hazardous warehouse.
- c = New rates introduced for loading American cotton. Surcharge exempted.
- d = Charges on goods stored in hazardous warehouse surcharge exempted.
- e = Fresh water to shipping.
- f = Cranage.
- g = Mooring fees.
- h = Weighment charges. Surcharge exempted.
- i = Wharfage charges on spiritious drinks.
- j = Wharfage on POL traffic revised.
- k = Final revision on POL traffic.
- l = Salvage charges.
- m = Floating crane charges.
- n = Demurrage charges.
- o = Surcharge on all charges on docks and bunders, rates and towage and certain other plants
- p = Surcharge on licence fees on water conveyance.
- q = Docks demurrage charges raised.
- r = Mooring fees on vessels engaged in foreign trade.
- s = Surcharge on Port dues for vessel engaged in foreign trade.
- t = Demurrage rules tightened up to yield a higher revenue.
- u = Cranage for heavy lifts.
- v = Rationalisation of the docks wharfage structure and surcharge abolished.
- w = P.O.L. rates increased on weight basis.
- x = Water to shipping.

5 per cent to 150 per cent increase in the railway charges from 1950-51 onward

D = Deduction

CHAPTER 9—APPENDIX III—contd.

(iii) Revision of Port Charges made since 1950-51, Madras Port

Date	Particulars of percentage of increase				Remarks
	Port dues	Pilotage	Dues on goods	Misc.	
25-3-1953	60	71.43	..	..	
1-4-1957	33½	33	20	..	
1-8-1960	..	..	..	..	Converted to Metric System.
1-4-1961	..	..	@	..	@Out of 677 items, rates of 170 items revised, Rates not given.
6-11-1965	25	25	..	..	
1-11-1966	25	25	..	..	
1-5-1967	60	60	..	57½	Charges on foreign vessels due devaluation. B.H.
1-7-1967			..	57½	
1-10-1967			25—40	..	
1-6-1968*	..	..	..	25—66½ B.H.	*Rates revised to yield additional revenue of about Rs. 75 lakhs per annum based on the trade for 1967-68.

B.H.=Berth hire.

(iv) Revision of Port Charges made since 1950-51, Cochin Port

Date	Percentage of increase in rates			
	Port dues	Pilotage	Dues on goods	Misc.
9-10-1958	..	100	25 a	12.50 to 50
15-10-1960	..	100 b	..	..
16-2-1963	..	..	20	..
25-1-1966	..	..	5	..
1-3-1966	..	..	..	33½ Rent on storage space.
8-3-1966	..	..	..	1½ to 16 ½ c
6-8-1966	..	18 ¾—100 d	..	..
3-9-1966	33½	33½	..	..
4-4-1967	..	..	..	33½ to 35 e
14-5-1968	..	..	..	50 D to 100 f

a=33½ % surcharge on wharfrage abolished and 50% basic rates increase.

b=Additional pilotage between 9.00 P. M. to Midnight.

c=Increase of 1½ % in water supply through shore mains and 16½ % through barges.

d=100% increase for additional pilotage between 6 P.M. to 9 P.M. and 9 P.M. to Midnight.

18 ¾% special pilotage between Midnight to 6 A. M.

33½% increase for berth hire and remooring.

e=Increase in Night and Holiday work, crantage and overtime for delivery of cargo.

f=50% decrease for smaller vessels and 100% increase for tankers in respect of hire charges of tugs used for berthing.

N.B.—Between 1947 and 1958 certain surcharges were levied 33½% on wharfrage, Port dues berth hire etc. The other rates were also increased by 25 to 50%.

D=Decrease.

I=Increase.

CHAPTER 9—APPENDIX III—concl'd.

(v) *Revision of Port Charges made since 1950-51, Visakhapatnam Port*

Date	Percentage of increase/decrease in rates				Remarks
	Port dues	Pilotage	Dues on goods	Misc.	
15-2-1955	6.67	..	..	..	
1-1-1966	..	..	20	..	Cr. Oil & Fr. Oil import.
		..	10.40 D	..	Cr. Oil fr. Oil export.
			10 D	..	Diesel and Liquid fuel import.
29-10-1966	..	57.50	..		
10-11-1966	..	..	..	57.50 B.H.	
1-1-1967	57.50	..	..	..	
21-3-1968	..	..		25.300	
4-4-1968	..	..	33½	..	On 27 items out of 86 items.
27-3-1969	..	..	..	57.50	Cranage and Other Port Trust Plant, gear etc.
29-5-1969	..	..	33½	..	Grains, pulses and Cereals.

B.H. = Berth Hire.

D. = Decrease.

(vi) *Revision of Port Charges made since 1950-51, Kandla Port*

Date	Percentage of increase in rates			
	Port dues	Pilotage	Dues on goods	Misc.
25-9-1962	..	9.62 to 12.5		
23-12-1965			25—100 a	25—82 e
5-2-1966	25			
3-3-1966	..		25—108 d	25—40 f
17-11-1966 ¹	..			
4-7-1966	..		166½ b	
3-2-1968	..	25—150		
4-7-1968	..		71.50 to 200 c	
10-7-1969	..		11.9 to 233½	

¹ A surcharge of 57.5% on all rates, dues and charges imposed on vessels engaged on foreign trade w.e.f. 17-11-1966.

a = Goods to foreign destination exempted from 25% surcharge.

b = Wharfage on foodgrains.

c = Wharfage on fertilizers.

d = Wharfage on maize, timber, iron and steel etc.

e = Charges for use of plant and machinery, pipe line and other services.

f = Charges for open space, godown and other covered accommodation.

L.P. (D) 80M of S&T—18(a)

CHAPTER 10—APPENDIX I

Sources of Finance for the Capital Base of Major Ports in the Plan periods

Port & Year		Govt. Loans	World Bank & other foreign loans	Deben- tures	Self- financing & Misc. Sources	Total Capital Base	Percen- tage of Col. (2) to Col. (6)
(1)		(2)	(3)	(4)	(5)	(6)	(7)
Calcutta—							
As on							
31-3-1951 ..	..	0.50	..	25.00	22.31	47.81	1.0
31-3-1956 ..	..	5.16	..	24.87	25.61	55.64	9.3
31-3-1961 ..	..	14.16	4.82	24.00	36.06	79.04	17.9
31-3-1966 ..	..	20.16	16.73	24.88	41.55	1,03.32	19.5
31-3-1967 ..	..	23.60	29.17	27.26	43.77	1,23.80	19.1
31-3-1968 ..	..	31.82	29.62	28.72	44.32	1,34.48	23.7
31-3-1969 ..	..	40.41	28.55	30.22	48.47	1,47.65	27.4
Bombay—							
31-3-1951 ..	..	1.61	..	12.09	27.57	41.27	3.9
31-3-1956 ..	..	9.07	..	9.96	40.23	59.26	15.3
31-3-1961 ..	..	9.89	..	7.92	63.60	81.41	12.2
31-3-1966 ..	..	8.35	..	6.80	95.70	1,10.85	7.5
31-3-1967 ..	..	7.91	..	6.65	1,01.06	1,15.62	6.8
31-3-1968 ..	..	7.45	..	6.11	1,09.79	1,23.35	6.0
31-3-1969 ..	..	6.96	..	5.36	1,13.75	1,26.07	5.5
Madras—							
31-3-1951 ..	..	0.48	..	0.49	8.09	9.06	5.3
31-3-1956 ..	..	1.83	..	..	10.95	12.78	14.3
31-3-1961 ..	..	4.40	2.00	..	16.34	22.74	19.3
31-3-1966 ..	..	5.34	3.78	..	23.32	32.44	16.5
31-3-1967 ..	..	6.71	5.91	..	26.18	38.80	17.3
31-3-1968 ..	..	8.57	5.50	..	28.58	42.65	20.1
31-3-1969 ..	..	11.15	6.27	..	31.42	48.84	22.8
Cochin—							
31-3-1951 ..	..	1.75	..	..	2.35	4.10	42.7
31-3-1956 ..	..	2.46	..	..	4.42	6.88	35.8
31-3-1961 ..	..	3.92	..	..	6.23	10.15	38.7
31-3-1966 ..	..	3.17	..	..	9.05	12.22	25.9
31-3-1967 ..	..	3.34	0.63	..	10.06	14.03	23.8
31-3-1968 ..	..	3.90	0.58	..	11.86	16.34	23.9
31-3-1969 ..	..	4.46	0.52	..	13.56	18.54	24.1

CHAPTER 10—APPENDIX I—*concl'd.*

Port & Year		Govt. Loans	World Bank & other foreign loans	Deben- tures	Self- financing and Misc. Sources	Total Capital Base	Percen- tage of Col. (2) to Col. (6)
(1)		(2)	(3)	(4)	(5)	(6)	(7)
Visakhapatnam—							
As on							
31-3-1951 ..	..	4.25	..	..	1.02	5.27	80.6
31-3-1956 ..	..	5.56	..	..	1.12	6.68	83.2
31-3-1961 ..	..	8.14	..	..	3.56	11.70	69.6
31-3-1966 ..	..	12.53	..	..	5.84	18.37	68.2
31-3-1967 ..	..	12.53	..	..	7.58	20.11	62.3
31-3-1968 ..	..	12.53	..	..	9.81	22.34	56.1
31-3-1969 ..	..	12.53	..	..	12.21	24.74	50.7
Mormugao—							
31-3-1962 ..	..	2.94	..	..	0.90	3.84	76.6
31-3-1966 ..	..	2.93	0.72	..	4.63	8.28	35.4
31-3-1967 ..	..	2.93	1.01	..	5.81	9.75	30.1
31-3-1968 ..	..	2.93	0.89	..	7.02	10.84	27.0
31-3-1969 ..	..	2.93	0.76	..	8.01	11.70	25.0
Kandla—							
31-3-1961 ..	..	4.47	..	..	1.52	5.99	74.6
31-3-1966 ..	..	17.02	..	..	3.23	20.25	84.0
31-3-1967 ..	..	17.27	..	..	3.74	21.01	82.2
31-3-1968 ..	..	17.42	..	..	4.07	21.49	81.1
31-3-1969 ..	..	17.77	..	..	4.52	22.29	79.7
Paradip—							
31-3-1968 ..	..	24.48	..	..	0.92	25.40	96.4
31-3-1969 ..	..	26.97	..	..	1.54	28.51	94.6
All Ports—							
31-3-1951 ..	..	8.59	..	37.58	61.34	1,07.51	8.0
31-3-1956 ..	..	24.08	..	34.83	82.33	1,41.24	17.0
31-3-1961(*)	..	47.92	6.82	31.92	1,28.21	2,14.87	22.3
31-3-1966 ..	..	69.50	21.23	31.68	1,83.32	3,05.73	22.7
31-3-1967 ..	..	74.29	36.72	33.91	1,98.20	3,43.12	21.7
31-3-1968 ..	..	1,09.10	36.59	34.83	2,16.37	3,96.89	27.5
31-3-1969 ..	..	1,23.18	36.10	35.58	2,33.48	4,28.34	28.8

(*) Mormugao figures for 1961-62.

Source—Annual Accounts of the ports for respective years.

CHAPTER 10—APPENDIX II

Details of interest and capital due from Kandla Port Trust to Government of India

(Rs.)

Year of capital expenditure					Total amount of Capital ex- penditure	Amount interest due upto 1968-69	Amount of repayment due upto 1968-69
1951-52	..	..	..	..	1,63,72,456	95,34,849	13,27,972
1952-53	..	..	..	..	49,93,158	27,96,035	3,89,418
1953-54	..	..	..	..	1,32,01,423	71,08,093	9,89,986
1954-55	..	..	..	..	1,90,17,833	98,46,029	13,71,312
1955-56	..	..	..	..	3,43,44,079	1,70,96,944	23,81,190
1956-57	..	..	..	..	3,20,41,239	1,53,37,078	21,36,082
1957-58	..	..	..	..	1,24,21,966	54,65,658	4,14,065
1958-59	..	..	..	..	1,87,34,028	74,93,610	..
1959-60	..	..	..	..	76,63,985	25,86,600	..
1960-61	..	..	..	..	73,80,097	22,14,032	..
1961-62	..	..	..	..	79,10,949	20,76,620	..
1962-63	..	..	..	..	1,06,02,718	23,85,612	..
1963-64	..	..	..	..	31,21,650	5,85,310	..
Total					18,78,05,581	8,45,26,470	90,10,025
Less already paid					..	1,35,00,000	..
Net Amount due for payment					..	7,10,26,470	90,10,025

Source—Kandla port Trust.

CHAPTER 10—APPENDIX III

Details of Revenue and Expenditure of Major Ports in the Plan periods

(Rs. in lakhs)

Port/Year	Gross revenue	Working expenses	Gross surplus	Depreciation	Interest charges	Loan repayment	(6) as % of (4)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Calcutta*—							
1950-51 ..	7,08.71	6,28.77	79.94	35.56	1,06.87	35.56	1,33.7
1955-56 ..	10,26.69	8,28.33	1,98.36	28.42	1,05.50	28.42	53.2
1960-61 ..	14,52.08	12,07.33	2,44.75	28.94	1,62.47	20.49	66.4
1965-66 ..	19,09.86	16,92.75	2,17.11	1,30.44	2,54.99	1,13.94	1,17.4
1966-67 ..	21,15.57	18,75.63	2,39.89	2,04.60	3,41.51	1,87.85	1,42.4
1967-68 ..	25,08.36	20,25.35	4,83.01	2,11.75	3,65.02	1,95.00	75.6
1968-69 ..	24,20.70	21,49.28	2,71.42	2,53.58	7,94.53	2,36.53	1,45.4
Bombay —							
1950-51 ..	5,58.50	4,03.11	1,55.39	0.57	60.12	41.16	38.7
1955-56 ..	9,80.99	5,29.56	4,51.43 ^b	41.94	41.53	75.74	9.2
1960-61 ..	12,73.62	7,50.12	5,23.50	82.39	34.24	66.59	6.5
1965-66 ..	20,64.33	12,44.93	8,19.40	1,61.69	91.24	25.12	7.5
1966-67 ..	20,77.71	14,37.58	6,40.13	1,61.69	59.19	24.95	9.2
1967-68 ..	24,85.09	17,64.04	7,21.05	1,61.69	58.58	25.34	8.1
1968-69 ..	22,92.83	16,93.67	5,99.21	2,00.38	66.83	20.44	11.2
Madras—							
1950-51 ..	1,30.25	79.13	51.12	8.11	3.57	1.71	7.0
1955-56 ..	1,73.71	93.73	74.98	12.12	1.00	0.97	1.3
1960-61 ..	3,09.06	1,70.57	1,38.49	21.61	25.44	1.57	18.4
1965-66 ..	5,49.24	3,65.34	1,83.90	37.78	42.21	37.59	23.0
1966-67 ..	7,58.47	4,53.79	3,04.68	41.80	59.35	53.31	19.05
1967-68 ..	7,74.62	5,14.24	2,60.38	54.47	65.87	54.98	25.3
1968-69 ..	8,48.22	5,69.00	2,79.22	76.16	77.36	57.74	27.7

*Loan repayments under Col. (7) have also been included under depreciation in Col. (5) as Calcutta Port treats contribution to the Sinking Fund as provision for depreciation.

CHAPTER 10—APPENDIX III—concl'd.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Cochin—							
1950-51 ..	61.64	37.85	23.79	0.11	7.37	4.01	31.0
1955-56 ..	78.99	45.42	33.57	3.00	7.44	5.50	22.2
1960-61 ..	1,27.91	73.72	54.19	3.00	16.13	6.12	29.8
1965-66 ..	2,19.32	1,38.82	80.50	20.00	15.40	12.51	19.1
1966-67 ..	2,65.52	1,71.10	94.42	20.00	16.84	15.48	17.9
1967-68 ..	3,93.43	2,07.70	1,85.73	20.00	19.61	18.75	10.6
1968-69 ..	3,88.58	2,42.40	1,46.18	25.30	22.87	20.28	15.6
Visakhapatnam—							
1950-51 ..	53.25	51.99	1.26	2.58	0.96	..	76.2
1955-56 ..	83.47	57.02	23.45	5.00	4.96	..	18.8
1960-61 ..	1,95.47	93.45	1,02.02	30.06	14.62	18.07	14.4
1965-66 ..	3,45.77	2,25.71	1,20.06	30.06	50.43	..	42.0
1966-67 ..	5,11.40	2,56.88	2,54.52	65.06	58.03	6.61	22.8
1967-68 ..	5,81.08	2,96.58	2,84.40	65.06	60.85	7.71	21.4
1968-69 ..	6,70.77	3,74.27	2,95.50	65.06	64.43	9.75	21.7
Mormugao—							
1961-62 ..	1,53.56	57.82	95.74	..	..	..	..
1965-66 ..	1,81.29	76.09	1,05.20	72.09	4.13	8.05	3.9
1966-67 ..	1,97.75	86.20	1,11.55	22.96	5.86	12.76	5.3
1967-68 ..	2,25.37	1,11.87	1,13.50	18.93	5.20	..	4.6
1968-69 ..	2,21.54	1,20.05	1,01.49	22.88	4.52	..	4.5
Kandla—							
1960-61 ..	86.93	58.43	28.50	4.08	15.00	..	52.6
1965-66 ..	1,56.02	90.83	65.19	18.56	16.15	..	24.8
1966-67 ..	1,84.86	1,09.64	75.22	21.56	17.59	..	23.4
1967-68 ..	1,88.95	1,39.00	49.95	21.79	19.03	..	38.1
1968-69 ..	2,10.98	1,45.62	65.36	23.34	19.89	..	30.4
Paradip—							
1967-68 ..	96.62	78.86	17.76	23.15	1,34.38	..	7,56.6
1968-69 ..	1,11.37	61.36	50.01	37.80	1,34.83	..	2,69.7

Source—Annual Accounts of the ports for respective years.

CHAPTER 10—APPENDIX IV

Cash resources position of Major Ports during the Fourth Five Year Plan

(Rs. in lakhs)

Port			Gross surplus	Debt Obligations			Cash resources (2)—(4)	Deprecia- tion
				Loan repayment	Interest	Total		
(1)			(2)	(3)	(4)	(5)	(6)	(7)
Calcutta	..	..	21,99	13,62	32,45	46,07	(—) 10,46	13,62
Bombay	..	..	17,33	2,16	2,63	4,79	15,20	8,10
Madras	..	..	18,82	4,34	7,16	11,50	11,66	3,99
Cochin	..	..	1,76	1,05	3,75	4,80	(—) 1,99	1,25
Visakhapatnam		..	32,58	1,91	5,21	7,12	27,37	5,50
Mormugao	..	..	5,58	64	2,54	3,18	2,40	2,23
Kandla	..	..	17	3,06	7,18	10,24	(—) 7,01	1,43
Paradip	..	..	5,42	73	10,50	11,23	(—) 5,08	2,96
TOTAL	..	..	10,415	27,51	71,42	98,93	32,73	39,08

Source—Report of the Sub-Group on Port Finances (pp. 98–103).

CHAPTER 10—APPENDIX V

Sources for development expenditure during Fourth Five Year Plan

(Rs. in lakhs)

Port	Total Outlay	Port's Resources	Central Assistance
Calcutta (1)	55,02·00	5,86·00	49,16·00
Bombay	48,14·00	47,64·44	(2)
Madras	23,00·50	6,94·00	16,06·50
Cochin	15,53·75	4,00·00	11,53·75
Visakhapatnam (3)	47,99·07	30,49·07	17,50·00
Mormugao	27,46·30	3,00·00	24,46·30
Kandla	12,18·69	1,00·00	11,18·69
Paradip	20,29·44	..	20,29·44
Mangalore	16,50·00	..	16,50·00
Tuticorin	17,70·00	..	17,70·00
Total	283,84·19	98,93·51	184,40·68

(1) Inclusive of outlay on Haldia and Bhagirathi Hooghly River Training Works.

(2) A sum of Rs. 50 lakhs will be found from Defence estimates for the Explosives Anchorage.

(3) Inclusive of outlay on the Outer Harbour Project.

Source—Working Group on Transport, Ministry of Shipping and Transport.

CHAPTER 10—APPENDIX VI-A

KANDLA PORT TRUST

Net Surplus/Deficit anticipated during Fourth Five Year Plan on the basis of 45 year terms of lending

(Rs. in lakhs)

Serial No.	Year	Revenue (1)	Expenditure (1)	Gross Surplus (3)—(4)	Depreciation (1)	Interest (1)		Repayment of loans (1)	Net (2) Surplus/Deficit
						On Existing Loans	On Loans in Fourth Plan		
1	2	3	4	5	6	7(i)	7(ii)	8	9
1	1969-70	..	1,92.42	1,78.80	13.62	25.00	(3) 7.92 (4) 72.19	(5) .. (6) 6.60 (7) 53.36	(—) 1,22.45
2	1970-71	..	1,73.37	1,86.75	(—) 13.38	26.00	(3) 7.89 (4) 72.05	(5) 13.84 (6) 1.10 (7) 55.92	(—) 1,64.18
3	1971-72	..	1,86.81	1,97.30	(—) 10.49	30.00	(3) 7.83 (4) 69.82	(5) 40.65 (6) 2.35 (7) 58.38	(—) 1,89.52
4	1972-73	..	2,33.64	2,32.50	1.14	30.00	(3) 7.70 (4) 67.50	(5) 54.53 (6) 3.60 (7) 61.02	(—) 1,93.21
5	1973-74	..	2,67.23	2,41.00	26.23	32.00	(3) 7.53 (4) 65.08	(5) 62.24 (6) 4.35 (7) 64.55	(—) 1,77.52

(1) Estimates of the Kandla Port Trust.

(2) Worked out by treating depreciation as part of cash resources for repayment of loans.

(3) Represents payment on loans taken after the formation of Port Trust on 29-2-1964 and worked out on the basis of actual lending terms given by Government.

(4) Represents interest payment on capital debt incurred upto the formation of Port Trust and worked out after capitalising interest during construction period, i.e., upto 1956-57, moratorium on payment of interest and capital during construction period (upto 1956-57), further moratorium for 10 years for repayment of capital and thereafter repayable in 30 instalments. It has been assumed that construction period was upto 1956-57.

(5) Represents payment of interest on loans to be taken during plan period and on the same terms as for loans given after formation of Port Trust.

(6) Represents repayment of capital on loans taken after the formation of Port Trust (29-2-1964).

(7) Represents payment of capital debt incurred upto the formation of Port Trust (29-2-1964) on terms spelt out *vide* (4).

CHAPTER 10—APPENDIX VI-B

PARADIP PORT TRUST

Net Surplus/Deficit anticipated during Fourth Five Year Plan on the basis of 45 year terms of lending

(Rs in lakhs)

Serial No.	Year.	Revenue (1)	Expenditure (1)	Gross surplus (3)—(4)	Depreciation (1)	Interest (1)		Repayment of Loans (1)	Net surplus/ deficit
						On existing Loans	On loans in Fourth Plan		
1	2	3	4	5	6	7(a)	7(b)	8	9
1	1969-70	..	1,60.00	1,00.00	60.00	55.00	1,55.11	..	.. (—)1,50.11
2	1970-71	..	1,60.00	1,05.00	55.00	60.00	1,55.11	25.88	.. (—)1,85.99
3	1971-72	..	1,98.00	1,10.00	88.00	60.00	1,55.11	51.76	.. (—)1,78.87
4	1972-73	..	2,65.00	1,13.50	1,51.50	60.00	1,55.11	76.20	.. (—)1,39.81
5	1973-74	..	3,05.00	1,18.00	1,87.00	61.00	1,55.11	99.20	.. (—)1,28.31

(1) Estimates of the Paradip Port Trust.

CHAPTER 10—APPENDIX VI-C

MANGALORE HARBOUR PROJECT

Net Surplus/Deficit anticipated from 1971-72 to 1983-84 on the basis of 45 year terms of lending

Capital Investment

(i) Initial investment	Rs. 21,90.00 lakhs
(ii) Initial investment including capitalised interest during construction period..	Rs. 23,72.84 lakhs
(iii) Additional investment in 1975-76	Rs. 2,40.00 lakhs

(Rs. in lakhs)

Serial No.	Year	Revenue (1)	Expenditure (1)	Gross Surplus (3) — (4)	Depreciation (2)	Interest	Repayment of loans	Net Surplus/Deficit (3)	Traffic (Lakh Tonnes)
1	2	3	4	5	6	7	8	9	10
1	1971-72	2,61.80	1,09.00	1,52.80	35.33	1,49.39	..	(—)31.92	27.10
2	1972-73	2,73.80	1,11.64	1,62.16	35.33	1,49.39	..	(—)22.56	28.19
3	1973-74	2,81.80	1,14.32	1,67.48	35.33	1,49.39	..	(—)17.24	29.03
4	1974-75	2,95.00	1,16.02	1,78.98	35.33	1,49.39	..	(+)5.74	30.23
5	1975-76	3,10.27	1,29.42	1,80.85	38.60	1,49.39	..	(—)7.14	31.74
6	1976-77	3,13.37	1,31.36	1,82.01	38.60	1,63.19	..	(—)19.78	4% increase on other items of traffic excluding hematite, ore, manganese ore and fertilizer traffic.
7	1977-78	3,16.50	1,33.33	1,83.17	38.60	1,63.19	..	(—)18.62	
8	1978-79	3,19.67	1,35.33	1,84.34	38.60	1,63.19	..	(—)17.45	
9	1979-80	3,22.87	1,37.36	1,85.51	38.60	1,63.19	..	(—)16.28	
10	1980-81	3,26.10	1,39.42	1,86.68	38.60	1,63.19	..	(—)15.11	
11	1981-82	3,29.36	1,41.51	1,87.85	38.60	1,63.19	98.60	(—)73.94	
12	1982-83	3,32.65	1,43.64	1,89.01	38.60	1,57.52	98.60	(—)67.11	
13	1983-84	3,35.98	1,45.80	1,90.18	38.60	1,51.85	98.60	(—)60.27	

(1) Estimates of the Ministry of Shipping and Transport.

(2) On fixed assets of Rs. 16 crores value approximately, Kandla Port is contributing Rs. 21.79 lakhs annually to its Depreciation Fund. Depreciation for the assets of Mangalore Port has been assumed to be in proportion to Kandla figures.

(3) Worked out by treating depreciation as part of cash resources for repayment of Loans.

CHAPTER 10—APPENDIX VI-D

TUTICORIN HARBOUR PROJECT

Net Surplus/Deficit anticipated from 1971-72 to 1983-84 on the basis of 45 year terms of lending

Capital Investment

(I) Investment	Rs. 24,40.00 lakhs
(II) Investment including capitalized interest during construction period	Rs. 28,83.40 lakhs

(Rs. in lakhs)

Serial No.	Year	Revenue	Expenditure (1)	Gross Surplus	Depreciation (2)	Interest	Repayment of loans	Net Surplus/Deficit (3)	Traffic (Lakh tonnes)
1	2	3	4	5	6	7	8	9	10
1	1971-72	2,12.00	1,06.00	1,06.00	39.37	1,66.44	..	(—)99.81	22.35
2	1972-73	2,20.48	1,07.59	1,12.89	39.37	1,66.44	..	(—)92.92	23.15
3	1973-74	2,29.30	1,09.21	1,20.09	39.37	1,66.44	..	(—)85.72	24.55
4	1974-75	2,38.47	1,10.84	1,27.63	39.37	1,66.44	..	(—)78.18	25.80
5	1975-76	3,30.97	1,27.50	2,03.47	39.37	1,66.44	..	(—) 2.34	35.10
6	1976-77	3,34.28	1,29.42	2,04.86	39.37	1,66.44	..	(—) 0.95	35.63
7	1977-78	3,37.62	1,31.36	2,06.26	39.37	1,66.44	..	(+) 0.45	36.18
8	1978-79	3,41.00	1,33.32	2,07.68	39.37	1,66.44	..	(+) 1.87	36.76
9	1979-80	3,44.41	1,35.32	2,09.09	39.37	1,66.44	..	(+) 3.28	37.35
10	1980-81	3,47.85	1,37.35	2,10.50	39.37	1,66.44	..	(+) 4.69	37.96
11	1981-82	3,51.33	1,39.41	2,11.92	39.37	1,66.44	96.49	(—)51.01	38.60
12	1982-83	3,54.84	1,41.49	2,13.35	39.37	1,60.89	96.49	(—)44.03	39.26
13	1983-84	3,58.39	1,43.61	2,14.78	39.37	1,55.34	96.49	(—)37.05	39.95

(1) Estimates of the Ministry of Shipping and Transport.

(2) On fixed assets of Rs. 16 crores approximately, Kandla Port is contributing Rs. 21.79 lakhs annually to its Depreciation Fund. Depreciation for the assets of Tuticorin Port has been assumed to be in proportion to Kandla figures.

(3) Worked out by treating depreciation as part of cash resources for repayment of loans.

CHAPTER 10—APPENDIX VII-A—contd.

Estimated effect of the Formula based on liberalised terms of lending and 20 per cent Cash Grant for Civil works for Kandla Port Trust

(Rs. in lakhs)

1. Total capital expenditure incurred upto formation of Port Trust (29 February 1964)	..	..	..	..	..	..	..	..	18,78.06
2. Less capital expenditure on									
(i) Plant and machinery	..	..	..	..	..	..	..	45.49	
(ii) Cranes	..	..	..	..	..	..	..	71.68	
(iii) Floating Crafts	..	..	..	..	..	..	..	1,69.61	
(iv) Township	..	..	..	..	..	..	..	87.33	(—) 3,74.11
									15,03.95
3. 20% Grant	..	..	..	..	..	..	..	..	3,00.79
4. Total capital expenditure—									
Less 20% Grant (18,78.06—3,00.79)	..	..	..	..	..	..	..	..	15,77.27
5. Debenture Capital [20% of (4)]	..	..	..	..	..	..	..	..	7,88.64
6. Annual Interest on Debenture Capital @ 5½%	..	..	..	..	..	..	..	..	41.40
7. Annual instalment of loan repayment under formula based on liberalised terms of lending and 20% Cash Grant	..	..	..	..	..	..	..	..	39.43
8. Annual Interest on capital debt of Rs. 18.78 crores on existing terms @ 5½%									98.60
9. Annual instalment of loan repayment on existing terms	..	..	..	..	..	..	..	..	93.90

Source—Calculations based on figures supplied by the Kandla Port Trust.

CHAPTER 10—APPENDIX VII-B—contd.

Estimated effect of the Formula based on liberalized terms of lending and 20 per cent Cash Grant for civil works for Paradip Port Trust

(Rs. in lakhs)

1. Total capital expenditure incurred upto formation of Port Trust (1 November 1967)	..	..	..	..	..	..	..	..	23,76.05
2. Less capital expenditure on—									
(i) Township	..	..	..	..	..	..	..	2,22.90	
(ii) Ore Handling Plant	..	..	..	..	..	..	..	2,07.62	
(iii) Flotilla	..	..	..	..	..	..	..	2,10.19	
(iv) Central Workshop	..	..	..	..	..	..	..	5.38	
(v) Tools and Plant	..	..	..	..	..	..	..	1,01.21	
(vi) Stock and other items	..	..	..	..	..	..	..	88.63	(—) 8,35.93
									15,40.12
3. 20% Grant	..	..	..	..	..	..	..	..	3,08.02
4. Total capital expenditure—									
Less 20% Grant (2,376.05—3,08.02)	..	..	..	..	..	..	..	..	20,68.03
5. Debenture Capital [50% of (4)]	..	..	..	..	..	..	..	..	10,34.02
6. Annual Interest on Debenture Capital @ 5½%	..	..	..	..	..	..	..	..	59.46
7. Annual instalment of loan repayment under formula based on liberalized terms of lending and 20% Cash Grant	..	..	..	..	..	..	..	..	51.70
8. Annual interest on capital debt of Rs. 23.76 crores on existing terms @ 5½%	..	..	..	..	..	..	..	..	1,36.62
9. Annual instalment of loan repayment on existing terms	..	..	..	..	..	..	..	..	1,18.80

Source—Calculations based on figures supplied by the Paradip Port Trust.

CHAPTER 10—APPENDIX VII-C

Estimated effect of the formula based on liberalized terms of lending and 20 per cent Cash Grant for civil works for Mangalore Harbour Project

							(Rs. in lakhs)
1. Estimate of total capital expenditure to be incurred	..	..	..	..	..	..	21,90.00
2. <i>Less</i> capital expenditure on—							
(i) Preliminary Expenses	..	..	..	..	..	..	62.04
(ii) Land Acquisition	..	..	..	..	..	..	2,40.00
(iii) Works as temporary buildings, roads, jetty and drainage	..	..	..	..	..	..	1,73.65
(iv) Water supply, electricity and marshalling yard	..	..	..	..	..	..	72.90
(v) Establishment	..	..	..	..	..	..	88.00
(vi) Tools and Plant	..	..	..	..	..	..	3,07.50
(vii) Miscellaneous and Project contingencies	..	..	..	..	..	..	27.61
							(—) 9,71.70
							12,18.30
3. 20% Grant	..	..	..	..	..	..	2,43.66
4. Total capital expenditure—							
<i>Less</i> 20% Grant (21,90.00—2,43.66)	..	..	..	..	..	..	19,46.34
5. Debenture Capital [50% of (4)]	..	..	..	..	..	..	9,73.17
6. Annual Interest on Debenture Capital @ 5½%	..	..	..	..	..	..	55.96
7. Annual instalment of loan repayment under formula based on liberalized terms of lending and 20% Cash Grant	..	..	..	..	..	..	48.66
8. Annual interest on initial capital of Rs. 21.90 crores on existing terms @ 5½%	..	..	..	..	..	..	1,25.93
9. Annual instalment of loan repayment on existing terms	..	..	..	..	..	..	1,09.50

Source for basic information—Project Report—Mangalore Harbour Project, Ministry of Shipping and Transport.

CHAPTER 10—APPENDIX VII-D

Estimated effect of the formula based on liberalized terms of lending and 20 per cent Cash Grant for civil works for Tuticorin Harbour Project

						(Rs. in lakhs)
1.	Estimate of total capital expenditure to be incurred	..	..	..	..	24,40.00
2.	Less capital expenditure on—					
	(i) Preliminary works	..	..	..	..	11.00
	(ii) Land acquisition	..	..	..	..	11.50
	(iii) Works on staff quarters, road and bridges, railway access, warehouse, sewerage, drainage etc.	..	..	..	..	4,64.50
	(iv) Establishment	..	..	..	..	70.00
	(v) Tools and Plant	..	..	..	..	3,76.10
	(vi) Miscellaneous, maintenance during construction, replacement of fork lifts, grabbing cranes and credit for construction equipment	..	..	..	..	57.90
						(—) 9,91.00
						14,49.00
3.	20% Grant	..	..	..	..	2,89.80
4.	Total capital expenditure Less 20% Grant (24,40.00—2,89.80)	..	..	..	..	21,50.20
5.	Debenture Capital [50% of (4)]	..	..	..	..	10,75.10
6.	Annual Interest on Debenture Capital @ 5½%	..	..	..	..	61.82
7.	Annual instalment of loan repayment under formula based on liberalized terms of lending and 20% Cash Grant	..	..	..	..	53.76
8.	Annual interest on initial capital of Rs. 24.40 crores on existing terms @ 5½%	..	..	..	..	1,40.30
9.	Annual instalment of loan repayment on existing terms	..	..	..	..	1,22.00

Source for basic information—Project Report—Tuticorin Harbour Project, Ministry of Shipping and Transport.

CHAPTER 10—APPENDIX VIII

Outlay in Fourth plan as a percentage of Net Assets as on 31 March, 1968

(Rs. in lakhs)

Serial No.	Particulars	Calcutta	Bombay	Madras	Cochin	Visakha- patnam	Mormugao	Kandla	Paradip
1.	Net Fixed assets as on March 1968 ..	70,55.28	35,81.78	17,26.18	8,53.28	12,28.82	2,96.94	13,04.77	19,41.16
2.	Proposed outlay in Fourth Plan ..	55,02.00*	48,14.44	23,00.50	15,53.75	47,99.07†	27,46.30	12,18.69	20,29.44
3.	Percentage of (2) to (1) ..	80.00	1,34.4	1,33.3	1,82.1	3,90.5	9,24.0	93.4	1,04.5

*Inclusive of outlay on Haldia and Bhagirathi Hooghly River Training Works.

†Inclusive of outlay on the Outer Harbour Project.

CHAPTER 11—APPENDIX I

Port Trust Boards—Present Composition

	Bombay	Calcutta	Madras	Mormugao	Paradip	Visakha- patnam	Cochin	Kandla
Officials—								
Chairman	1	1	1	1	1	1	1	1
Dy. Chairman	..	1	..	..	..	1	..	..
Collector of Customs	1	1	1	1	1	1	1	1
Railways	2	1	1	1	1	1	1	1
Mercantile Marine Deptt.	1	1	1	1	1	1	1	1
Defence Services	2	1	1	1	1	1	1	1
State Government	1	1	1	1	1	2	1	1
Municipal Commissioner	1	1	1	..	..	..	1	..
Local Municipality	..	1	..	..	..	..	..	..
M.M.T.C.	..	..	..	1	1	1	..	..
State Commercial Tpt.	..	..	..	..	1	..	..	..
Corporation	..	..	..	..	..	..	..	..
Administrator free trade zone	..	..	..	..	..	..	..	1
Non-Officials—								
Labour	2	2	2	2	1	2	2	2
Chamber of Commerce	7	10	9	5	1	2	3	4
Shipowners Association	2	..	1	1	1	..	1	1
Sailing Vessels Industry	1	..	..	1	..	..	1	1
Other Commercial Interests	2	1	..	2	..	..	1	..
Steamship Agents Association	..	..	..	..	1	1	..	..
Municipal Corporation	2	1	1	1	..	1	1	1
Total	25	23	20	19	12	15	16	16
Officials	9	9	7	7	8	9	7	7
Non-Officials	16	14	13	12	4	6	9	9

CHAPTER 11—APPENDIX II

Statement showing appointing, disciplinary and appellate authorities

Description of post	Appointing Authority	Authority competent to impose penalties and penalties which it may impose	Appellate Authority	Remarks
I. MAJOR PORT TRUSTS ACT, 1963—				
(a) Posts the incumbents of which are declared to be Heads of Departments.	Central Government in consultation with the Chairman.	Board—All (the prior approval of Central Govt. should be taken before imposing penalties (v) to (ix).	..	<i>Minor Penalties—</i> (i) censure; (ii) withholding of promotions.
(b) Class I (other than those of Heads of Departments).	Board	Chairman—(i) to (iv) Board—(v) to (ix)	.. Board Central Govt.	.. (iii) recovery from pay for loss caused to the Board;
(c) Class I (not covered by posts indicated above). Class II	Chairman	Chairman—All	Board	(iv) withholding of increment of pay;
(d) Class III Class IV	Head of a Department Head of a Department	Head of a Department—All Head of a Department—All	Chairman Chairman	<i>Major Penalties—</i> .. (v) reduction of a lower stage in time scale of pay for a specified period;
II. BOMBAY/CALCUTTA/MADRAS PORT ACTS				
(a) Heads of Deptts.	Central Govt. in Consultation with Chairman.	Board—All Punishment not effective unless approved by Central Govt.	..	(vi) reduction to a lower time scale of pay, grade, post or service.
Posts carrying pay scale of Rs. 1,000 or more.	Board	Do. Do.	Do.	(vii) compulsory retirement;
(b) Posts carrying pay scale of less than Rs. 1,000.	Chairman	Chairman/Dy. Chairman—All	Board/Chairman ..	(viii) removal from service;
(c) Posts carrying pay scale upto Rs. 350 (under delegated powers).	Chairman or Authority delegated.	Heads of Deptts. —All	Dy. Chairman/Chairman.	(ix) dismissal from service.

N.B.—

CALCUTTA PORT—In case of Calcutta Port there being a Deputy Chairman, penalties to employees carrying pay scale of less than Rs. 1,000 but above Rs. 350 are imposed by Deputy Chairman and the appellate authority in such cases is Chairman while in case of employees carrying pay scale of less than Rs. 350 penalties are imposed by Heads of Departments and appellate authority is Deputy Chairman.

BOMBAY PORT—In case of employees carrying pay scale of less than Rs. one thousand the Chairman has mentioned that there is no appellate authority against his orders.

CHAPTER 12—APPENDIX I

Financial Results of the Working of Port Railways at various Major Port Trusts

(Figures in Rs. lakhs)

Year/Port	Calcutta			Bombay			Madras		
	Gross Revenue	Expenditure	Surplus/Deficit	Gross Revenue	Expenditure	Surplus/Deficit	Gross Revenue	Expenditure	Surplus/Deficit
1959-60	186·82	200·35	(—)13·53	85·83	103·44§	(—)17·61	N.A.	N.A.	N.A.
1960-61	173·46	184·54	(—)11·08	83·78	106·99§	(—)23·21	N.A.	N.A.	N.A.
1961-62	209·09	204·28	(+)4·81	76·17	114·25§	(—)38·08	N.A.	N.A.	N.A.
1962-63	266·16	264·71	(+)1·45	178·40*	149·37§	(+)29·03	N.A.	N.A.	N.A.
1963-64	246·16	300·99	(—)54·83	106·65	145·71	(—)39·06	51·25	43·55	(+)7·70
1964-65	258·39	304·44	(—)46·05	104·87	158·65	(—)53·78	51·21	51·62	(—)0·41
1965-66	279·14	337·42	(—)58·28	104·47	167·84	(—)63·37	60·82	63·37	(—)2·55
1966-67	282·75	363·22	(—)80·47	112·89	189·35	(—)76·46	82·40	67·35	(+)15·05
1967-68	286·28	420·29	(—)134·01	164·69†	250·54	(—)85·85	93·32	81·50	(+)11·82
1968-69	288·66	452·28	(—)163·62	129·30‡	235·09‡	(—)105·79	N.A.	N.A.	N.A.

*Sudden rise in income is due to revision of rates for terminal charges and receipts of arrears of terminal charges for the previous years.

†Accountal of terminal charges on accrual basis and receipts of certain arrears.

‡Figures compiled in accordance with the Revised Accounting System.

Excludes depreciation provision. For 1962-63 data, expenditure also includes payment of arrears due to revision of pay scales.

CHAPTER 12—APPENDIX I—*contd.*

(Figures in Rs. lakh)

Year/Port	Visakhapatnam			Mormugao		
	Gross Revenue	Expenditure	Surplus/ Deficit	Gross Revenue	Expenditure	Surplus/ Deficit
1959-60	12·99	2·03	(+)10·96	N.A.	N.A.	N.A.
1960-61	16·82	8·38	(+)8·44	N.A.	N.A.	N.A.
1961-62	16·41	10·27	(+)6·14	N.A.	N.A.	N.A.
1962-63	20·84	16·07	(+)4·77	23·37	37·73	(—)14·36
1963-64	25·82	11·13	(+)14·69	8·36	17·78	(—)9·42
1964-65	31·22	21·17	(+)10·05	7·31	20·83	(—)13·52
1965-66	31·03	27·88	(+)3·15	17·73	23·83	(—)6·10
1966-67	54·01	33·35	(+)20·66	20·70	25·29	(—)4·59
1967-68	57·11	37·50	(+)19·61	25·81	22·77	(+)3·04
1968-69	N.A.	N.A.	N.A.	24·89	16·95	(+)7·94

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NOTE—The figures given above differs from those published in the “History of Indian Railways” published by Ministry of Railways (Railway Board). The main reasons being that Railway Board’s data do not take into account interest on capital employed while the port authorities allow interest on capital employed. Secondly, the miscellaneous receipts on Railways account have not taken into consideration by Railway Board while these have been added by us in the gross income if positive and in expenditure if in negative.

Source—Table is compiled from information obtained from Calcutta Port Commissioners, Bombay Port Trust, Madras Port Trust, Visakhapatnam Port Trust and Mormugao Port Trust.

CHAPTER 15—APPENDIX I

List of Minor Ports

Serial No.	Name of the Port			Whether Intermediate or Minor Port	
(1)	(2)			(3)	
<i>Orissa</i>					
1	Chandbali	..	..	Minor Port	
2	Gopalpur	..	..	Do.	
<i>Andhra Pradesh</i>					
3	Kakinada	..	..	Intermediate Port	(1)
4	Masulipatnam	..	..	Do.	(2)
5	Krishnapatnam	..	..	Minor Port	
6	Vedarevu	..	..	Do.	
7	Bheemunipatnam	..	..	Do.	
8	Calingapatnam	..	..	Do.	
9	Narasapur	..	..	Do.	
<i>Pondicherry</i>					
10	Pondicherry	..	..	Do.	
<i>Tamil Nadu</i>					
11	Cuddalore	..	..	Intermediate Port	(3)
12	Porto Novo	..	..	Minor Port	
13	Nagapattinam	..	..	Intermediate Port	(4)
14	Pamban	..	..	Minor Port	
15	Dhanushkodi	..	..	Do.	
16	Kilakarai	..	..	Do.	
17	Tondi	..	..	Do.	
18	Colachel	..	..	Do.	
19	Kulasekarapattinam	..	..	Do.	
20	Tuticorin	..	..	Intermediate Port	(5)
21	Ramesawaram	..	..	Minor Port	

CHAPTER 15—APPENDIX I—contd.

(1)	(2)			(3)	
<i>Mysore</i>					
22	Mangalore	..	..	.. Intermediate Port	(6)
23	Mulki	..	..	.. Minor Port	
24	Malpe	..	..	.. Do.	
25	Mangarratta	..	..	.. Do.	
26	Coondapur	..	..	.. Do.	
27	Byndoor	..	..	.. Do.	
28	Bhatkal	..	..	.. Do.	
29	Shirali	..	..	.. Do.	
30	Murdeswar	..	..	.. Do.	
31	Manki	..	..	.. Do.	
32	Honavar	..	..	.. Do.	
33	Kumta	..	..	.. Do.	
34	Tadri	..	..	.. Do.	
35	Gangavalli	..	..	.. Do.	
36	Ankola	..	..	.. Do.	
37	Belekeri	..	..	.. Do.	
38	Chendia	..	..	.. Do.	
39	Binge	..	..	.. Do.	
40	Karwar	..	..	.. Intermediate Port	(7)
41	Sadashivagad	..	..	.. Minor Port	
42	Majali	..	..	.. Do.	
<i>Kerala</i>					
43	Calicut	..	..	.. Intermediate Port	(8)
44	Beypore	..	..	.. Do.	(9)
45	Neendakara	..	..	.. Do.	(10)
46	Ponnani	..	..	.. Minor Port	

CHAPTER 15—APPENDIX I—contd.

(1)	(2)	(3)	
<i>Kerala—contd.</i>			
47	Baiagara	Minor Port	
48	Tellicherry	Do.	
49	Cannanore	Do.	
50	Azhikkal	Do.	
51	Kasargod	Do.	
52	Alleppey	Intermediate Port	(11)
53	Trivandrum	Minor Port	
54	Quilon	Do.	
55	Koilkthottam	Do.	
<i>Maharashtra</i>			
56	Dahnu	Do.	
57	Tarapur	Do.	
58	Navapur	Do.	
59	Satpati	Do.	
60	Kelva (Mahim)	Do.	
61	Armalla	Do.	
62	Bassein	Do.	
63	Uttan	Do.	
64	Bhiwandi	Do.	
65	Manori	Do.	
66	Vessava	Do.	
67	Bandra	Do.	
68	Elephanta	Do.	
69	Trombay	Do.	
70	Thana	Do.	
71	Kalyan	Do.	
72	Panvel	Do.	

CHAPTER 15—APPENDIX I—contd.

(1)	(2)	(3)	
<i>Maharashtra—contd.</i>			
73	Mora	Minor Port	
74	Karanja	Do.	
75	Ratnagiri	Intermediate Port	(12)
76	Thal	Minor Port	
77	Alibag	Do.	
78	Revdanda	Do.	
79	Borlai Mandla	Do.	
80	Mandgaon	Do.	
81	Murud	Do.	
82	Rajpuri	Do.	
83	Mandad	Do.	
84	Kundharu	Do.	
85	Shrivardhan	Do.	
86	Mandva	Do.	
87	Bankot	Do.	
88	Kelshi	Do.	
89	Harnai	Do.	
90	Dabhol	Do.	
91	Borye	Do.	
92	Jaigadh	Do.	
93	Varuda	Do.	
94	Purangad	Do.	
95	Jaitapur	Do.	
96	Vijaydurg	Do.	
97	Deogad	Do.	
98	Achra	Do.	
99	Malwan	Do.	
100	Nivti	Do.	
101	Vengurla	Do.	
102	Redi	Intermediate Port	(13)
103	Kirnapani	Minor Port	

CHAPTER 15—APPENDIX I—contd.

(1)	(2)	(3)	
<i>Gujarat</i>			
104	Okha	Intermediate Port	(14)
105	Porbander	Do.	(15)
106	Bhavnagar	Do.	(16)
107	Navlakhi	Do.	(17)
108	Bedi	Do.	(18)
109	Verawal	Do.	(19)
110	Broach	Do.	(20)
111	Mandvi	Do.	(21)
112	Lakhpat	Minor Port	
113	Koteswar	Do.	
114	Jakhau	Do.	
115	Mundra	Do.	
116	Jodia	Do.	
117	Sikka	Intermediate Port	(22)
118	Salaya	Minor Port	
119	Pindhara	Do.	
120	Beyt	Do.	
121	Dwarka (Rupen)	Do.	
122	Lamba	Do.	
123	Miyani	Do.	
124	Madhavpur	Do.	
125	Shil	Do.	
126	Mangrol	Do.	
127	Sutapada	Do.	
128	Kodinar	Do.	
129	Kotda	Do.	
130	Madhavad	Do.	
131	Sawabandar	Do.	

CHAPTER 15—APPENDIX I—*contd.*

(1)	(2)	(3)	
<i>Gujarat—contd.</i>			
132	Mahuva	Minor Port	
133	Simor	Do.	
134	Rajpara	Do.	
135	Jafrabad	Do.	
136	Bherai	Do.	
137	Alber Victor	Do.	
138	Talaja	Do.	
139	Godha	Do.	
140	Dholera	Do.	
141	Cambay	Do.	
142	Kavi	Do.	
143	Tamkari	Do.	
144	Dahej	Do.	
145	Surat	Intermediate Port	(23)
146	Onjal (Matwad)	Minor Port	
147	Vasi Borsi (Newsari)	Do.	
148	Billimora	Do.	
149	Bulsar	Do.	
150	Umarsadi	Do.	
151	Kolak	Do.	
152	Maroli	Do.	
153	Nawapur	Do.	
<i>Andaman & Nicobar Islands</i>			
154	Port Blair	Do.	
155	Ranghat Bay	Do.	
156	Mayabunder.. ..	Do.	
157	Aerial Bay	Do.	

CHAPTER 15—APPENDIX I—concl'd.

(1)	(2)	(3)
<i>Andaman & Nicobar Islands—contd.</i>		
158	Elhinstone Harbour ..	.. Minor Port
159	Port Meadows ..	.. Do.
160	Car Nicobar ..	.. Do.
161	Nancoviry Harbour ..	.. Do.
162	Havalock ..	.. Do.
163	Kadantala ..	.. Do.
164	Uttara ..	.. Do.
165	Beroniyal ..	.. Do.
166	Shuamkund ..	.. Do.
167	Tugapur ..	.. Do.
168	Kalara ..	.. Do.

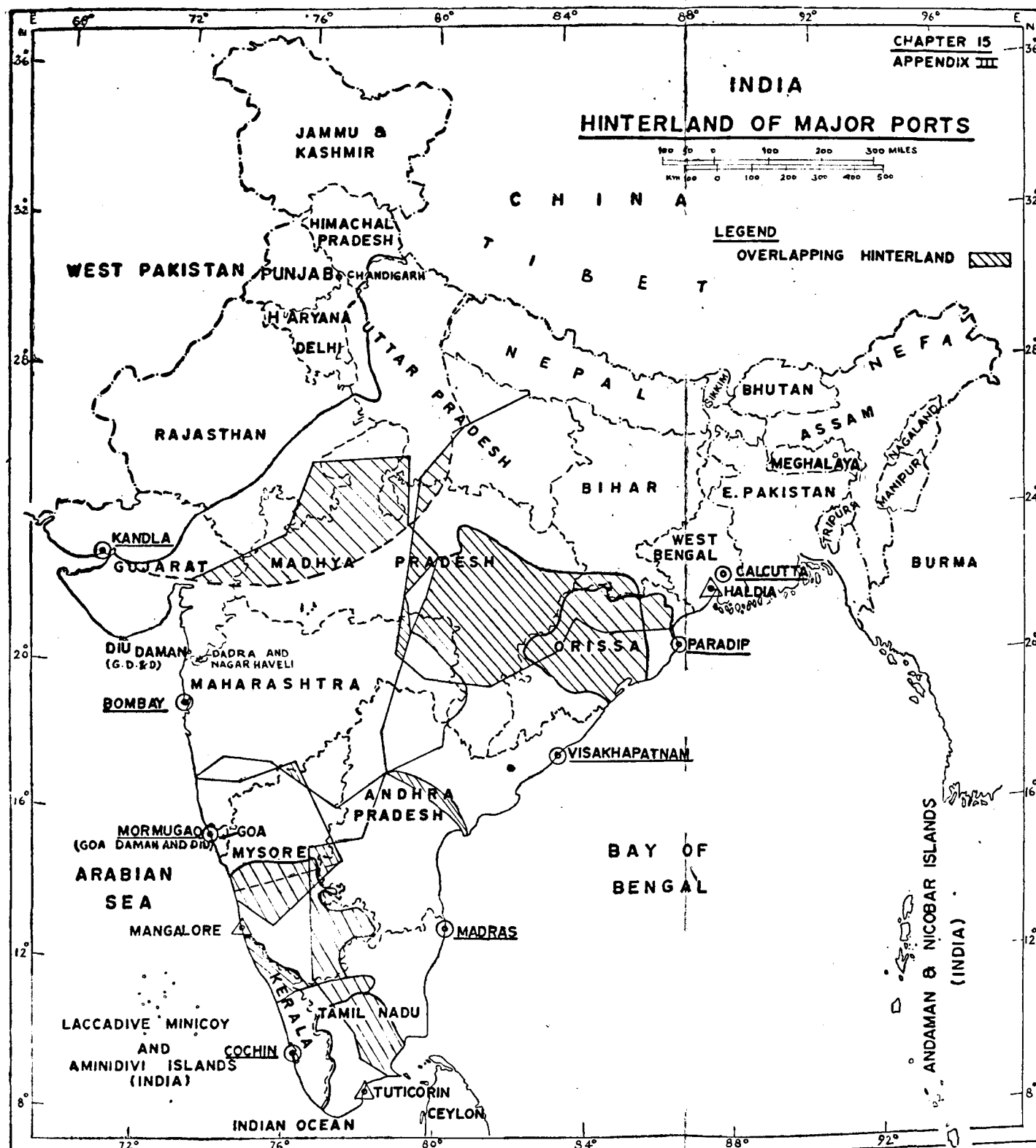
CHAPTER 15—APPENDIX II

Traffic in Major Bulk Commodities and other cargo handled at various Major Ports

(In lakh tonnes)

Commodity	1950-51	1955-56	1960-61	1965-66	1967-68	1968-69
Mineral Oils ..	31	62	120	157	170	185
Iron Ore ..	..	3	67	110	132	151
Coal ..	27	25	22	20	10	10
Fertilizer Rock Phosphate Sulphur ..	3	4	6	18	38	47
Foodgrains ..	34	8	52	72	81	69
Iron, Steel & Machinery ..	6	12	17	21	25	24
Other Cargo ..	91	112	111	104	94	90
Total ..	192	226	395	502	550	576

Source—Indian Ports & Shipping Statistics, 1969 Table 2.



BASED UPON SURVEY OF INDIA MAP WITH THE PERMISSION OF THE SURVEYOR GENERAL OF INDIA.
THE TERRITORIAL WATERS OF INDIA EXTEND INTO THE SEA TO A DISTANCE OF TWELVE NAUTICAL MILES MEASURED FROM THE APPROPRIATE BASE LINE.
BHUTAN IS A STATE IN SPECIAL TREATY RELATIONS WITH INDIA.

GOVERNMENT OF INDIA COPYRIGHT, 1967.

CHAPTER 16 APPENDIX I-A

Wage Guarantees offered to Shore Labour as on 1st January, 1970

N.B.—No. category of labour other than 'A' category exists in this Port on and from 8th December 1969

Part

Calcutta

- | | | | |
|--|--|---|--|
| <p>(1) Attendance money</p> | <p>..</p> | <p>..</p> | <p>(a) 75 P. plus daily content of static element which is now Rs. 3·84 in a month of 30 days at the first stage of their time scale of pay of Rs. 70—1—85—EB—2—89 in the case of those sent home after attendance without doing any cargo handling work.</p> <p>(b) In the case of those who waited for more than two hours, waiting allowance of 30 P. per hour of Rs. 1·73 per shift, whichever is higher is payable.</p> |
| <p>(2) Basic time rate (daily wage) including</p> <p style="margin-left: 20px;">(i) Dearness allowance</p> <p style="margin-left: 20px;">(ii) Interim relief</p> <p style="margin-left: 20px;">(iii) Compensatory allowance</p> | <p style="font-size: 3em; line-height: 1;">}</p> | <p>Rs. 5·34 at the first stage of their scale of pay of Rs. 70—1—85—EM—2—89 in a month of 30 days.</p> <p>(1) Daily piece-rate earning guarantee of Rs. 1·73 <i>plus</i> daily content of static element (of Rs. 3·84 at the bottom of the scale) inclusive of Dearness allowance, Interim relief and Compensatory allowance, if a worker is made to wait for two hours or more and/or handles cargo. If sent home without work before two hours, payment is guaranteed as in item 1.</p> | <p style="writing-mode: vertical-rl; transform: rotate(180deg);">N
20</p> |
| <p>(3) Minimum guarantee under the incentive scheme components</p> <p style="margin-left: 20px;">(i) Basic wage</p> <p style="margin-left: 20px;">(ii) Dearness allowance</p> <p style="margin-left: 20px;">(iii) Interim relief</p> <p style="margin-left: 20px;">(iv) Compensatory allowance</p> | <p style="font-size: 3em; line-height: 1;">}</p> | <p>(2) A monthly piece-rate earning guarantee of Rs. 45 that is, if the total piece-rate earnings for a month falls below this amount the shortfall is made good; <i>plus</i> the total monthly static element. The total amount of guarantee thus arrived at includes the components of Basic wages, Dearness allowance, Compensatory allowance and Interim relief.</p> | |
| <p>(4) House allowance</p> | <p>..</p> | <p>..</p> | <p>Eligible at authorised rates i.e. Rs. 15 p.m. if not residing in Port Commissioners' Quarters.</p> |
| <p>(5) Weekly (Roster) Off-payment</p> | <p>..</p> | <p>..</p> | <p>Rs. 5·94 per day <i>plus</i> static element of Rs. 3·84 in the first stage of their pay scale of Rs. 70—89.</p> |

CHAPTER 16—APPENDIX I-B

Wage Guarantees offered to Shore Labour as on 1st January, 1970

Port	Wage guarantees	Categories of workers		
		A	B	C
Bombay	(1) Attendance money ..	Rs. 5.45 including 2.31 Attendance allowance Rs. 2.73 Dearness allowance Rs. 0.45 Interim relief	Rs. 1.75 Attendance allowance	
	(2) Basic time rate (Daily wage) including	Rs. 7.05 to Rs. 7.68 (by 13 increments)	Rs. 7.05	Rs. 7.05
	(i) Dearness allowance ..	Rs. 2.73 Rs. 2.73	Rs. 2.73	Rs. 2.73
	(ii) Interim relief : ..	Rs. 0.45 Rs. 0.45	Rs. 0.45	Rs. 0.45
	(3) Minimum wage under the incentive schemes, components of minimum wage	Rs. 6.24 Rs. 6.83	Rs. 6.24	Rs. 6.24
	(i) Basic wage — ..	Rs. 3.06 Rs. 3.64	Rs. 3.06	Rs. 3.06
	(ii) Dearness allowance ..	Rs. 2.73 Rs. 2.73	Rs. 2.73	Rs. 2.73
	(iii) Interim relief	Rs. 0.45 Rs. 0.45	Rs. 0.45	Rs. 0.45

CHAPTER 16 APPENDIX I-C

Wage Guarantees offered to Shore Labour as on 1st January, 1970

Port	Wage Guarantees	Categories of workers		
		A		B
		Mazdoor	Maistry	Mazdoor & Maistry
Madras	1. Attendance money ..	Rs. 1.75	Rs. 1.75	Rs. 1.75
	Dearness allowance ..	Rs. 2.37	Rs. 2.37	—
	Wage Board Interim Relief ..	Rs. 0.39	Rs. 0.39	—
		Rs. 4.51	Rs. 4.51	Rs. 1.75
	(Wages per day) Equation allowance ..	Rs. 0.70	Rs. 0.70	
		Rs. 5.21	Rs. 5.21	
	2. Basic time rate (Daily wage including HRA and CA) or all categories ..	Rs. 3.34	Rs. 4.35	Rs. 3.34
	Dearness allowance ..	Rs. 2.37	Rs. 2.37	Rs. 2.37
	Wage Board Interim Relief ..	Rs. 0.39	Rs. 0.39	Rs. 0.39
	Equation allowance ..	Rs. 0.70	Rs. 0.70	Rs. 0.70
		Rs. 6.80	Rs. 7.81	Rs. 6.80
	3. Minimum guarantee under the Incentive Scheme (for all categories) 76 per cent of daily wage of Rs. 3.94 ..	Rs. 3.00	Rs. 3.00	Rs. 3.00
	Dearness allowance ..	Rs. 2.37	Rs. 2.37	Rs. 2.37
	Wage Board Interim Relief ..	Rs. 0.39	Rs. 0.39	Rs. 0.39
	Equation Allowance ..	Rs. 0.70	Rs. 0.70	Rs. 0.70
		Rs. 6.46	Rs. 6.46	Rs. 6.46

At present there is no 'C' Category at this Port.

In the case of maistries of 'B' Category an additional sum of Re. 0.25 per day is payable Towards Maistry allowance.

CHAPTER 16 APPENDIX I-C—contd.

Port	Wage guarantees	Categories of workers				
		A		A	B	C
		Mazdoor	Maistry	Mazdoor & Maistry		

The components of daily wage of Rs. 3·94 is given below :

Basic Pay	..	..	Rs. 1·43
Processing allowance	..	..	Re. 0·31
House rent allowance	..	..	Re. 0·23
C. A.	..	..	Re. 0·10
Dearness allowance	..	..	Re. 1·33
Interim Relief adjustment	..	..	Re. 0·54

Rs. 3·94

Differentials

D.A. Rs. 2·37

Wage Board Interim

Relief Rs. 0·39

Equation allowance Re. 0·70

4. Guaranteed minimum wages .. Wages for 18 days in a month at the wage rate applicable from time to time for time rated work *plus* the differentials towards the Dearness allowance, interim relief, etc., even though no work is found for the minimum number of 18 days. The days on which work is allotted to the workers shall be counted towards the 18 days mentioned.

Wages for 15 days in a month at the wage rate applicable from time to time for time rated work *plus* the differentials towards the dearness allowance, Interim relief, etc., even though no work is found for the minimum number of 15 days. The days on which work is allotted to the worker shall be counted towards the 15 days mentioned.

CHAPTER 16—APPENDIX I-D

Wage Guarantees offered to Shore Labour as on 1st January, 1970

Port	Wage Guarantees	Categories of Workers		
		'A'	'B'*	'C'
Cochin	1. Attendance money	Rs. 1.75	Rs. 1.75	Nil
		(Besides the above 'A' category will get D.A. of Rs. 1.00 & I.R. of Re. 0.39).		
	2. Basic time rate (Daily Wage) ..	Rs. 3.08	Rs. 3.08	Rs. 3.08
	(i) Dearness allowance ..	Rs. 1.86	Rs. 1.86	Rs. 1.86
	(ii) Interim relief	Re. 0.39	Re. 0.39	Re. 0.39
	3. Minimum guarantee under the incentive scheme—Components of Minimum guarantees	Rs. 3.45	Rs. 3.45	Rs. 3.45

N.B.—This minimum guarantee is exclusive of differential wage to the leaders and night weightage but inclusive of all earnings under piece-rate, idling money, overtime wages, Dearness allowance and Interim relief.

*From July 1969, the 'B' category shore labour is given a minimum guarantee of work for 15 days in a month for each day of short fall below 15, wages being payable at time rate.

CHAPTER 16—APPENDIX I-E

Wage Guarantees offered to Shore Labour as on 1st January, 1970

Port	Wage Guarantees	Category of Workers					
		Shore handling Labour			Ore handling Labour		
		'A'	'B'	'C'	'A'	'B'	'C'
Vasakhatnam	(1) Attendance money ..	1.75 + DA 2.37	1.75 only	No 'C' category.	1.75 + DA	2.37 No 'B' Category	Nil
	(2) Basic time rate (daily wage including)						
	(i) Sr. Maistry	5.75	Nil	Do.	5.75	Do.	Nil
	(ii) Jr. Maistry	4.75	Nil		4.75		Nil
	(iii) Worker	3.75	3.75		3.75		
	2. Ad-hoc allowance is also paid to shore handling labour whenever the daily Minimum wage for items (i) to (iii) above is paid, subject to adjustment after the wage Board recommendations are implemented	0.19	0.19	Do.	Nil	Do.	Nil
	3. Dearness allowance	2.37	2.37	Do.	2.37	Do.	2.37
	4. Interim relief	0.39	0.39	Do.	0.39	Do.	0.39
	(3) Minimum guarantee under the incentive scheme—Components of Minimum Guarantee	15 days with an increase by one (1) day every year from Sept. 1969 upto 18 days.	12 days with an increase by one (1) day every year from Sept. 1969 upto 19 days.		15 days with an increase by one (1) day every year from Sept. 1969 upto 18 days.		
	(4) Components of minimum guarantee.	Same as item (2) above.					

CHAPTER 16—APPENDIX I-F

Wage Guarantees offered to Shore Labour as on 1st January, 1970

Port	Wage Guarantees	(A)	(B)(i)	(B)(ii)	(C)
Kandla	1. Attendance money	1. Rs. 1.50 per day 1.68 per D.A. 0.39 per I.R.	Rs. 1.50 per day 1.68 0.39	Rs. 1.75 per day inclusive of all elements for new Recruits appointed from 1.9.68.	Nil
	2. Basic time rate (Daily wage) including				
	(i) Dearness allowance	2. Rs. 2.75 per day	Rs. 2.75	Rs. 2.75	
	(ii) Interim relief	1.68	1.68	1.68	
	3. Components of Minimum Guarantee under the incentive scheme. ..	0.39	0.39	0.39	
		<u>4.82</u>	<u>4.82</u>	<u>4.82</u>	
	(i) Basic wage				
	(ii) Dearness allowance				
	(iii) Interim relief				
			3. No incentive scheme is applicable at this port and no minimum wage guarantee exists other than attendance money.		

CHAPTER 16—APPENDIX I-G

Wage Guarantees offered to Shore Labour as on 1st January, 1970

Port	Wage guarantees	(A)	(B)	(C)
Mormugao	1. Attendance money	..	Rs. 1·75 p. per call	..
	2. Basic time rate (Daily wage) including			
	(i) Dearness allowance	*Not on daily wage	Rs. 5·07p.	Rs. 5·39p.
	(ii) Interim relief			
	3. Minimum Guarantee under the incentive scheme.†—Components of Minimum Guarantee	..	..	..
	(i) Basic wage	..	..	..
	(ii) Dearness allowance	..	..	..
	(iii) Interim relief	..	..	..

*There is a permanent Category of Shore Labour in the Monthly scale of pay—

(i) Muccadams: Rs. 80—1—85—2—95—EB—3—110; (ii) Khalassis: Rs. 70—1—80—EB—1—85; plus the admissible allowance.

†There is no incentive scheme.

CHAPTER 16—APPENDIX II

*Main Features of the Voluntary Retirement Scheme at Visakhapatnam Port**Eligibility*

For dock/port workers—

- (a) any worker who desires for any reason to retire voluntarily will be allowed to do so after he attains the age of 57 and shall be eligible for the retirement benefit provided under the Scheme; and
- (b) any worker who, before attaining the age of 57, desires to retire on the grounds of ill-health will also be allowed to retire on the recommendation of the Medical Officer of the Port Trust/Dock Labour Board and will be eligible for the benefit provided under the Scheme.

The retirement benefits are—

- (i) *for dock workers*—an *ex gratia* payment of Rs. 1,000, besides a retirement gratuity at the rate of 15 days wages for every completed year of service.
- (ii) *for Port Trust workers*—(a) a worker who is allowed to retire after reaching the age of 57 shall be allowed a lumpsum retirement benefit as follows—

Rs. 1,000.00 for 'A' category and Rs. 500.00 for 'B' category.

(b) A worker who is allowed to retire for reasons of health shall be allowed a retirement benefit calculated at the rate of Rs. 200.00 for every completed year of service subject to a maximum of Rs. 1,000.00 for 'A' category and Rs. 500.00 for 'B' category.

CHAPTER 16—APPENDIX III

Main Features of the Voluntary Retirement Scheme for Calcutta Dock Workers(i) *Registered workers*

This Voluntary Retirement Scheme shall not be applicable to workers below the age of 40. The formula is that a worker retiring at the age of 40 will be compensated @ 1½ months' pay for loss of career for each remaining year of service, i.e., 30 months' pay. For every year above this age, the compensation shall be less by one month's pay. The Voluntary Retirement Scheme will not apply to the workers who have completed the age of 60 years. For workers who have completed the age of 60 and are still in service the rules of the Board would henceforth be strictly made applicable and retirement enforced. However, an *ex gratia* payment will be made to the existing workers who fall under this category.

(ii) *Listed workers*

For the listed workers, the Voluntary Retirement Scheme will be framed with two components—

- (a) They will be entitled to the same compensation for loss of career as suggested for the Registered workers above.
- (b) In addition, they will be paid one month's pay for each year of completed service in consideration of the fact that they do not have normal retirement benefits.

CHAPTER 16 — APPENDIX IV

Practices Followed at Major Ports for Employing Cargo Handling Labour

In Bombay, the Port Trust generally provides shore labour for handling cargoes between the ships and the sheds; the export cargo is also unloaded from the lorries and wagons by the Port Trust labour. However, bulk cargo imports like sulphur, phosphate, etc., are not dealt with by the Port Trust labour but by labour belonging to the clearing agents or private contractors. The D.L.B. provides labour for all the stevedoring work on board the ship as also the labour brought under the Listing Scheme for the F.C.I., which work on the shore for the handling of foodgrains and fertilizers. The clearing agents, transport contractors, importers and, to some extent, the exporters bring their own labour to the docks for the work not performed by the Port Trust labour. Similarly, the barge labour for handling cargo in stream are entirely controlled by private parties.

2. In the Madras Port, the handling of bulk imports like foodgrains and fertilizers is done by not less than three sets of labour employed by three different agencies, namely, the Port Trust, the D.L.B. and the F.C.I. The port authorities do not normally take responsibility for foodgrains and fertilizers arriving in bulk, particularly when they are delivered at the wharf. The handling on shore is done to a limited extent by the Port Trust's shore labour.

3. The foodgrains landed on the wharf by slings are bagged and stitched by the workers directly employed by the F.C.I. This labour also load the bags directly on the lorries or wagons, but the Port Trust labour assist them in lifting the bags. When, however, the bags are removed from the wharf to the stacking point, it is done by the Port Trust labour. Where the foodgrains are discharged by vacuators belonging to private parties, the labour for operating them are brought by the owners.

4. Moreover, even among the groups of labour employed by the same agency, there is a rigid compartmentalization; for example, the workers doing the bagging and stitching form a separate group from those engaged on wagon loading, even though both are employed by the F.C.I.

5. In the shipment of iron ore, there are three agencies and a corresponding number of labour groups. The wagons carrying iron ore are moved within the port area by the Port Trust Railway; on their placement at the stocking area, the unloading and loading of wagons are carried out by the contractors of the M.M.T.C. who hire the labour listed with the D.L.B. The same labour are used in loading/unloading in the transit area and loading at berths. However, loading at the mechanized berth is done by the Port Trust labour. In both the cases the D.L.B. labour receive the iron ore on board the ship and trim it.

6. At Visakhapatnam, the imported foodgrains and fertilizers are unloaded from the ship on to the shore by labour supplied by the D.L.B.; the bags are carried from the shore to the transit sheds

by the Port Trust labour whilst the loading of the bags from the transit sheds to the wagons is done by the F.C.I. labour. In respect of imported rock phosphate and sulphur, while the workers on board the vessels are provided by the D.L.B., those on the shore belong to private employers.

7. Iron ore and pig iron received at the port in wagons for export are unloaded and stacked by "Mineral Wagon Unloading Workers." They were formerly being supplied from a pool run by private employers, but with effect from the 11 January 1969, with the introduction of the Visakhapatnam Unregistered Dock Workers (Regulation of Employment) Scheme, they are now being supplied by the D.L.B. The materials from the stacks are then loaded into ships by the port labour and when they are brought to the berths they are lifted by cranes and unloaded on board the vessels by another set of labour supplied by the D.L.B.

8. Similarly, iron and steel meant for export used to be handled by two categories of workers, namely,

- (i) mechanical; and
- (ii) manual.

While the former were engaged from a pool of private employers, the latter were by individual employers. The cargo from the steel dump was taken to the quay where it was unloaded by workers supplied by a private pool of employers; the loading on board the vessel was, however, done by the workers from the D.L.B.

9. Likewise, general cargo meant for export was loaded into lighters from private godowns by the Khalassis engaged by private employers. The cargo from the lighters was handled overside the vessel by workers engaged from the pool. Even on board the vessels, not all the categories of workers were covered by the Registered Scheme and they include dock sweepers, batch cleaners, gunny clerks, etc.

10. At Cochin, the foodgrains are bagged and stitched on board the vessels by the dock labour and when landed they are taken to the transit shed by the Port Trust labour. The same method is followed in the transit shed where foodgrains are discharged by Buhler pumps.

11. At Kandla, the Port labour deals with the packaged cargo on the shore. The F.C.I. labour, listed with the D.L.B. handle foodgrains and fertilizers on shore as well as do their bagging, weighing, stacking and clearance. Other bulk cargoes like rock phosphate, sulphur, maize and salt are handled by the respective importers and exporters themselves through their local labour contractors; the D.L.B. labour, however, look after the work on board the vessels.

12. At Mormugao, the ore loading operations, other than by mechanical means, are carried out by the ship gear from barges in mid-stream and by the shore cranes from the railway wagons. In these operations three sets of labour are employed belonging to (i) the D.L.B. (ii) the barge owners and (iii) the Port Trust. In the case of imports, labour on shore are employed by the Port Trust except

in the case of bulk cargo which is handled by the consignees' labour.

13. The cargo handling practices at the various ports as set out in the previous paragraphs reveal a bewildering variety of functions performed by a multiplicity of agencies. There is lack of uniformity in the handling of even important commodities like foodgrains and iron ore. The number of labour-employing agencies handling foodgrains at Madras and Visakhapatnam is three, namely, (i) the Port Trust, (ii) the D.L.B. and (iii) the F.C.I. At Bombay and Kandla there are only two agencies, namely, (i) the D.L.B. and (ii) the F.C.I. labour listed with the D.L.B. Similarly, there are two agencies at Calcutta and Cochin, namely, (i) the Port Trust and (ii) the D.L.B. But even among these ports, the agencies are not the same. Similarly, Madras and Visakhapatnam employ two sets of labour for handling iron ore, namely, (i) the Port Trust and (ii) the listed workers of the D.L.B. Whilst at Mormugao, three groups of labour are used, namely, (i) the Port Trust, (ii) the D.L.B. and (iii) the Barge owners.

14. Even among the various tasks discharged by these agencies, there is no uniformity. For example, through the Madras Port has generally excluded its labour from the handling of bulk cargoes, yet for the foodgrains landed in bulk and bagged on the shore, the port labour are used. The F.C.I. has been in charge of the import of foodgrains, but, until recently, the handling operations were got done through contractor. Often different contractors were employed for different operations in the cycle of handling. The operation of bagging of foodgrains landed in bulk was done by one contractor while the loading of the bagged foodgrains in the wagons was by another.

15. The handling of fertilizers in bulk at Madras is done by the F.C.I.'s labour and not by the port labour. In Bombay, however, the F.C.I. handles the foodgrains on the shore with the labour listed under the D.L.B.

16. Whereas the unloading of export cargo from the road or rail vehicles is undertaken by the Bombay Port Trust with its own labour, at Madras it is not so. The handling of iron ore at Madras till recently was done through labour contractors before the constitution of Mineral Handling Employers Association pool listed under the D.L.B.

17. The coal workers on both the shore and on board the ships did not come within the purview of the D.L.B. but were working directly under the control of the stevedores till May, 1968, when they were brought under the Listing Schemes. The registered labour of the D.L.B. are not utilized for work on board the colliers. On the other hand, in Calcutta even the trimming of coal on board the vessels is done by the port labour.

18. At Calcutta, all the loading and unloading of cargo are only done by the two agencies, namely, the Port Trust and the D.L.B. The port labour at Calcutta also attends to a substantial quantum of work relating to the loading and unloading of wagons and lorries which work is discharged in most of the other ports by private labour.

CHAPTER 16—APPENDIX V

Statement of traffic handled by Port Labour at Bombay and Madras

(In million tonnes)

Item	Year	Bombay			Madras		
		1966-67	1967-68	1968-69	1966-67	1967-68	1968-69
1. Total traffic		18.3	17.0	16.4	5.9	5.9	5.4
2. Traffic at wharves*		8.3	7.9	6.5	5.0	5.1	4.6
3. Traffic handled by Port Trust labour		4.2	4.2	3.9	2.6	2.7	1.9
4. Percentage of Col. (3) to Col. (2)		51.0	53.2	60.0	52.0	52.0	11.3

*Excludes traffic in P. O. L., at bunders etc.

Source—Port Trusts, Bombay and Madras.

CHAPTER 17—APPENDIX I

Available Surplus adopting the Bonus Act Formula for 1967-68

(Rs. in lakhs)

Sl. No.	Particulars	Calcutta	Bombay	Madras	Cochin	Visakha- patnam	Mormugao	Kandla	Paradip
1	(a) Gross Surplus*	5,28.01	5,54.53	2,90.43	1,89.99	2,68.81	1,09.46	40.84	18.19
	(b) Add interest earned on investments	18.53	2,37.90	19.30	6.15	5.34	5.74	11.82	..
	(c) Total Surplus	5,46.54	7,92.43	3,09.73	1,96.14	2,74.15	1,15.20	52.66	18.19
2	Less depreciation for the year on historical cost	2,40.55	1,06.92	50.75	24.40	76.16	21.68	29.31	23.15
3	Less interest on long term loans	3,65.02	58.58	65.87	19.61	46.80	16.90	1,02.63	1,34.38
4	Net Surplus	(—)59.03	6,26.93	1,93.11	1,52.13	1,51.19	76.62	(—)79.28	(—)1,39.34
5	Less Taxation†	..	3,44.81	1,06.21	78.91	70.88	40.63	..	..
6	Taxed Surplus	..	2,82.12	86.90	73.22	80.31	35.99	..	..
7	(a) Revenue Surplus Repayment of loans	23,07.02	19,21.94	4,56.93	2,22.41	..	..	..	..
	(b) Add Revenue Surplus—Capital expenditure met from Revenue, P & L A/c, Misc. Funds etc.	4,95.32	36,02.96	17,30.88	7,14.65	7,51.05	4,92.72	1,57.32	..
	(c) Add Investment Funds	4,46.95	47,23.65	4,50.32‡	1,94.06§	1,36.39	1,22.12	2,16.63	..
	(d) Total Reserves	32,49.29	102,48.55	26,38.15	11,31.12	8,87.44	6,14.84	3,73.95	..
	(e) Less Accumulated depreciation	32,05.37	20,46.77	4,83.50	2,30.65	3,73.03	1,16.73	2,94.71	36.87
	(f) Less unamortized capitalized expenditure	1,13.64	..	..	..	..	..	..	..
	(g) Net Reserves	(—)69.72	82,01.78	21,54.63	9,00.47	5,14.41	4,98.11	79.24	(—)36.87
	(h) Return @% on Net Reserves	..	4,92.11	1,29.28	54.03	30.86	29.89	4.75	..
8	Available Surplus	..	(—)2,09.99	(—)42.38	19.19	49.45	6.10	..	..
9	Share of Port @ 40%	..	..	..	7.67	19.78	2.44	..	..
10	Share of Employees @ 60%	..	..	..	11.52	29.67	3.66	..	..
11	Employees' share as % of wages etc.	..	..	..	9.1%	18.6%	8.9%	..	..

* Arrived at after adjusting figures as given in ports' Accounts, by deducting interest on outside investments from the receipts and contributions to Funds, debt charges, *ex gratia* payments etc. from the expenditure (Details at Appendix II).

† Taking into account the saving in taxation on account of Bonus (Amendment) Act, No. 8 of 1969 dated 26-3-1969.

‡ Includes Welfare Funds=Rs. 0.45 lakhs.

§ Includes Welfare Funds=Rs. 0.17 lakhs.

CHAPTER 17—APPENDIX II

Details of computation of Gross Surplus for payment of *ex gratia*

(Rs. in lakhs)

Sl. No.	Particulars	Calcutta	Bombay	Madras	Cochin	Visakha- patnam	Mormugao	Kandla
1	Receipts as per Accounts	25,08·36	24,85·09	8,09·33	3,93·43	5,77·12	2,25·37	1,88·95
2	<i>Add</i> (a) Interest on General Sinking Fund	..	28·23	..	..	..	..	..
	(b) Interest on pilotage Depreciation Fund	..	9·02	..	..	..	..	..
	(c) Total (a+b)	..	37·25	..	..	..	..	..
3	<i>Less</i> (a) Interest earned on investments from							
	(i) General Reserve Fund	..	1,30·23	..	..	..	..	..
	(ii) Fire and Motor Insurance Fund	..	0·87	..	..	..	..	..
	(iii) Provident Fund, General Account	..	44·62	..	..	..	..	..
	(iv) Renewals & Replacement Fund	..	68·94	..	..	..	..	..
	(v) Provident Fund, Pilotage Account	..	0·77	..	..	..	..	..
	(vi) Reserve Fund, Pilotage Account	..	0·61	..	..	..	..	..
	(vii) General Sinking Fund	..	28·23	..	..	..	..	..
	(viii) Pilotage Depreciation Fund	..	9·02	..	..	..	..	..
	(ix) Pilotage Fund	..	..	0·26	..	..	..	..
	(b) Contribution from Pilotage Fund	..	..	8·00	..	*	*	*
	(c) Total (a+b)	..	2,83·29	8·26	..	5·34	5·74	11·82

4	Gross Earnings (1 + 2c—3c)	25,08·36	22,39·05	8,01·07	3,93·43	5,71·78	2,19·63	1,77·13
5	Expenditure as per Accounts	26,02·12	22,40·39	8,32·44	3,05·81	4,43·43	1,36·00	1,79·82
6	Less (a) Contribution to—							
	(i) Capital Account	..	..	1,25·00	27·20	..	..	..
	(ii) General Insurance Fund	..	..	1·00	..	..	..	..
	(iii) Revenue Account	..	..	8·00	..	..	..	..
	(iv) Accident Fund	..	..	..	1·83	..	..	..
	(v) Pilotage Fund	..	..	..	9·72	..	..	..
	(vi) Revenue Reserve Fund	..	..	..	1·00	5·00	..	..
	(vii) Depreciation Fund (Renewals & Replacement Fund)	16·75	1,61·69	54·47	20·00	65·06	18·93	21·79
	(viii) General Reserve Fund for financing IDA Project	..	2,00·00	..	..	..	..	..
	(ix) Welfare Fund	..	..	..	..	..	0·05	..
	(b) Debt charges	5,60·02	83·92	1,20·86	38·37	64·03	5·20	19·03
	(c) <i>Ex gratia</i> payments	45·00	32·99	12·47	4·25	6·37	1·65	2·71
	(d) Surplus transferred to Pilotage Suspense A/c	..	30·74	..	..	..	..	..
	(e) Interest-Provident Fund, General A/c	..	45·66	..	..	..	..	..
	(f) Interest-Provident Fund, Pilotage A/c	..	0·87	..	..	..	..	..
	(g) Total (a to f)	6,21·77	5,55·87	3,21·80	1,02·37	1,40·46	25·83	43·53
7	Gross Expenditure (5-6g)	19,80·35	16,84·52	5,10·64	2,03·44	3,02·97	1,10·17	1,36·29
8	Gross Surplus (4—7)	5,28·01	5,54·53	2,90·43	1,89·99	2,68·81	1,09·46	40·84

*Figures adopted as supplied by the Port Trust, as details were not available in the accounts.

NOTE—As published accounts for Paradip Port Trust were not available, gross revenue surplus was based on figures supplied by the Port. Total revenue for 1967-68 was Rs. 96·62 lakhs and expenditure (excluding depreciation, interest and actual *ex gratia* payments) was Rs. 78·43 lakhs, resulting in a gross surplus of Rs. 18·19 lakhs.

CHAPTER 17—APPENDIX III

Available Surplus on the basis of 12 per cent return on Capital Employed for 1967-68.

(Rs. in lakhs)

Particulars	Calcutta	Bombay	Madras	Cochin	Visakha- patnam	Mormugao	Kandla	Paradip
1. Gross Surplus*	5,28·01	5,54·53	2,90·43	1,89·99	2,68·81	1,09·46	40·84	18·19
2. <i>Less</i> Depreciation for 1967-68 on historical cost	2,40·55	1,06·92	50·75	24·40	76·16	21·68	29·31	23·15
3. <i>Less</i> 12% on Capital Employed ..	8,58·76	4,68·29	2,36·47	1,24·50	1,62·09	83·55	1,69·23	2,48·16
4. Available Surplus	(—)5,71·30	(—)20·68	3·21	41·09	30·56	4·23	(—)1,57·70	(—)2,53·12
5. (a) Share for Port at 40%	..	..	1·28	16·44	12·22	1·69	..	..
(b) Share for employees at 60% ..	..	..	1·93	24·65	18·34	2·54	..	..
6. Employees' share as % of wages etc. ..	..	..	0·6	19·6	11·5	6·2	..	..

* Arrived at after adjusting figures as given in ports' Accounts by deducting interest on outside investments from the receipts and contributions to Funds, debt charges, *ex gratia* payments, etc. from the expenditure (Details at appendix-II).

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