E.C. No. 453

ESTIMATES COMMITTEE (1965-66)

NINETY SECOND REPORT

(THIRD LOK SABHA)

MINISTRY OF TRANSPORT

MORMUGAO PORT

LOK SABHA SECRETARIAT
NEW DELHI
March 1966/Phalguna 1887 (Saka)
Price : Re. 1·75

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INTRODUCTION

I, the Chairman, Estimates Committee, having been authorised by the Committee to submit the Report on their behalf, present this Ninety-Second Report on the Ministry of Transport—Mormugao Port.

2. The Committee took evidence of the representatives of the Ministry of Transport on the 30th November and 1st December, 1965. The Committee wish to express their thanks to the Secretary, Ministry of Transport, Chairman, Mormugao Port Trust and other officers of the Ministry for placing before them the material and information they wanted in connection with the examination of the estimates.

3. They also wish to express their thanks to the representatives of the Shipping Corporation of India, Indian National Steamship Owners' Association, Bombay Chamber of Commerce and Industry and Karmahom Conference, for giving evidence and making valuable suggestions to the Committee.

4. The Report was considered and adopted by the Committee on the 3rd March, 1966.

5. A statement showing the analysis of recommendations contained in the Report is also appended to the Report (Appendix XII).

NEW DELHI-1;
March 15, 1966.
Phalguna 24, 1887 (*Saka*).

ARUN CHANDRA GUHA,
Chairman,
Estimates Committee.

CHAPTER I

INTRODUCTORY

A. Introduction

The Port of Mormugao provides one of the finest natural harbours in India. It is situated on the west coast of India in latitude 15°—25′ N and longitude 73°—47′ E at the mouth of the Zuari river and approximately 230 miles, south of Bombay. The harbour consists of a quay 3082 ft. long, protected by a breakwater 1714 ft. long, built in a north by east direction and a mole 885 feet long, running parallel to the quay and built from the seaward end of the breakwater. It is protected from the force of the South West Monsoon by the Mormugao headland.

To the north and east of the harbour, there is a large roadstead in which 50 or more ships can lie at anchor in sheltered water during the fair season from September to June. During the South West Monsoon season there are sheltered anchorages for about 15 ships.

The depth of the water at the harbour entrance is 27 feet at low water. The tide range varies between 4 feet and 7 feet.

Early History

2. Historically the Port of Mormugao is seventy-eight years old. A brief history of this port is given in the succeeding paragraphs.

Goa is endowed by nature with a magnificent and hospitable coast line on the west providing access to big rivers with navigable waters. It has its own maritime traditions. Goa—now called (Old Goa), situated on the Mandovi, one of the two important rivers of the territory, was a flourishing trading centre of the east before the Portuguese came to India. Adil Shah of the Bijapur dynasty was defeated by Albuquerque in 1510, and this part of India came under foreign rule. The Portuguese developed the trading centre and fully exploited the initial advantage gained by them in the East. It is said that Goa had trade relations with Japan in the days of Hideyoshi Toyotomi.

Those were the days of sailing vessels which became larger and larger with the passage of time. When steamships became the order of the day for the international maritime trade, the Portuguese had not only lost their initial advantage in the east, but also their spirit

of adventure and creative vitality. Old Goa which had been discarded due to outbreak of epidemic, in favour of Nova Goa (now called Panjim) in 1818 could no longer serve as a port for international trade and receive evergrowing steamships. It was left to the British initiative to build a port for Goa suiting the needs of the time. Under the Treaty of Lisbon signed in 1878 between the British and Portuguese Governments, the West of India Portuguese Guaranteed Railway Company (W.I.P. Railway) was entrusted with the responsibility of building the Port of Mormugao and its connected Railway. This Treaty, *inter alia* was for the purpose of having a union of commercial interests between India and Goa, so that, as far as trade was concerned, the port could provide adequate accommodation for all the hinterland trade in India, and it could function like other ports in India, as a port of transit providing a natural and economic outlet for the traffic from the hinterland. The port and its connected Railway commenced functioning in 1888. The traffic showed a progressive increase until 1892 when a new Indian Customs Tariff was introduced which seriously affected the traffic passing through the port. In 1896, the Southern Mahratta Railway, in combination with G.I.P. Railway lowered their rates for traffic *via* Poona to Bombay and raised them on the traffic to Mormugao. This resulted in the diversion of the import and export traffic from and to India from the Port of Mormugao.

In 1902 a working agreement was entered into between the Southern Mahratta Railway and the W.I.P. Railway providing for the latter to be regarded as part of the former and the Port of Mormugao to be a port of transit for Indian trade. This arrangement continued upto August, 1954 when the Southern Railway ceased to operate traffic from the hinterland in India and worked the railway between the port and Sanvordem. Consequent on the closure of the India-Goa border, the Southern Railway ceased all operations in Goa in December, 1955 and the administration of the Port of Mormugao and the connected railway reverted to the W.I.P. Railway with effect from January, 1956. Its activities were limited to Goa only and the railway operations were between Mormugao Harbour and Collem only.

In 1959, the management of the W.I.P. Railway seeing the signs of the time leading to the reunion of Goa with India, gave a notice of two years for the termination of their agreement with the Portuguese Government. On the expiry of the notice period, an autonomous body, with juridic personality and financial and administrative autonomy, called the "Junta Autonoma dos Portos e Caminhos de Ferro" was constituted under Portuguese Decree Law No. 43517 of

the 25th February, 1961 and it took over the Port and the Railway Administration from the W.I.P. Railway on the 1st April, 1961.

After liberation of Goa on the 19th December, 1961, the administration of the port and its connected Railway was taken over by the Government of India through an Administrative Officer who was appointed by the President of India on the 8th January, 1962 and all rights over moveable and immoveable property including lands situated in the area of the Port of Mormugao and those bordering on the railway line hitherto vested in the said Junta, were vested in the Administrative Officer, Port of Mormugao, who was endowed with the juridic personality and administrative and financial autonomy to the same extent as the Junta.

Major Port Declared

3. The Port of Mormugao remained under the administrative control of the Ministry of External Affairs till 7th November, 1962 when it was decided at an Inter-Ministerial meeting held in New Delhi that the Ministry of Transport would be the administrative Ministry in charge of the port. With this decision, the Port of Mormugao, like other Major Ports of India, came under direct control of the Government of India (Ministry of Transport). The Indian Ports Act, 1908 was extended to Goa with effect from the 26th January, 1963. The limits of the port were defined and notified by the Central Government in the notification issued and published in the Gazette of India on the 16th November, 1963. While for all practical purposes, the port was treated as a major port ever since liberation, it was statutorily given that status by the notification issued by the Central Government and published in the Gazette of India on the 14th December, 1963.

The provisions of the Major Port Trusts Act, 1963 have been subsequently made applicable to the Port of Mormugao with effect from the 1st July, 1964 and a Board of Trustees has been duly constituted under it.

Restoration of Operations after Liberation

4. During and after the liberation, no damage was caused to any installation in the harbour or Railway. At the harbour the cargo loading operations, which had been suspended on the 17th December, 1961 were resumed on the 30th December, 1961.

It has been stated that there was a gap of about two weeks due to the sudden depletion in the superior establishment of the Port Administration on account of the departure of foreigners who had to be replaced by bringing the staff from Bombay. Certain changes in procedure had also to be made.

The Committee commend the promptness with which the cargo handling operations at Mormugao Port were resumed within two weeks of liberation.

B. Assets and Liabilities

5. Although the Port of Mormugao came under the control of the Government of India on its liberation on the 19th December, 1961, its accounts were, however, reconstituted with effect from the 1st April, 1961 for purposes of audit, as it was on this date that the working of the port was taken over by the Junta Autonoma dos Portos e Caminhos de Ferro from the W.I.P. Railway. The first Balance Sheet as on 31st March, 1962 after liberation was, therefore, prepared with reference to the final settlement between the W.I.P. Railway and the Portuguese Government, the transfers of cash and assets to the Junta and the provisions of decree Law* No. 43517 setting up the Junta.

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* Article 15 of Decree Law 43517 provides as follows:

"Art. 15. The Portuguese Government assigns to the Junta Autonoma as from the 31st March 1961, the right emanating from the contracts existing between the Government and the West of India Portuguese Guaranteed Railway Company Limited, of receiving from the Company and immovable or moveable property or money by reason or on the occasion of the expiry of the contract of concession.

1. The amounts which may be owing by the West of India Portuguese Guaranteed Railway Company Limited, to the Government during the Company's years 1959-60 and 1960-61 and which do not constitute repayment of the sums advanced by the Government to the West of India Portuguese Guaranteed Railway Company Limited as guarantee of interest, shall be received, by way of loan, by the Junta Autonoma or temporarily by the Government of the State of India, if the Junta Autonoma has not been constituted on the date of receipt.

2. In consideration of the provisions of this Article and of (1), the Junta Autonoma shall constitute itself a debtor of the Government in respect of the sum which the latter may pay to the West of India Portuguese Guaranteed Railway Company Limited, by virtue of the contract of the 7th June 1954 and in respect of such amounts as, by reason of this Article and of (1), the Junta Autonoma may receive.

3. The debt of the Junta Autonoma to the Portuguese Government shall earn interest at an annual rate of 4 per cent and shall be paid in twelve annual instalments as from the 31st December 1961, but the Junta Autonoma may make advance payments when its resources so permit.

4. The State of India, shall, in the legal manner, give a guarantee for the debt to the Junta Autonoma".

Apart from physical assets and stores, the W.I.P. Railway transferred to the Junta sums of money to cover certain liabilities which were taken over by the Junta. The W.I.P. Railway also transferred to the Junta an amount in final settlement with the Portuguese Government on account of various adjustments, such as dilapidation of assets, share of earnings, etc. Earlier the W.I.P. Railway had also transferred to the Government Inspectorate an amount to cover the purchase of new carriages; this amount was transferred to the Junta's account when the Inspectorate was merged with the Junta.

6. A statement showing the position of Assets and Liabilities in the first Balance Sheet of the Mormugao Port as on the 31st March, 1962 is at Appendix I.

7. The remarks of the port authorities on the Assets and Liabilities shown in the statement are reproduced below:

Liabilities

(a) *Capital—Rs.* 1,51,43,793·86 *P.*: This figure is the net amount paid by the Portuguese Government to the W.I.P. Railway on the termination of the contract between them. It was arrived at in terms of the third subsidiary contract (of 1954) between the W.I.P. Railway and the Portuguese Government, and represents the aggregate nominal amount of the Company's issued share capital and debenture stock less the debenture stock redeemed or covered by the Sinking Fund. In terms of Article 15 of Decree Law 43517 (*See* foot-note on page 4) the Junta became debtor to the Portuguese Government for this amount and was liable to repay it with interest at 4%, in 12 annual instalments.

This figure has been adopted in the Balance Sheet to represent the value of the fixed assets transferred to the Junta on that date. It must however be appreciated that the figure does not represent either the present value of the assets, their original book value or their present book value. However, as the liability of the port on account of the assets transferred to them is represented by that figure it is legitimate from the point of view of commercial accounts to assume that to be the value of the assets held.

(b) *Loan from the Portuguese Government—Rs.* 1,34,46,554. 59*P.*: The W.I.P. Railway paid a total amount of £ (Stg.)

928,157-3s-3d into the Junta's account in final settlement of amounts due to the Portuguese Government arising out of various adjustments (share of earnings, dilapidation of assets, etc.). The amount also covered a reserve for retirement gratuities to W.I.P. Railway staff transferred to the Junta. The reserve for gratuities on the books amounted on 31-3-1961 to Rs. 4,05,519.33P., and this amount has been deducted and shown separately. To the balance has been added a sum of Rs. 10,60,221.49P. being the value of stores transferred to the Junta by the W.I.P. Railway bringing the total loan liability to Rs. 1,34,46,554·59P.

(c) *Advance from the Portuguese Government for the purchase of new carriages—Rs.* 2,83,333.33*P.*: This amount had been paid by the W.I.P. Railway to the ex-Inspectorate to cover an order to be placed for new carriages. The amount was transferred to the Junta when the Inspectorate was merged with the Junta. The order for carriages was not placed.

(d) *Advance from the Portuguese Government—Rs.* 8,33,333.33P: An amount of Eso. 5,000,000:00 was transferred to the Junta from the Fazenda as an advance for immediate expenses at the inception of the Junta.

(e) *Advance Wharfage on Ore—Rs.* 1,37,731:00P.: Ore railed to the harbour or Vasco-da-Gama in charged freight and wharfage immediately on arrival. The wharfage on ore not immediately shipped is adjusted as earnings when the ore is actually shipped and until such time the wharfage paid constitutes an advance payment. The W.I.P. Railway paid to the Junta the amount outstanding on the books as on 31-3-1961 and the figure in the Balance Sheet is the amount outstanding on 31-3-1962.

(f) *Reserves, Funds and Deposits*: (Please see *para* 8).

(g) *Creditors*: No comments.

(h) *Excess of earnings over expenditure*: The difference between the earnings and the expenditure does not represent the net profit. Bad debts have not been written off, nor has provision been made for doubtful debts and for depreciation.

Assets

(a) *Construction of line and harbour including buildings, plant, rolling stock and equipment*: As stated earlier the amount of Rs. 1,51,43,793.86P represents the value of assets taken over by the Junta on 1.4.1961. It does not represent either the original cost of the assets or their depreciated value nor the actual value on that date. It merely represents the sum paid by the Portuguese Government to the W.I.P. Railway being the aggregate nominal amount of Company's issued share capital and debenture stock less the debenture stock redeemed or covered by the Sinking Fund.

(b) *Equipment purchased during the year, capital works in progress and other assets*: No explanation is necessary.

(c) *Investments*: The Junta was a share-holder in the Estaleiros Navais de Goa. The management of the Company was handed over by the Government of India to M/s. Mazagon Docks Ltd., Bombay in February 1962. The present legal position of M/s. Mazagon Docks Ltd., *vis-a-vis* the Estaleiros Navais de Goa including the settlement of the latter's financial commitments has yet to be defined by the Government. The real worth of these assets is, therefore, of an uncertain nature.

The deposit on the State Bank was made by the present Administration.

(d) *Debtors*: Comment is necessary only in regard to the amount in deposit with the Banco Nacional Ultramarino (Goa) to the tune of Rs. 1,69,65,661:28P. The Bank is under liquidation. To this figure has been added a sum of Rs. 4,63,408.68P. being the total amount outstanding on letters of credit opened on behalf of the Junta by the Banco Nacional and which have since been dishonoured. The question of releasing the redeposits belonging to the Junta to this Administration is under the consideration of the Government of India.

(e) *Cash*: On 20-12-1961, the cash in hand was Rs. 8,730.23P. only. The balance was earned subsequent to that date.

It will be seen from the above that the liability on account of capital of Rs. 1·51 crores has been adopted in the Balance Sheet for 1961-62 to represent the value of fixed assets transferred to the Junta on the 1st April, 1961 by the W.I.P. Railway as this amount was paid by

the Portuguese Government to the W.I.P. Railway on the termination of the contract between them. It has been stated that it does not represent either the present value of the assets, their original book value or their present book value. It appears that the inventory of fixed assets in the port has not so far been compiled and the Administration is working on its compilation now. The other liabilities on account of Loans and Advances from the Portuguese Government amounting to about Rs. 1·46 crores have also been shown on account of various book adjustments made at the time of the transfer of the port from the W.I.P. Railway to the Junta.

On the Assets side, apart from the fixed Assets amounting to Rs. 1·51 crores which have neither been valued nor listed at the time of taking over, as referred to above, a sum of Rs. 2,50,000 has been shown as investment in the shares of the Company—Estaleiros Navais de Goa. The management of this Company is stated to have been handed over by the Government to M/s. Mazagon Docks Ltd. in February, 1962 but no decision about the financial commitments of this company has so far been taken by the Government. It has been stated by the Port Administration that the real worth of these assets is of an uncertain nature.

Similarly under the head 'Debtors', two sums amounting to Rs. 1·18 crores and Rs. 52 lakhs have been shown as deposit with the Banco Nacional Ultramarino (Goa) which is under liquidation. In addition, a sum of Rs. 4·63 lakhs has also been shown as outstanding on account of letters of credit opened on behalf of the Junta by this Bank which have since been dishonoured. The question of releasing the redeposits belonging to the Junta to the Port Administration is stated to be under the consideration of the Government of India.

It is noticed that these figures are still being shown on the Liabilities and Assets side of the Balance Sheets of subsequent years with minor changes.

The Committee consider that as Mormugao Port Trust is now a statutory body under the Major Port Trusts Act and prepares its own Balance Sheets the uncertainty about its assets and liabilities should not be allowed to continue indefinitely. They would suggest to the Government to constitute a high-level committee consisting of representatives of the Port Trust, Ministries of Transport and Finance and the Comptroller and Auditor General to thoroughly scrutinize the assets and liabilities inherited by the Mormugao Port Trust on liberation and to settle them for good. This should enable

the Port Trust to prepare the Balance Sheet in a realistic manner reflecting correctly the financial position of the working of the port.

C. Reserves and Funds

8. The Mormugao Port maintained various reserves and funds as on the 31st March, 1962 as will be seen from the 'liabilities' side of the statement at Appendix I. The same reserves and funds are still being continued. The balance in these funds as on the 31st March, 1965 is indicated in the statement at Appendix II.

The table below indicates the various funds which are being maintained by some other major ports namely, Calcutta, Bombay and Madras as compared to Mormugao Port:

Calcutta Port	Bombay Port	Madras Port	Mormugao Port
Revenue Reserve Fund	General Reserve Fund	Revenue Reserve Fund	Revenue Reserves.
Renewals and Replacement Fund	Renewals and Replacement Fund	Renewals and Replacement Fund	Reserves for purchase of carriages
Welfare Fund (Superior)	Employee's Welfare Fund	Welfare Fund	Reserves for retirement, gratuity (staff)
Welfare Fund (Inferior)		General Insurance Fund	Tuberculosis Patients Fund
Ante-dated Provident Fund	Provident Fund, General Account	Pilotage Fund	Staff Provident Fund
	Provident Fund, Pilotage Account		
Fire Insurance Fund	Fire & Motor Insurance Fund		
Indian Seamen's Home Building Fund	General Sinking Fund		
Vessels Replacement Fund	Pilotage Reserve Fund		
Interest Equalisation Fund	Pilotage Depreciation Fund		
Unclaimed matured debenture Fund	War Memorial Fund		

The Committee observe that there is considerable variation in the nomenclature and purposes underlying the constitution of reserves and funds by major ports in the country. The Committee would suggest to Government to review the position in consultation with the Ministry of Finance and the Port Trusts and prescribe the reserves and funds which should be maintained by the major ports for various purposes. The Port Trusts may be authorised, where necessary, to add to the approved list of reserves and funds only with the prior approval of the Ministries of Transport and Finance.

CHAPTER II

TRAFFIC IN THE PORT

A. Pre-liberation Traffic Pattern

Introductory

9. While the other major ports in India have grown steadily drawing sustenance from their respective hinterlands, the Port of Mormugao has had the misfortune of its links with its natural hinterland being snapped not once but twice, resulting in a diversion of a large volume of traffic to other ports. The first break occured in 1896 when the N. & S.M. Railway in combination with the G.I.P. Railway lowered their freight rates for traffic *via* Poona to Bombay and raised them on the traffic to Mormugao, resulting in diversion of the export and import traffic from the hinterland to the Port of Mormugao, until a working arrangement was entered into between the M.&S.M. Railway and W.I.P. Railway in 1902 to remedy this state of affairs. The second break came in the wake of the closure of the India-Goa border. The Southern Railway severed its link and ceased all operations in Goa in January, 1956 thus cutting off the port from the hinterland. With the liberation of Goa in December, 1961, the link with India has been restored.

Traffic Pattern

10. Prior to 1943, when the export of ore started, Mormagao's traffic consisted mainly of grains, coal, groundnuts, cotton, manganese ore, general goods and P.O.L. A broad analysis of the traffic pattern obtaining prior to 1956 reveals the limits of the hinterland which the Port of Mormugao served. It covered the whole territory of Goa and the surrounding areas of the former Bombay and Madras Presidencies and parts of Mysore, comprising the districts of Kolhapur, Bijapur, Dharwar, Belgaum, Bellary, Shimoga, Arsikere, Tumkur and Raichur.

Tonnage Handled.

11. The tonnage of imports and exports handled by the Port of Mormugao from 1952 to 1961 (the year of liberation) are given below:

[In Tons]

Year	Import	Export	Total
1952	264,894	870,573	1,135,467
1953	273,973	1,407,816	1,681,789
1954	290,870	1,190,136	1,481,006
1955	134,283	1,554,587	1,688,870
1956	120,193	1,913,179	2,003 372
1957	167,848	2,762,243	2,930,091
1958	133,814	2,345,944	2,479,758
1959	151,297	3,517,947	3,669 244
1960	175,481	5,748,478	5,923,959
1961	194,036	6,562,249	6,756,285

The Committee note that the import traffic through the port was at its peak in 1954 with 2·91 lakh tons. It, however, fell to 1.20 lakh tons in 1956 when the Goa-India border was closed. It has been stated that with the increase of machinery requirements of the mining industry and transport, as well as other items of consumption which had to be imported to meet the needs of Goa, the imports again picked up and reached 1.94 lakh tons in 1961, the highest figure since 1954.

The exports from the port which mainly consisted of iron ore, rose steeply since 1959. From 35.18 lakh tons in 1959, the exports increased to 57.48 lakh tons in 1960 and to 65.62 lakh tons in 1961. This is stated to have been mainly due to the installation of the Mechanical Ore Handling Plant at the harbour in 1959.

As regards the total traffic passing through the Port of Mormugao, it will be seen that during the period corresponding to the first two Five Year Plans in India, it has increased six-fold. The total tonnage handled in 1952 was 114 lakh tons, in 1956 it was 200 lakh tons and in 1961 it reached the peak of 676 lakh tons.

B. Traffic after Liberation

Imports and Exports

12. With the liberation of Goa, Mormugao Port has provided an important link in the chain of major ports of India. Mormugao is

said to be the third among the major ports in India. During 1964-65, the annual traffic handled at this port was of the order of 6.6 million tons, against Bombay's 17.3 million tons and Calcutta's 11 million tons.

The figures of import and export traffic including P.O.L. products, together with the number of ships handled by the Mormugao Port since 1961-62 is given below:

(In Tonnes)

Year	No. of Ships	Tonnage	Imports	Exports	Total
1961			194,636	6,562,249	6,756,885
1961-62	677	4,833,294	162,473	6,347,410	6,509,883
1962-63	622	4,572,007	112,077	5,253,506	5,365,583
1963-64	594	4,725,807	115,405	5,820,958	5,936,363
1964-65	731	5,737,174	216,357	6,403,351	6,619,708

13. A detailed statement giving the commodity-wise break-up of imports and exports is given at Appendix III.

From the details of exports given in Appendix III, it is seen that the export of ores from the Mormugao Port which was 63.36 lakh tons in 1961-62 declined to 53.45 lakh tons in 1962-63 and again rose to 63.70 lakh tons in 1964-65. Even so, the figures of ore exports in 1964-65 fell short of ore exports in 1961 (*i.e.* the year before liberation) when it amounted to 64.59 lakh tons. Explaining the reasons for the steep decline of ore exports in 1962-63, as compared to 1961-62, it has been stated that this was mainly due to the general slump in the world ore market. As to the measures taken to step up ore exports from the port, the Committee have been informed that traffic in ores has picked up substantially since then. The quantity handled in 1963-64 was 58.31 lakh tonnes while the quantity handled in 1964-65 rose to 63.70 lakh tonnes. Labour conditions in the harbour are stated to have improved since the establishment of the Dock Labour Board. The traffic in ores handled during the first six months of the current financial year was 33·45 lakh tonnes as compared to 26.18 lakh tonnes during the corresponding period of 1964-65 registering an increase of 7.27 lakh tonnes.

Measures taken to step up export of iron ore

14. The following steps are stated to have been taken in recent years to step up exports of iron ore from the port:

(i) 16 self-propelled barges of a total capacity of 5,760 tonnes and 12 shovels have been added to the ore handling capacity.

(ii) Two barge loading berths in the harbour equipped for loading ore by dumper trucks into barges have been constructed.

(iii) Alongside the above barge berths, a large stacking area has been set aside for the stacking and shipment of ore originating from the Bellary-Hospet area, through these barge jetties. This scheme has speeded up loading operations in the stream considerably, since barges are loaded far more quickly and also turn-round faster, as the lead from the barge loading point to the ship is very short.

(iv) The removal of draft restrictions, consequent upon the vigorous dredging of the harbour areas and the provision of additional anchorage buoys berths have resulted in longer and deeper ships being entertained in the port.

(v) The Port Railway system has been geared to work round-the-clock to cope with the increased traffic flowing into the port by rail for direct shipment to vessels at the alongside berths and for stock piling of ores in the harbour area. Additional railway sidings have been and are being provided.

The Committee welcome the steps taken by the Port Administration to step up ore exports from Mormugao Port. They hope that the tempo of progress made in the export of ores since 1962-63 will be maintained and that concerted measures will be taken to ensure that the target for exporting 10 million tonnes of ores from this port by 1970 will be achieved.

Diversion of Traffic from Bombay Port

15. It has been represented to the Committee that "during the last two years and more, the Port of Bombay has been suffering from acute congestion resulting in inordinate delays to ships particularly those other than foodgrain ships". The Committee desired to know whether the Port of Mormugao was in a position to take diverted

traffic from Bombay in order to relieve congestion there. In this connection, a representative of a leading Association of Goa stated that "there is definite scope for diverting some of the Bombay Port traffic to Mormugao and it is the only feasible alternative to relieve the congestion in Bombay Port. Of course, this is possible provided the necessary improvements on modern lines are carried out".

In a written note furnished to the Committee, the Mormugao Port authorities have stated that "we have only three berths which can take ships of upto 28 feet draft. Two of these are open berths and the situation of the berths and of the railway lines serving them is such that they are unsuitable for the handling and storage of bulk cargoes. The third berth has a single storeyed corrugated sheeted transit shed which is also unsuitable for handling bulk foodgrains discharged by vacu-vators and other pumping arrangements from tankers. We can however handle freighters carrying bagged wheat or rice or fertilizers. Having regard to the rail clearance capacity, this port can handle about 20,000 tonnes of this type of cargo a month. To this extent only, can relief be provided to the Port of Bombay."

16. The quantity of bagged foodgrains and fertilizers handled during the years 1964 and 1965 at the port is as under:

Commodity	1964-65	1965 (upto Oct.)
	(In tonnes)	(In tonnes)
Foodgrains (bagged)	20,204	23,100
Fertilizers (bagged)	28,067	49,000
TOTAL :	48,271	72,100

It will be noticed that although the Mormugao Port has the capacity for handling about 2:40 lakh tons of bagged wheat, rice or fertilizers annually, it actually handled much less cargo of this type during the years 1964 and 1965. The Committee regret that in spite of the persistent congestion at the Bombay Port, no serious effort appears to have been made by Government so far to divert the cargo from Bombay to Mormugao Port. The Committee cannot over-emphasise the need to utilise the facilities and capacities available at all the ports to handle foodgrains and fertilizers which would be required to be imported in the country in larger quantities in the coming months. In their opinion, it is necessary that an overall integrated plan for the handling of foodgrains and fertilizers for the whole country should be prepared taking into account the requirements of the various regions, port capacity and rail/road transport

facilities. The movement of ships from ports of embarkation should be arranged according to the overall plan.

The Committee would suggest that in the context of the integrated plan, the facilities for handling of foodgrains and fertilizers at Mormugao should be properly geared up so as to serve adequately the requirements of the regions and to relieve congestion of traffic in Bombay.

Trade at Betul

17. Betul is a subsidiary port of Mormugao situated about 25 miles to the South. The loading of iron ore into ships anchored in mid-stream is done by barges. Shipment from Betul is effected by Messrs. Shantilal Khushaldas & Bros. who are stated to have developed ore mining in that area. These shipments are generally made after the monsoons commencing from about November. The total exports of ore from Betul since 1961-62 have been as under:

1961-62	53,087 tonnes
1962-63	149,007 ,,
1963-64	151,031 ,,

It is stated that there has been no shipment of ore from Betul during 1964-65 as the firm could not undertake any forward commitments of shipment on account of unsettled labour conditions and strikes prevailing in the Port of Mormugao from where the labour for working the ships at Betul is drawn. Though the labour situation in Mormugao harbour is stated to have improved the shipments of ore from Betul were not resumed during 1965 also.

The Chairman of the Port Trust has stated during evidence that "the difficulty is not regarding supply of labour but of shoaling of the entrance which is being currently removed by dredging." The Committee have been informed in a written note that the dredging of the sand bar at Betul which commenced during the last week of November, 1965 was completed by the 3rd week of January, 1966. It has been stated that the work could not be commenced earlier as the Goa Administration could not make available their dredger which is the only suitable dredger in Goa for this work as she was under repairs.

The Committee note that there has been no export of iron ore from the subsidiary port of Betul in 1964-65 due to labour trouble and in 1965-66 (upto December 1965) due to shoaling of the entrance.

The Committee cannot help regretting that the depths of the entrance to this port should have been allowed to fall so low that barges could not be drafted for loading operations, with the result that export of iron ore amounting to about 1.5 lakh tonnes which was effected through this port annually during the previous two years, could not be undertaken. The Committee hope that the port authorities would ensure that in future the port of Betul is kept open for shipments of ores by proper dredging of the entrance channel.

C. Overseas and Coastal Passenger Traffic

18. After liberation, the overseas passenger service between Goa and Africa was restored on the 3rd May, 1963 with the inaugural visit of s.s. "State of Bombay" belonging to the Shipping Corporation of India. The British Indian Steam Navigation Company passenger service between Goa and Africa which was suspended in 1955 was also restored in September, 1963. with the arrival of the Company's s.s. "Amra" at the port on the 24th September, 1963 on its way to Africa.

At present passenger traffic in Mormugao Port is handled at berth 1/2 in the case of coastal vessels and at berth 5 in the case of the larger ocean going vessels. Details of passenger traffic handled at the port during the last two years are given below:—

	1963-64	1964-65
Embarked		
Coastal	14,733	14,627
Overseas	441	748
TOTAL	15,174	15,375
Disembarked		
Coastal	14,432	19,249
Overseas	731	3,137
TOTAL	15,163	22,386

It is stated that the increase in passenger traffic during the year 1964-65 as compared to 1963-64 has been mainly due to passengers coming in connection with the exposition of the relics of St. Francis

Xavier during the months November/December, 1964. In reply to a question it has been stated that "the existing amenities are by and large not unsatisfactory. Expenditure on an increased scale on the amenities may not be warranted if some of this traffic is, as is likely, diverted to the all-weather coastal road when it is ready."

In view of the fact that coastal and overseas passenger traffic handled by the port is above 30,000 and that Goa has some traditional links with African countries, the Committee feel that the provision of passenger amenities at Mormugao should receive due attention. The Committee would suggest that a careful assessment may be made of the likely passenger traffic during the next 10—15 years and a phased programme drawn up for augmenting passenger amenities. Government should also take suitable steps to develop coastal passenger traffic.

D. Detention to Ships

19. The average detention* to ships at the port of Mormugao during each of the last three years is given below:—

Year	Total No. of ships	No. of ships awaiting more than 24 hours	No. of ships days waiting	Average detention
1962-63	622	93	442	4·7
1963-64	594	150	776	5·1
1964-65	731	300	2682	8·9

The causes of detention to ships are stated to be as under:—

(i) non-availability of barges;

(ii) non-availability of ore at loading points even though barges are available;

(iii) inability of individual shippers to handle more than one or two ships, each simultaneously; and

(iv) labour unrest.

*Detention is expressed in terms of number of days, after the first 24 hours, ships had to wait before loading could be commenced.

It has been stated that the causes at (i), (ii) and (iii) are beyond the control of the port authorities. Some delays may, however, be eliminated if a barge pool can be created, and the Combarjua Canal and portions of the rivers Mandovi and Zuari brought within port limits. With the setting up of the proposed new mechanical ore handling plant, these difficulties will be largely eliminated.

In regard to (iv) it has been stated that this difficulty obtained during the strike period from 19th November, 1964 to 31st January, 1965 when the working in the port was carried on in two shifts instead of round the clock as in normal times. With the setting up of the Dock Labour Board since April, 1965, however, there is greater control over the labour and the position has improved in this regard.

The Committee have discussed in para 64 the question of pooling of barges to speed up loading and reducing detention to ships.

The Committee cannot help regretting that the number of "ship-days waiting" has increased from 442 in 1962-63 to 2682 in 1964-65 representing an increase of over 500 per cent, whereas the increase in the total number of ships handled at the port has been no more than 18 per cent. The Committee feel that this heavy increase in detention of ships should have attracted some remedial measures by the port authorities. As detention to ships adversely affects the freight rate, which is the key economic factor in the export of ores, the Committee suggest that the port authorities should spare no efforts to reduce the period of detention and speed up the turn-round of ships.

E. Accidents

Accidents to Vessels

20. The Committee learn that there have been 10 accidents to vessels during the last three years. Out of these, three accidents were caused due to the ships touching while swinging in the opposite directions at anchor. This has been obviated to some extent by anchoring the ships further apart. Three accidents were caused when the pilots were aboard. The port authorities expect that the experience gained by the pilots concerned since then would reduce the occurrence of such accidents in future.

One accident was due to the tug being pushed to the ship by her propeller. The tug now stands by at a little distance off the bow of the ship rather than the stern to obviate such accidents.

The cause of the other three accidents is stated to have been obviated by marking the channel by the buoys.

The Committee would like the Port Trust authorities to take necessary preventive measures so that accidents of the nature mentioned above do not recur.

Wreck of scuttled ship

21. The Committee understand that a wreck of a scuttled ship has been lying in the harbour for several years. It is understood that the port authorities are considering the question of removing this naval hazard by blasting operations *i.e.* by using small charges and removing the debris either manually or by a temporary rigged-up floating crane.

The Committee hope that early action would be taken to clear the wreck of the sunken ship in the harbour—as this may produce serious obstruction in the operation of the port.

CHAPTER III

DEVELOPMENT OF THE PORT

A. Third Five Year Plan

22. It has been stated that the port has no approved Third Five Year Plan projects as such, since the Administration took over the port in December, 1961, after the Third Five Year Plan had been formulated. Certain construction works have, however, been undertaken since then for providing additional facilities at the port. The details thereof are given in Appendix IV.

The following expenditure is stated to have been incurred during each of the last three years against a total outlay of about rupees four hundred lakhs sanctioned for the period upto 31st March, 1966:—

Year	Estimated amount	Actuals
	Rs.	Rs.
1962-63	20,16,400	15,69,707
1963-64	11,29,200	11,28,305
1964-65	1,39,66,800	1,04,27,414
1965-66	2,27,86,000	73,93,500 (likely to be incurred)

It has been stated by the port authorities that the shortfall in expenditure during 1962-63 is "mainly because of less dredging work than anticipated due to the dredger having met with an accident".

As regards shortfall in 1964-65 it has been stated that the saving has been "mainly due to non-purchase of buoys for night navigation for Rs. 11.59 lakhs, fire-fighting equipment for Rs. 1.5 lakhs, non-payment of Rs. 3.5 lakhs for the incomplete hotel building proposed to be acquired for office accommodation and other savings in works under execution".

The reasons, as furnished by the port authorities to the Committee, for the likely shortfalls during 1965-66 are stated to be "less capital dredging than anticipated as the negotiations for the dredging contract have not yet materialised. (Rs. 63 lakhs), the postponement of the schemes for reorganisation of the electric supply system due to non-availability of power from Sharavaty Grid had also hoped to acquire two tugs, seven cranes and other harbour (Rs. 10 lakhs), and for the reclamation of land (Rs. 25 lakhs). We craft (Rs. 43 lakhs). However, this had to be deferred on account of the critical foreign exchange position. Also the major portion of our programme for the construction of staff quarters had to be deferred to the next year as the estimates were returned by the Government for revision in the light of the latest standards prescribed by them (Rs. 14 lakhs)".

The Committee are unhappy to note that there has been heavy shortfall in the planned expenditure of the port during 1964-65 and 1965-66. Against the total provision of about Rs. 140 lakhs in 1964-65, a sum of Rs. 104 lakhs only has been spent in that year. Similarly in 1965-66 against an estimated outlay of Rs. 228 lakhs, the actual expenditure is likely to be of the order of Rs. 74 lakhs (i.e. 32 per cent). As regards the shortfall of Rs. 63 lakhs in 1965-66 due to non-materialisation of contracts for capital dredging, the Committee would refer to para 70 of this report wherein they have expressed the hope that with the full utilisation of the new dredger Zuari, no occasion would arise to invite foreign firms for dredging. The Committee consider that the programme for the execution of development works and the estimated outlays thereon should be realistic. The Committee like to stress that if this is true for an already developed port like Bombay or Calcutta, this is all the more true for a port like Mormugao which has been only recently taken over as a major port by the Government and whose development programmes are of a very basic nature. Once the programme has been finalised, every effort should be made to complete it within the stipulated period.

B. Master Plan for the Port

Formulation of Master Plan

23. The Mormugao Port Trust asked in January, 1964 M/s Rendel, Palmer and Tritton, Consulting Engineers, for advice on the best general layout for the development of the Port of Mormugao. The Consultants in their letter dated the 12th February, 1964 to the Port

Trust stated that "the following items would be included in the scheme and would be covered in the Report and Master Plan:—

(1) The location of wharves and jetties and the provision of alongside berths.

These will include berths for—

(a) the export of 10 to 12 million tons of iron ore per annum;

(b) the handling of general cargo into the port including about 2 million tons of foodgrains and fertilisers;

(c) the import of coal amounting to 6 million tons per annum for a steel plant likely to be set up in the hinterland;

(d) the import of about 4 million tons of limestone for the steel plant;

(e) the fixing of a site for bulk oil imports including the storage of the oil and a site for a possible future refinery; and

(f) facilities for coastal passenger traffic as well as overseas passenger traffic to East Africa.

(2) The necessity or otherwise of the extension of the existing breakwater or for the provision of an additional breakwater and its location. This would include any measures necessary for strengthening the existing breakwater.

(3) Repair facilities for dredgers and harbour craft and in an emergency for commercial ships. This to include an alongside repair berth.

(4) Recommendations as to the width and location of the approach channel to the port and on its maintenance, including the phasing of the dredging with the development of the port.

(5) the location of facilities for the Navy.

(6) A suitable site for berthing lighters and sailing vessels.

(7) Advice upon the nature, type and number of craft required for the efficient running and maintenance of the commercial port in the initial stage.

(8) Advice upon the type, capacity and number of cranes and mechanical equipment in the commercial port.

(9) Advice upon the most suitable arrangement and gear for handling heavy lifts.

(10) The extension of land reclamation separately for the commercial port and the Navy. Transit sheds, warehouses, storage godowns, including those for hazardous cargo and explosives, with layouts for stacking areas for iron ore, coal and limestone. Layouts for marshalling yards and sidings as well as for roads, sites for quarters, office and other buildings.

(11) An indication of possible other developments in the esturies of the rivers Zuari and Mandovi and at any other places closer to the port."

24. It appears that the Master Plan of the Mormugao Port has, *inter alia*, been based on the forecast of traffic arising from the following assumptions:—

(i) Export of 10 to 12 million tonnes of iron ore per annum;

(ii) Handling of general cargoes including 2 million tonnes of foodgrains and fertilisers;

(iii) Import of coal and lime amounting to 10 million tonnes for the iron and steel plant; and

(iv) Import of oil in bulk and its storage with the possibility of setting up a refinery.

Asked to state whether Government have taken firm decision regarding the setting up of the steel plant and oil refinery at Goa, the Secretary of the Ministry has stated during evidence that "there has been no decision regarding the location of the fifth steel plant. As regards oil in bulk, there is no intention to locate any refinery in the near future." It, however, transpired during evidence that Government have issued letter of intent to a company in the private sector for the setting up of a fertiliser plant at Mormugao for the manufacture of 4 lakh tons of ammonium phosphate.

25. It is seen from the Report of the Study Group on 'Industrial Development of Goa', that the following other large scale units have also been licenced at Goa and are in the various stages of development:—

(i) 3 pig iron plants with a total capacity of 8 lakh tonnes per year of finished products.

(ii) 2 textile mills of 25,000 spindles each.

In addition to the above, licensing of more industrial units is stated to be under consideration.

The Committee cannot help regretting that detailed investigations were not made by the port authorities/Government before fixing the targets for handling of export and import cargoes which were to serve as the basis for the drawing up of the Master Plan by the Consultants, M/s. Rendel, Palmer & Tritton. The Committee hope that the assessment of the prospective export and import trade of the port will be made in the light of the industrial and agricultural development programme for Goa. The Committee also hope that the port authorities and Government would ensure that detailed projections of exports and imports to be handled at the port during next 10—15 years at least would be given as early as possible to the new firm, M/s Howe India* Limited so that detailed planning and designing by this firm is done on realistic basis.

Consultation with Associations of Trade and Industry.

26. It has been represented to the Study Group which visited Mormugao during October, 1965 that non-official organisations had no opportunity to study the Master Plan and offer their comments as it had not been made public. On enquiry, it has been stated by the Chairman, Port Trust, during evidence that representatives of the Goa Mineral Ore Exporters Organisation and Goa Mining Organisation as well as Goa Chamber of Commerce and Industry are Trustees of the port who approved the Master Plan. It is, therefore, "not correct" that the non-official organisations have not been consulted in the matter.

The Committee consider that as the Master Plan for the development of Mormugao Port is a matter of far-reaching importance to the economy and future development of Goa, Government should have taken steps to suitably consult representative associations/bodies of trade, industry, shippers, users etc., who are vitally concerned with the development of the port. The Committee would, therefore, suggest that the salient features of the Master Plan may be suitably publicised amongst all concerned so as to elicit their suggestions.

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*The appointment of M/s., Howe India Ltd. has been referred to in para 34.

Execution of Master Plan in 3 Stages.

27. The Consulting Engineers have recommended the execution of the Master Plan in three stages as under:—

"*Stage* 1(*a*)

Construction of a deep water jetty to berth two 60,000 ton dwt ore carriers and the installation of mechanical equipment to load them with iron ore at a rate of 3,000 tons an hour or 6 million tons a year. Stage 1(a) will also include ancillary equipment to unload ore from barges and from railway wagons, a stock yard for the ore and reclaimers for reloading. A dry dock for the repair and maintenance of craft belonging to the Port Trust is also included.

Stage 1(*b*).

The addition of further mechanical equipment to the above installation to increase the loading rate to 6,000 tons an hour or 12 million tons a year and the raising of the capacity of the ore stockyard to 1 million tons.

Stage 1(c).

Modification of the present ore handling equipment to handle the import of 300,000 tons of coal and/or coke a year.

Stage II(*a*).

Construction of five new general cargo berths and the reclamation of land behind the berths for transit sheds, sidings etc.

Stage II(*b*).

Construction of a deep water jetty with two berths for bulk carriers to handle the import of up to 10 million tons of coal, coke and limestone. This includes mechanical handling equipment for unloading the ships, a stacking area and installations to load railway wagons and barges.

Stage II(c).

Construction of a deep water jetty handling oil imports of up to 700,000 tons a year. This is the anticipated requirements but on a jetty would of course handle considerably more than this should the demand increase.

Stage III.

The addition of a further seven new general cargo berths. These berths as laid out may be constructed either backed by reclaimed land or as open piled structures."

28. It has been stated by the Consultants that "the full development will provide an excellent deep water port capable of handling expeditiously all the anticipated exports and imports into Goa and the hinterland. The provision of such a port is considered essential to the industrialisation and development of this port of India. Improvements, among which may be mentioned the bridges across the Zuari and Mandovi rivers, to the trunk roads will result in a greater quantity of cargo being brought to the port and taken from it by road vehicles, as is the modern tendency in many of the world's ports. This, in turn will tend to accelerate the build-up of traffic through the port."

Estimates of Costs.

29. The Master Plan is estimated to cost about Rs. 64 crores. The summary of the estimated cost of various stages is given below:

	(Rs. in crores)
Stage I	
Civil Works	12
Mechnical Plant	6
Stage II	
Civil Works	14·50
Mechanical Plant	9
Stage II	
Civil Works	8·50
Mechanical Plant	1
Breakwater	6
Large Dry Dock (including dredging)	5
Road Bridge	0·10
Harbour Craft	2
	64·10

The details of the estimated cost as assessed by the firm of Consulting Engineers, are set out in Appendix V.

Financing of the Master Plan

30. Regarding the financial implications of the development plan proposed by the Consultants, it has been stated that on the basis of the report of the Consulting Engineers and the cost indicated therein as well as further enquiries and investigations made so far, the estimated cost of providing the ore pier and mechanical loading facilities including stacking areas, the purchase of essential floating craft and workshop equipment, providing staff quarters for essential staff and other appurtenent works like roads, drainage, water supply, etc. would amount to about Rs. 20 crores of which the foreign exchange component will be Rs. 8 crores.

It has been further stated that if two other berths are provided for handling bulk commodities like fertilisers, phosphate rock and other general cargo, the traffic of which is on the increase and which also can justify additional berths in the initial stage, the estimated cost of the works in the first stage would work out to about Rs. 24 crores. The detailed break-up of this expenditure is given in Appendix VI.

Financial Assistance by I.B.R.D.

31. In regard to the financing of the Master Plan, it has been stated by the port authorities that it may be possible for the port to raise about Rs. 2 crores in the Fourth Five Year Plan period towards financing its development programme; the rest of the money will have to be borrowed from the Government or through the open market. It has further been added that the International Bank for Reconstruction and Development (I.B.R.D.) and International Development Association have expressed willingness to finance the plans for developing ore handling facilities at the port and that it has been decided to send copies of the Consultant's Report to the International Bank for Reconstruction and Development authorities with a preliminary intimation that financial assistance for the implementation of certain relevant portions of the Plan would be sought from them. Preliminary reactions of the I.B.R.D. are stated to have been favourable. No difficulty is anticipated in regard to meeting the foreign exchange requirements of Stage I of the Plan as it is usual in such projects for the I.B.R.D. to meet the entire requirements of foreign exchange,* by agreement.

*Please see para 34.

Economics of the Port after development

32. Asked about the economics of port operations after an expenditure of about Rs. 20—24 crores has been incurred on Stage I, the Chairman of the Port Trust has stated that on the basis of an *ad hoc* estimate of the port operations in 1970-71, when the Stage I is completed, there would be a surplus of Rs. 190 lakhs which would amount to a return of 6·8% on the capital at charge. These figures are stated to have been arrived at as under:—

	(Rs. in lakhs)
Total revenue anticipated by 1971-72	526
Total expenditure anticipated by 1971-72	248
Add depreciation on total capital at charge	88
	336
Surplus	190
Surplus as percentage of capital at charge	6·87%

The Committee have subsequently been informed in a written note that in calculating the economic of Stage I the capital expenditure has been estimated at Rs. 29.09 crores, which comprises capital at charge incurred on the Port before Stage I is initiated and the capital of Rs. 20-24 crores to be invested on Stage I, and that the surplus of Rs. 190 lakhs has been assessed without taking into account the interest on the capital at charge.

The Committee consider that the estimated surplus of Rs. 190 lakhs i.e. 6:8 per cent would hardly be sufficient to meet the interest on the capital. The Committee, therefore, urge that earnest efforts should be made by the port authorities to bring down the estimated capital expenditure on Stage I of the Master Plan so as to be able to earn a reasonable return on the heavy investments.

The Committee would also like Government to be reminded that the heavy capital investment is sure to result in unduly increasing the port handling charges which would adversely affect the competitive position of the Mormugao Port in respect of export of ore.

Execution of the Master Plan

33. The Port Trust entrusted the preparation of Master Plan to the Consultants (M/s. Rendel, Palmer and Tritton) in February, 1964. The Report of the Consulting Engineers was received in March, 1965. After a departmental study of the Report, the following modifications have been suggested in the Master Plan by the port authorities:—

(i) Location of the ore stock pile on top of the hill instead of by cutting into the hill. This is expected to result in a saving of about Rs. 2·75 crores.

(ii) Location of the barge unloading jetties.

The works which are proposed to be given priority by the Port Trust for execution are the provision of the mechanical ore handling facility, the construction of a small dry dock for port craft, and the construction of two berths together with attendant dredging and reclamation.

It has further been stated that any deviations from the Master Plan that might arise during the course of construction as a result of hydrological and other requirements are not likely to be of material importance.

34. The Study Group which visited the port during October, 1965 have been informed that "it has been decided to supplement the broad details of the Master Plan as given by the Consultants by seeking further consultation regarding the detailed designing of the structures and the equipment to be installed for the most economical method of handling ore in the harbour. In this connection, an Indian firm (M/s. Howe India, Ltd.) with Canadian participants of World repute who have specialised in the design of plants required for bulk handling and other work connected with the provision of facilities for bulk handling of ore has been suggested for appointment to conduct a design study of the various component parts of the first stage works to be undertaken immediately with stress on the maximum utilisation of indigenous equipment. It has been stated that it is not possible at this stage to give an accurate estimate of savings in foreign exchange as a result of utilisation of indigenous equipment but it is estimated that it would not be inconsiderable.

35. The proposed* to appoint M/s Howe India (P) Ltd. was approved by the Board of Trustees in August, 1965 and forwarded to

*At the time of factual verification the Ministry of Transport have stated as follows:—

"The proposal to engage M/s Howe India (P) Ltd. for undertaking a design study of the ore handling facilities to be provided at Mormugao is within the broad frame work of the Master Plan prepared by M/s Rendel, Palmer and Tritton".

the Ministry of Transport for sanction. Further action regarding finalisation of the Project Report and the project estimate will be taken on the completion of the design study and receipt of estimates of the costs involved, based on a detailed study to be undertaken by the firm. During evidence the Secretary of the Ministry has stated that Government have approved the proposal and sanction is being issued.

The fees paid to Messrs Randel, Palmer and Tritton for the Master Plan and the Project Report were Rs. 1,68,363 which included payment of £ 7,000 in sterling in London and Rs. 75,000 in India. The fees that may have to be paid to the Indian firm (M/s Howe India Ltd.) for the detailed design study is Rs. 2,30,000, out of which Rs. 70,000 may be in foreign exchange.

The Committee are not convinced by the reasons advanced by Government for appointing two sets of technical consultants—one for drawing up the Master Plan and the other for detailed design study. They find it a little difficult to appreciate how detailed design study can be undertaken without any firm decision having been taken on the Master Plan. The Committee apprehend that the detailed design study for which the second firm of consultants—Messrs Howe India Ltd.—has been appointed is intimately linked with the study of feasibility for handling 10-12 million tons of iron ore at Mormugao. The Committee have no doubt that Government would make sure before appointing any firm of consultants that they have the requisite expertise and practical experience of designing ore handling plant which is the central feature of the developmental works to be undertaken at the port.

The Committee hope that Government would ensure that precise and firm requirements for which development planning is to be undertaken at Mormugao would be indicated to the new Consultants before long and that a phased programme with specified dates of completion would be drawn up and implemented.

The Committee would like the Consultants to be given a specific instruction to ensure that as much of the equipment as possible for implementing the development programme should be procured from within the country. The Consultants may also be asked to draw up an interim report indicating the inescapable requirements for import of foreign equipment and machinery so that Government may initiate action, without loss of time, to arrange for external assistance. Experience in the case of Calcutta and Bombay ports has shown that securing of such assistance is a time consuming process which can seriously impede execution of development works.

Supply of Stone

36. The Consulting Engineers in their Report have stated that "the existing breakwater is constructed of laterite concrete, the laterite having been obtained from the surface of the plateau behind the port. This indiscriminate quarrying over the area, has left it in such a state that it is unsuitable for building on until it has been levelled off, and further quarrying in this manner is not recommended. There is, however, a substantial deposit of similar hard laterite on the south-west of the plateau and considerable economy will be possible if stone can be quarried in the vicinity of the port for the future extensions. There is no reason why a quarry should not be worked in such a manner as to leave a level bench suitable and desirable for houses to be subsequently built overlooking the sea. Houses built further back would then also have a clear view" . . . "We understand that a survey of suitable stone in the area has now been commissioned. The results of this survey will materially affect the estimates for the work."

37. The Study Group which visited the port in October, 1965 have been informed that the Geological Survey of India was required to conduct a survey to locate suitable quarries as close to the port as possible, from where stone required for the development of the port could be quarried and transported immediately. It has been stated that preliminary reports have been received from the Geological Survey separately for the quarries on the Mormugao Headland and in the areas away therefrom. The port authorities have stated that it is their intention to preserve Headland for construction of residences mainly for the employees of the port and some of the essential employees of other departments like Customs, Police, Mercantile Marine Department etc., who will have to stay close to the port due to the nature of their duties. They have added that as a result of investigations, two suitable quarry sites,—one about 12 km's away from the port at Bogmalo and the other about 18 km's away at Sancoale—have been located. The sites have deposits of trap stones required for reinforced cement concrete and other similar works. Further surveys regarding the quantities available in these places are stated to be in progress. Laterite stone is said to be available in this area in sufficient quantities. It is stated further that surveys are also in progress to earmark certain places as close to the port as possible from where laterite stones could be taken in sufficient quantities.

Cost of Transportation of Stone

38. It has been stated that the cost of quarrying and transport of trap stone from the Bogmalo quarry would be about Rs. 30 to Rs. 32

per cubic metre whereas the cost of quarrying and transport of stone at Sancoale would be about Rs. 35 per cubic metre. The existing rate is Rs. 45 per cubic metre for trap metal (1½") brought from a quarry further away. It is stated that the present cost of laterite stone boulders (6" to 8") which are available in nearer quarries and where the cost of quarrying is less, is Rs. 12 to 15 per cubic metre. The port authorities feel that the deposits of stone being limited, both the quarries at Bogmalo and Sancoale will have to be utilised.

The Committee would suggest that authorities should take an early decision in consultation with the Geological Survey of India and the consultants to select quarries to get stones for extending port facilities.

Planning Cell

39. A Planning Cell was set up in the Port of Mormugao in March, 1964. The staff of the Cell originally consisted of (i) the Director of Planning (Traffic) as its head and (ii) the Officer in charge Research and Statistics. It is stated that the holder of the post of Director of Planning retired from service in September, 1964 and that the Research Officer resigned from service having been selected for a post in the office of the Director of Transport Research, Ministry of Transport.

The Planning Cell has since been transferred to the Traffic Department under the management of the Traffic Manager.

In reply to a question, the Chairman of the Port Trust stated during evidence that the work of the Cell is done by the officers of the Traffic Department and that if the planning and research "is independent of the traffic department, it will become too theoretical".

It has been stated that the Planning Cell has undertaken useful research studies, besides the work of collection and collation of port statistics and their analysis, particularly investigation and research on problems affecting the trade of the port and its future development, surveys of industrial and commercial activities in the hinterland of the port and the effect of these activities on the trade of the port. The studies undertaken by the Cell have helped in evaluating the quantum of traffic that normally should have come to this port but for various reasons was finding its outlet through other ports at a longer rail and road freight lead. A survey conducted by the Cell in regard to the capacity and the utilisation of the barge fleet engaged in the movement of ore from the mines to the port has provided revealing data for a more realistic assessment of the requirements of

barge capacity to feed the proposed new mechanical ore handling plant. Similarly a study undertaken by the Cell in regard to rate of loading of ore by shoreside operations through railway wagons has helped in determining the type and capacity of railway wagons, the size and capacity of ore trays and the requirements of quay cranes to ensure loading operations to the optimum level and maximum utilisation of the existing facilities.

The Committee are glad to note that the Planning Cell has rendered valuable service to the port in undertaking useful research studies besides doing the work of collection and collation of port statistics and their analysis. The Committee are, however, unable to appreciate as to why the Planning Cell has been merged with the Traffic Department. The Committee consider that the Planning Cell has an important function to discharge in collecting and collating vital statistics and data about potential exports and imports which would be required for finalising the Master Plan for the development of the port. The Committee recommend that the question of reorganising the Cell as a separate unit in the Port Administration may be gone into urgently.

Inter-port Technical Consultancy Service

40. It has been stated in the speech of the Chairman, Mormugao Port Trust dated the 24th July, 1964 that a scheme is being prepared on an all-India basis for setting up an inter-port technical consultancy service based on voluntary agreement of various major ports to undertake the following activities:—

(i) for preparation of projects, designs, drawings and specifications for equipment;

(ii) to promote indigenous manufacture of port equipment and material;

(iii) to undertake and promote engineering, economic and statistical studies and research;

(iv) to assess the need for future development or modernisation of existing facilities;

(v) to promote training facilities; and

(vi) to arrange the use of work-study, costing, accountancy, organisation and methods techniques, modern tools of management to increase efficiency and productivity at the ports.

41. The Committee desired to know the progress made in the setting up of this service. In reply, the Secretary of the Ministry has stated during evidence that:

> "We want to set up inter-port technical consultancy organisation. This is under discussion by the Committee of the Chairman of the various ports. Our Development Adviser is also associated with it. We want to do something like that. We are all for it. We are actively pursuing it."

The Committee consider that the Ministry of Transport, which has a full-fledged technical section under the Development Adviser (Ports) should have taken positive steps, in conjunction with the Port Trusts, to bring about establishment of an inter-port technical consultancy service by now. Besides the functions enumerated in para 40 above, the consultancy service may also help in standardising equipment and harbour craft used in the ports which would result in considerable economy not only in the initial costs of manufacture but also in repair charges later on. The Committee hope that effective action would be taken to establish such a consultancy service in the country for the Fourth Plan; this should not be too difficult as the ports as well as Government have by now extensive experience in the development of ports.

C. Base for Indian Navy

42. The Master Plan for the development of Mormugao Port has made provision for the location of certain facilities for a Naval Base at Mormugao.

When the Study Group of the Estimates Committee visited Mormugao in October, 1965, a number of representations, both written and oral, were made to them expressing apprehension about the effect of location of naval base at Mormugao on the future commercial development of the port. One of the leading ore export associations has stated in a memorandum to the Committee that:

> "In the context of expansion and improvements envisaged for the Mormugao Port as a major commercial port, we feel that there would be considerable handicaps in the development of the port if the Navy has to establish its unit side by side at the port. The port space being limited and for a developing commercial port, the space now available at Mormugao being entirely and wholly essential, it will be unwise to fix the naval unit at the Mormugao Port itself. In case it is allowed to have the expansion of the port and also the establishment of the

naval unit at the same place it goes without saying that the growth of one of these would be possible, only at the sacrifice and detriment to the interests of the other and therefore it is our considered opinion that the naval unit should be shifted to another convenient place in Goa, allowing the existing commercial port to expand, thrive and achieve progress expected of a major port."

Another leading mining association has put forward the following alternate site for the location of the naval base:

"If in the opinion of experts it is necessary to establish a naval base in Goa it should be suitably located on the right banks of river Zuari at a place just opposite Vasco-da-Gama town. This place will consist of a few small coastal villages named Orshel, Cacra, Naushi and Bambolim, all having a population of not more than 500. Incidentally, I may mention that at the back of these villages there is a very large plateau. The area covered by the said villages could easily accommodate the entire naval establishment and the plateau could be conveniently turned out, if necessary, into a suitable air port worthy of allowing the operations of any type of aircraft."

43. During the course of evidence, the representative of the Ministry of Defence (Naval Headquarters) stated that "we have examined this question and we find that it will not be wise to go to the other side. Firstly, the other side of the river is exposed to south-west monsoon and it will be very difficult to berth ships there. The other side is completely virgin ground and the developmental cost will be enormous. I don't know whether the Government will be prepared to spend 20-30 crores for this purpose." It has further been added that this matter has been gone into by a committee at a very high level which has stated that both navy and civil ports can co-exist side by side.

In a written note furnished to the Committee, it has been stated that "the Board of Trustees has decided to make a representation to the Government of India to reconsider their decision to build a naval base in the Port of Mormugao. They feel that the existence of a naval base in Juxta-position to the commercial port will act adversely on the latter and will prevent its free and uninhibited development." As regards the suggested location of the naval base on the right bank of the river Zuari at a place opposite Vasco-da Gama town, consisting of Orshel, Cacra, Naushi and Bambolim villages, it has been stated that:

"The question has not been referred to the Port Trust, but the port's preliminary reactions to such an eventuality

are that the location of the naval base on the right bank of the river Zuari at the places indicated, would be much less of an impediment to the development of the port than its present location."

It has been further stated by the Chairman, Port Trust during evidence that "Consultants were given certain terms of reference which were drawn up jointly by the navy and the Transport Ministry and the Port. They have confined themselves to those terms of reference that we would have to handle 25 million tonnes of traffic and navy will have to co-exist with us. Master Plan has been given and as far as the water side is concerned, by and large it is acceptable to the port. The agitation that has been going on is about the land side which is another question altogether not covered by the Master Plan."

The Secretary of the Ministry of Transport has stated during evidence that "We have to give adequate facilities for the navy to develop and the necessary area earmarked for their purpose. We must also take into consideration the port interests and we have had lot of discussions on certain points as to whether the navy would like to have more land and whether we would like to have a particular area of land. I don't think there will be any difficulty in settling it in an amicable manner."

The Committee appreciate the importance and the claims of both the civil port and the naval base for location on the Goa coast due to strategic reasons. They would, however, urge that the location and siting of these two should be decided in such a manner as will not adversely affect the free and uninhibited development of either of these in the years to come. Goa has vast potentialities of industrial and agricultural development, including exploitation and export of iron ore, setting up of a fertiliser factory, possibilities of the location of a refinery and the development of small scale industries; with these there will be a consequent rise in the standard of living of the people. All these would mean vast increase in the traffic to be handled through the commercial port of Mormugao.

Similarly, with the expansion of the Indian Navy in the near future, the naval base at Mormugao would also be required to be developed and expanded.

The Committee apprehend that the paucity of land at Mormugao may affect the expansion of both the commercial port and the naval base unless a long-term view of their requirements is taken at this stage. The Committee recommend that keeping in view the overall national interest, the question of locating the port and the naval base at Mormugao may be carefully examined by a high-powered technical committee which should take into consideration the future needs of expansion of both the port and the naval base.

D. Shore Wireless Station

44. It has been represented to the Committee by some non-official organisations that "present wireless arrangements are found to be inadequate and urgent arrangements are requested to be made to provide facilities for communication from ship to shore and *vice versa*".

In a written note furnished to the Committee, it has been stated that as far back as May, 1963 the port authorities had approached the Department of Communications and Civil Aviation for a licence under Indian Telegraphs Act, 1885 to establish, maintain and work wireless in the Port of Mormugao. The Wireless Adviser to the Government of India forwarded necessary application forms and suggested that the forms be forwarded through the State Government. The application to work the wireless set already available on tug "Mozambique" was accordingly forwarded to the Wireless Adviser through the Chief Secretary of Goa Administration in August, 1963 which was acknowledged by the Superintendent of Post Offices. Gao, Division Panjim on the 5th September, 1963. As the original application was not received by the Wireless Adviser, another application was sent direct to him on the 1st December, 1964 for granting licences to tug "Mozambique" and the dredger "Zuari". The permission to use the wireless set on tug "Mozambique" was received in March, 1965 and that on the dredger "Zuari" in April, 1965.

As the working of these two wireless sets was very much appreciated by the Masters of the approaching vessels and as these sets could not be utilised fully by the Agents, the Port Trust authorities approached the Wireless Adviser on the 26th June, 1965 for the reorganisation of the wireless system in the port by establishing a shore wireless station on the Headland. The Wireless Adviser forwarded the necessary application forms on the 15th October, 1965 for completion and onward transmission to him. These application forms are stated to have been forwarded to the Ministry of Transport on the 25th October, 1965 for onward transmission to the Wireless Adviser. The Committee have been informed in January, 1966 that since then "discusions have been held with the various connected officers of the Posts and Telegraphs Department and the Wireless Department regarding the setting up of a wireless station on the Headland and the final permission is still awaited."

The Committee understand that the financial outlay on the establishment of a shore wireless station will be about Rs. 25,000 of which the foreign exchange component will be about Rs. 8,000.

The Committee consider that for a busy port like Mormugao action should have been initiated in the first instance for the estab-

lishment of a shore wireless station so as to facilitate communications with ships. They deprecate the procedural delays in the supply and return of forms etc. which have impeded the grant of licence. The Committee hope that action would be taken without further delay to establish the necessary shore wireless facilities at Mormugao Port and other ports not having similar facility.

E. Night Navigation Scheme

Need for Night Navigation

45. It has been represented to the Committee by some leading shipping concerns and associations that "ships are piloted in and out at present during day time (sunrise to sunset) and there are no arrangements for night movements of ships. This results in delay to ships, sometimes considerable, especially those drawing more than 24 or 25 ft. as such ships can only sail or enter the harbour on high tide. Night pilotage will eliminate these delays to ships".

During the course of evidence the Secretary of the Ministry of Transport has stated that the night navigation scheme was first drawn up in July, 1963 and was discussed with the officers of the Department of Lighthouses and Lightships in January, 1964. As a result of these discussions, the scheme was modified and forwarded to the Government for sanction in January, 1965 which is still awaited.

It has been stated that the scheme is estimated to cost Rs. 19 lakhs with a foreign exchange component of nearly Rs. 12 lakhs. Attempts were made by the Department of Lighthouses to procure the required equipment under French or Swedish credits, but these were not available for this purpose. Efforts are now being made to cover the scheme under any other available credit. The foreign exchange position being precarious at present, it has not been possible to get the same from free resources and the scheme is therefore held up for lack of foreign exchange.

46. The Committee have been informed subsequently in a written note that the full navigation scheme is being carried out in 3 parts, *viz.*:—

(i) Rehabilitation of existing lighthouses at the cost of Rs. 77,200 involving foreign exchange component of Rs. 46,200. The estimate has since been sanctioned.

(ii) Providing 6 lighted buoys complete with lighting equipment at a cost of Rs. 11,58,200 with a foreign exchange component of Rs. 6,60,000. The estimate is stated to be under consideration, as stated earlier.

(iii) Provision of masonry columns for siting the future transit lights. The estimate has since been sanctioned. .The cost

of the lighting equipment for these lighthouses has not yet been estimated.

Rehabilitation of existing Lighthouses.

47. Regarding the rehabilitation of existing lighthouses, it has been stated that at the time of liberation, a few of the lighthouses in the port area were not in working condition. The Lighthouses Department, therefore, inspected these lighthouses and prepared in 1962 an estimate amounting to Rs. 43,250 with a foreign exchange component of Rs. 28,000. This was sanctioned in August, 1963. The tenders for the required equipment for rehabilitating these lighthouses were invited by the Director General of Supplies and Disposals. One of the tenders was received from M/s. Bar Bier, Benard and Turenna, Paris but this was considered by the Lighthouses Department to be on the high side. As a result of negotiations, a reduction of 4·87% was obtained from the firm. On the basis of this, the total cost of the rehabilitation of lighthouses has now been estimated at Rs. 77,200 inclusive of foreign exchange of Rs. 46,200.

The revised estimate was sanctioned in July, 1965 and the order for the supply of the equipment has been placed by the Lighthouses Department on the firm concerned and it is expected that the equipment will be received by the middle of 1966.

It has been stated that in the meanwhile, 4 light buoys have been taken on loan from the Department of Lighthouses and Lightships and established in the channel before the 1965 monsoons in order to provide night navigation in an emergency and for night dredging.

The Committee regret to note that right navigation scheme which was first drawn up in 1963 could not be forwarded to Government earlier than January, 1965; and that it has not yet been approved by Government. They consider that the foreign exchange difficulty should not be allowed to come in the way of implementation of the night navigation scheme as the absence of such facilities is bound to result in payment of heavy detention charges in foreign countries to ships. The Committee would urge that all efforts to find requisite foreign exchange should be made so that the scheme which is vital to improve the operational efficiency of the port is executed at the earliest.

The Committee also note that the rehabilitation of existing lighthouses which was taken up in 1962, would be implemented only by the middle of 1966 i.e. after a lapse of about four years. The Committee deprecate the procedural delays which have not only impeded the speedy rehabilitation of the existing lighthouses but have also resulted in the increase of estimated expenditure from Rs. 43,250

to Rs. 77,200 and an increase in the foreign exchange component from Rs. 28,000 to Rs. 46,000. They hope that the processes and procedures of working would be streamlined with a view to speedy execution of the schemes.

Overhauling and Maintenance of Night Navigation Equipment

48. The Committee have been informed during the course of evidence that "discussions have been held with the Lighthouses Department for the training of the port trust staff to maintain the night navigation equipment. Two mechanics are being nominated from amongst the staff of the port workshop and will be sent to Calcutta for training in the workshop of the Lighthouses Department. It is not, however, proposed to start a full-fledged workshop for overhauling the night navigation equipment, which can easily be done at Bombay by the Lighthouses Department. Finally, it may be necessary to do so when the port is developed to its full".

The Committee are glad at the advance action taken by the Port Administration for training their staff for maintaining night navigation equipment. They, however, would like to observe that adequate number of persons should be imparted training in the repair and maintenance of night navigation equipment so that when it is decided in due course to develop workshop facilities in the port itself, the number of trained staff is not found inadequate for this purpose.

CHAPTER IV

INLAND WATERWAYS

A. Rivers Mandovi and Zuari

49. Goa is said to have one of the finest river networks in the country. There are seven rivers of which only two viz. Mandovi and Zuari are navigable for a distance of above 60 kms. The rest are navigable only for a small length of 3 to 35 kms.

The waterways are well developed and have in recent years carried more than 90 per cent of the export ore traffic to the Mormugao Port. The Mandovi and the Zuari, together with their tributaries, provide the necessary inland routes. At the river points, loading is done by manual labour and also by mechanical equipment. Barges are employed for transporting the ore over the waterways to the port.

There are stated to be some difficulties at present in water transport. The rivers and the river points have to be dredged to allow smooth navigation and bearthing of barges at river points to enable quick loading. Frequently, the barges cannot be brought close to the jetty for loading during low tide as the river bed gets silted up.

50. A leading Association of Goa has suggested to the Committee that "to enable this port to handle a larger volume of traffic from the hinterland and also to make transport cheaper to withstand competition in world markets, to dredge the following portions of the river beds and make them navigable for barge movement throughout the year:—

(i) Candeaper river from Usgaon bridge point to Collem via Candeapar on the one way, and upto Calem on the other branch of the same river.

(ii) Madei river from the point of Usgaon bridge to Valpoi.

(iii) Branch river of River Zuari from Chandor to Quepem, and

(iv) Branch River Zuari from Gurchorem to Sanguem.

The priority for dredging should be given in the above order and it is estimated that the dredging of the river bed at item (i) above

alone would increase the production and export of ore of about 2 million tons per year and the overall scheme of dredging all the four rivulets will considerably reduce the cost of transport and bring about more traffic to and from the port. It is also our feeling that the advantages of the scheme will far out-weigh the initial cost involved therein."

51. In its report submitted on the 26th October, 1965 the Study Group set up by the Government of Goa on the Industrial Development of Goa has *inter-alia* stated as under:—

> "Nearly 90 percent of the iron ore exported through the port of Mormugao is being transported by self-propelled barges. Most of the channels of the rivers Mandovi and Zuari are getting silted and it is found that free navigation irrespective of tide conditions is not possible from all the loading points on the river. If these rivers are dredged, which can be done at a small cost, to a minimum of 8/10' at low tide, the transport capacity of the existing fleet of barges will increase. The distances, from the Mines to the port are not too great and if this dredging is taken up, anything from 20 to 30 per cent of the time would be saved which is now lost on account of waiting for tides; this will add to the transport capacity of the existing fleet of barges. This must be considered an overall problem as shortage of barges which they are not able to import on account of the foreign exchange difficulties. The State Government should, therefore, take up the dredging of the rivers on an urgent basis."

B. **Combarjua Canal**

52. Combarjua Canal connects river Mandovi with river Zuari During the monsoon season when the harbour area cannot be reached through the mouth of the Mandovi, barges have to be diverted to the Zuari via Combarjua Canal to avoid rough seas. At low tide it is difficult to navigate in this canal and barges have to wait for high tide. It has been stated that about 5000 ft. of Combarjua Canal is very narrow and shallow. The bed bottom is rock which would require cutting and/or removing by blasting.

A representative of a non-official organisation has stated that "the Combarjua Canal is another drawback. During rainy season no transport of ore is possible via Panjim and all the barges have to cross the above canal in order to reach the Harbour. This canal

is so shallow that no navigation is possible at low tide and consequently more than 12 hours are spent for a journey from any point of Usgaon river to Mormugao Port, as barges reaching the opening of the canal on the side of Mandovi river at low tide have to wait for another 6 hours for high tide. This considerably hampers the loading capacity at the Harbour wasting much time as idle. This Combarjua canal should be made navigable at all times of the day and night otherwise about 70% of total production of Goa which comes from Bicholim, Pali and Sancordem mines will be heavily affected. The previous government had started clearing the above canal but since the liberation nothing is being done and the things are in the same state as before."

53. In the Master Plan, the Consulting Engineers have stated that "this canal (Combarjua) is at present mainly used during the monsoon season so that ore barges from the Mandovi River may avoid going out into rough seas. Traffic through the canal is at present slow because its small cross section prevents barges passing. If this canal were enlarged both in width and depth so as to permit 2 way traffic the turn round of barges from the river Mandovi to the Port could be considerably expedited. When, in addition, the new facilities have been installed for the rapid unloading of the barges at the Port it is considered that all the barges will be able, without difficulty, to complete a round trip in 24 hours. This will make possible a very considerable increase in the tonnage of ore exported with a comparatively small increase in the size of the barge fleet. Consideration should be given to the carrying out of the canal improvement during Stage I."

54. The Study Group set up by the Goa Administration in their Report of October, 1965 on the Industrial Development of Goa have also referred to the Combarjua canal and stated as under:—

> "The Kambarjua canal is a bottleneck for the smooth operation of the barges for about 5 months in the year during the monsoon and immediately before and thereafter. If the canal is improved and navigation is made possible irrespective of tide conditions, which will not be a very expensive undertaking, it will be found that navigating the barges through the Kumbarjua canal would be more advantageous when the weather is not conducive for negotaiting via Aguada through the open sea. Many a time barges are forced to anchor at Aguada on account of a heavy swell, which can be avoided altogether by taking the alternative route of the Kumbarjua canal."

55. The Study Group of the Estimates Committee which visited the port in October, 1965 have been informed by the port authorities that "the question of the improvement of the Cambarjua Canal has been taken up with the Goa Administration who are responsible for the maintenance and improvement of the canal. They have intimated to us that they are taking action to improve its navigability". It has further been stated that the Goa Administration has very recently invited tenders for deepening and widening the Combarjua Canal. The hydrographical survey was carried out by the port authorities on the request of the Goa Administration to assist them to gauge the amount of work involved. This is only a part of the development which would be necessary for the future improvement of the Combarjua Canal. A full hydrographic survey of the waterways and the Combarjua Canal will have to be carried out by full fledged survey teams and then a model prepared under the guidance of the Central Water and Power Research Station for advice on future training or other works which may be necessary to develop the Canal.

As to the financing of the expenditure, it has been stated that "the World Bank representatives who visited the port recently suggested, informally, the inclusion of the works not only on the Combarjua Canal but also in the waterways as a part of development works of the port for financing purposes."

C. Arrangements for dredging waterways

56. As to the existing arrangements for dredging the waterways, it has been stated that the Government of Goa, have one small cutter suction dredger with pipe-lines and one small grab dredger to carry out the dredging departmentally. Recently the port authorities hired out one of their dredgers to the Goa Administration for dredging the outer bar at Aguada. This dredging was found necessary not for the ore trade but for the passenger service running between Bombay and Panjim.

Regarding the maintenance and dredging of the waterways by the Port Administration it has been stated that the port limits do not cover any portion of the river Mandovi. As far as river Zuari is concerned, the limits extend only 6 miles from the sea upto a place called Caratalim where the ferry services exist. The port limits also do not cover the Combarjua Canal.

57. A proposal to have jetty loading points within the port limits was stated to have been forwarded by the Port Administration to

the Development Commissioner of the Government of Goa, Daman and Diu in February, 1963. The limits proposed are given in Appendix VII.

58. In a written note the Port Administration have informed the Committee that "it would be advantageous to dredge these bars (sand bars) by the Port Trust authorities who, in any case, will have to maintain the dredgers and a bid dredging organisation for their own purposes. This will obviate duplication in administrative costs and moreover better 'know-how' would be available for the work.....It would be necessary to augment the dredging fleet of the port by an additional grab dredging unit at a cost of Rs. 60 lakhs". In this connection the consulting engineers have also stated "the Port Trust should take over the responsibility for the maintenance and dredging of the waterways leading to mines. It is expected that if the waterways are dredged and maintained properly the average turn-round of barges which is at the moment 36 to 48 hours would be reduced to about 24 hours."

Asked about his views in the matter, the Secretary of the Ministry has stated during evidence that "from the overall angle of exports of iron ore, particularly, I think it would be a welcome suggestion to control the canals for the reasons that there should be feeder instruments for iron ore and without their proper maintenance it is possible that the entire quantity of iron ore being exported, that is of the order of 8 million tons, may be jeopardised. The port itself is so located that these canals form a net-work and it would be in the overall interest to have them under the control of the port. It will mean additional expense, additional liability taken over by the Central Government. It is no doubt that the canals are part of the port system.....

The Central administration of the entire port instruments is the most effective one. The control of the canals by the State Government and that of the port by the Central Government will not be conducive to the efficient working of the port."

It is well known that Zuari and Mandovi are the most important rivers of Goa through which about 90 per cent of Goan exports of iron ore are carried from the jetty loading points to the mouth of Mormugao Port i n self-propelled barges. Similarly, the Combarjua canal provides a vital inter-communication link between the Mondovi and Zuari rivers during the monsoon months. Since the

export of iron ore is the back-bone of the economy of Goa, the Committee consider it very important that the navigability of these waterways is maintained at its best by adequate and constant dredging. This would enable the barges to complete the round trip in 24 hours instead of 36 hours as at present and would result in their optimum utilisation, increase in the tonnage of ore transported from the mines to the port and consequential reduction in transportation charges.

The Committee find that although the question of extending the jurisdiction of the port to the barge loading points was referred to the Goa Administration in 1963, no decision appears to have been taken in the matter so far.

The Committee apprehend that the dredging of the inland waterways and the widening and deepening of the Comborjua Canal may not be within the technical and financial competence of the Goa Administration. They, therefore, recommend that the desirability of extending the jurisdiction of the port over the inland waterways upto jetty loading points and the Combarjua Canal, may be examined by the Central Government in consultation with the Port Trust and Goa Administration at an early date.

D. Barges

Barge Fleet

59. As stated earlier nearly 90 per cent of the iron ore exported through the Port of Mormugao is being transported by self-propelled barges.

The port authorities have stated that a survey of the capacity and utilisation of the barges was undertaken in March, 1964 and March, 1965. These surveys have brought out the following significant facts:

In March, 1964 there were 161 barges with a total capacity of 43,880 tons, owned and operated by 14 different parties, almost all of whom are also shippers of ores through the Mormugao Port.

As against this, the number of barges in March, 1965 was 165 with a total capacity of 45,835 tons. It has been stated that the number and capacity of the barges has been further augmented since then by the acquisition of 14 new barges.

Details of Barges ownership and Capacity

60. The particulars of ownership of the barges as also their total capacity owner-wise, in March, 1964 and November, 1965 are given below:

Sl. No.	Name of the Owner	No. of Barges		Registered Capacity	
		March 1964	Nov. 1965	(tons) March 1964	(tons) Nov. 1965
1.	Chowgule & Co. Ltd.	37	29	8540	7290
2.	V. M. Salgaoncare Irmao Ltda.	26	26	6450	6450
3.	Sesa Goa Ltda.	22	22	6440	6440
4.	V. S. Dempo & Co. Ltd.	19	18	5625	5225
5.	Shantilal Khushaldas & Bros.	12	16	3800	5600
6.	G. N. Agrawal	11	12	2975	3300
7.	Damodar Mangalji & Co.	8	9	2360	3060
8.	S. Kantilal & Co.	8	8	2400	2400
9.	Marzook & Kadar Ltd.	4	4	1400	1400
10.	Timble Irmaos Ltda.	4	6	1140	1980
11.	V. N. Bandecar	4	4	960	960
12.	Panduranga Timblo Industries	4	4	1140	1140
13.	Emco Goa Ltda.	1	1	350	350
14.	Agencia Ultramarina Ltda.	1	1	300	300
15.	Agencia Commercial Maritima		4		1690
16.	Orient Ltd.		6		840
17.	Agencia Caetano F. Figueiredo		6		1980
18.			*3		990
	TOTAL	161	179	43880	51395

*Arrived in July, 1965 but not cleared through Customs.

The other significant facts are that the size of the barges varies from 125 tons to 600 tons but the majority of the barges have a capacity of 200-300 tons. Most of them are fitted with double engines with power varying between 100 H.P. and 500 H.P. The speed of barges ranges between 7-8 knots per hour and the draft of loaded barges is about 6 feet.

Exporters not owning Barges

61. Eight exporters of ore do not own barges. Their particulars and the quantity of ore shipped by them during the period January to September, 1965 is given below:

Sl. No.	Shipper	Quantity
1.	S. F. Industrial	136746
2.	A. V. Sarmalkar	36100
3.	Lithorerro Ltd.	7815
4.	Mehta & Co.	2950
5.	G. N. Thakore	17014
6.	M. S. Talaulikar A/c MMTC	9650
7.	D. B. Bandodkar A/c MMTC	10000
8.	M.M.T.C. (Hospet Ore)	150011

Barge Utilisation

62. As revealed in the survey, the following comparative figures indicate the utilisation of the barge fleet during the months of March, 1964 and March, 1965:

		March 1964	March 1965
1.	Total barge days utilised	4991	4951
2.	Days spent on repairs	1018	980
3.	Days spent in moving ore to harbour on barge owners' own account	3035	3315
4.	Days spent on hire to other shippers	508	301
5.	Days spent for moving cargo other than ore	11	..
6.	Idle days due to lack of work	104	147
7.	Off days	315	208
	TOTAL	4991	4951

		March 1964	March 1965
8.	Iron ore moved by barge owners in their own barges	5,97,881 tons	6,48,757 tons
9.	Iron ore moved by shippers in hired barges	1,09,220 tons	92,946 ton
10.	Trips made by barges owners in their own barges	2083	2465
11.	Average turn round time per ship .	35 hrs.	34 hours
12.	Average quantity carried per trip .	287 tons	282 tons

It will be seen from the above table that the barge fleet available in March, 1964 carried a total quantity of 707,101 tons of ore to the port including the quantity carried on the days the barges were hired out. To this if the potential carrying capacity of the barges for the 104 barges days rendered idle due to lack of work, were to be added, on the basis of the turn-round rates i.e. 35 hours and 287.2 tons per trip, an additional quantity of 20,486 tons could have been handled by the available barges fleet. The total capacity for the month would, therefore, have been about 7,27,587 tons.

Similarly, a quantity of 7,41,703 tons was carried in March, 1965 to the harbour including the quantity carried on the days the barges were hired out. To this may be added the potential carrying capacity of barges for the 147 idle barge days due to lack of work. The latter at the existing turn-round rates would amount to about 29,000 tons. Besides the 147 idle barge days, there are also 208 barge days as off days.

63. It has been assumed in the survey that under the present conditions of port working the existing barge capacity is capable of handling a traffic of about 9 million tons annually. The basis of their assumption* is as under:

The carrying capacity of the existing barges for the 8 fair-weather months	$= 8 \times 7,70,000 + 90,000$ (capacity of 14 new barges) $=$ 68,80,000 tons.
The carrying capacity of the existing barges for the 4 monsoon months	$= 4 \times \frac{(770,000 + 90,000) \times 35}{55} =$ 21,70,000 tons
Therefore, total annual carrying capacity of the existing barges	= About 9 million tons

*In attempting to work out the annual carrying capacity of the barges, the following assumptions have been made in the survey:

(1) That the pattern of utilisation (with reference to the incidence of repair days and utilisation), observed in March, which was

It has also been added that under the present working conditions, while the bigger exporters of ore are in a position to handle their exports at a fairly good loading rate with their large fleet of barges, the other exporters with fewer barges or with no barges are at a disadvantage.

Barge Pool

64. The Study Group have been informed by the port authorities that the existing number of barges are considered adequate provided the barges "are pooled and centrally controlled."..... In this connection it has been suggested that the barge owners should "form a voluntary pool of barges with an administrative body to operate the pool from day to day. This administrative body could fix hire rates, operating schedules and uniform service conditions for the barge crews. The administrative body would have to work in close cooperation with the port authorities, so that the movements into and out of the harbour could be regulated with reference to the requirements of ships loading in the stream or at berth at present and later with reference to the requirements of stockpile intended to feed the new mechanical ore handling plant. The administrative body could perhaps run the pool of barges in the same manner as the Dock Labour Board maintains the labour pools".

The Committee note that according to the assessment made by port authorities it should be possible to transport 9 million tons of ore to the port by constituting a pool out of the existing barges. This

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a fairly busy month, would be the same in all the other months;

(2) That the turn-round (*viz.* 35 hours) would remain the same in all the 8 fair weather months.

In respect of monsoon period, however, the turn-round time would be much more. During the rainy season, no transport of ores from the three important and rich mining zones of Bicholin, Pale and Sancordem is possible *via* Rguada and all the barges have perforce to traverse the 'Cumbarjua' canal, in order to reach the harbour. This canal is shallow at some places and no navigation is possible at low tides and consequently more than 12 hours are taken for a journey from any point on the 'USGAO' river to Mormugao Port, as barges reaching the mouth of the canal on the 'MANDOVI' river side at low tide have to wait for another 6 hours for the tide. The turn-round time for the four monsoon months therefore, has been assumed, for purpose of this study, at 55 hours per trip during the monsoons instead of 35 hours in other months.

would obviate not only the need for acquisition of additional barges and saving of foreign exchange, but would also ensure fuller utilisation of the existing barge fleet. It would not be unreasonable to expect that the pooling would help to bring down the cost of transport of ore thereby improving its competitive capacity. The scheme can, however, be a success only if it can enlist the willing cooperation of one and all barge owners and can evolve a rational method for pooling of barges and transporting the ore at economic rates to the ships within the stipulated time. The Committee suggest that the entire question of pooling of barges may be gone into in detail by a committee which should be fully representative of the barge owners and shippers and which may be presided over by the Chairman, Mormugao Port Trust so that a dependable and economic scheme for pooling the barges can be evolved and implemented as early as possible in the best interests of all concerned.

Facilities for Repair and Maintenance of Barges.

65. The fleet of barges operating in Goa are being repaired by the following firms:

(1) M/s. Sesa Goa Ltd.
(2) M/s. Tiegal & Metha.
(3) M/s. Dempo & Co.
(4) M/s. Mazagon Dock Goa Branch.
(5) M/s. Shantilal Khushaldas & Co.
(6) M/s. Damodar Mangalji & Co.
(7) M/s. Salgaoncar & Co. Ltd.
(8) M/s. Empreteriros Gerais.
(9) M/s. Chowgule & Co. Ltd.
(10) M/s. Vijay A. Madgavkar & Co.

The Committee are given to understand that barge repair facilities available are barely adequate at the moment as only a few of the repairs firms have suitable slipway arrangements or a dry dock.

The Study Group (set up by the State Government) which went into the question of the industrial development of Goa has pointed out in their report that "facilities for repairs to barges should also be encouraged on an extensive basis and all the required assistance should be extended by the Government since it is imperative that we should try to ensure a longer life for barges, thereby saving cost

of transport and foreign exchange for import of barges for replacement. In fact, there is good scope for a barge building yard in Goa. This will undoubtedly give additional employment and here again attempts should be made to diversify the establishment of repair yards to different regions on the rivers Mandovi and Zuari."

The Committee note that some steps have been taken for the development of repair facilities for barges in Goa. They, however, consider that there is need for planned development of repair facilities in the light of the suggestion made in the foregoing paragraph. The Committee to be constituted to go into the arrangements for pooling of barges may also expeditiously prepare a suitable scheme for repairs of barges. In fact, it may be better from the point of view of maintenance if the barges to be acquired in future are of a standard size and make. The barge workshops should be encouraged to undertake first the assembling of barges and gradually their manufacture.

CHAPTER V

HARBOUR MARINE CRAFT AND REPAIRING FACILITIES

A. Dredging

Dredging Fleet:

66. The port at present possesses three suction dredgers and one grab dredger. The particulars of these dredgers are as follows:

Dredger		Year of Purchase	Cost
1. s. d. Governador	(suction)	1908	Rs. 273,300
2. s. d. Mormugao	(grab)	1938	£ 9,900
3. s. d. Mandovi	(suction)	1946	£ 111,370
4. s. d. Zuari	(suction)	1965	Rs. 120,00,000

It has been stated by the port authorities that these dredgers are adequate for the existing requirements. In case the depths in the port are further increased and the dredged areas are extended it would be necessary to replace the suction dredger "Governador" and also acquire an additional grab dredger. The total cost of these two dredgers will be about Rs. 120 lakhs.

Further, if it is decided to extend the existing port limits, additional dredgers would be necessary.

Dredging Operations:

67. The quantities of silt dredged by the dredgers during each of the last three years has been as under:

(cubic yards)

Craft	Silt Dredged			
	1962-63	1963-64	1964-65	1965-66 (upto Jan.)
1. s. d. Governador	44,180	..	..	15,040
2. s. d. Mormugao	19,350	17,669	11,966	225
3. s. d. Mandovi	393,464	451,552	577,568	115,514
4. s. d. Zuari	(this was purchased in Apr. 1965)			2,897,475
	456,994	469,221	589,534	3,028,254

It has been stated that no silt was dredged by s.d. Governador during 1963-64 and 1964-65 as the dredger returned to Goa from Bombay after the hull repairs were carried out in May, 1964. The machinery, pipelines, superstructural work etc. which were repaired departmentally were installed on board. After the initial trials and tests, the dredger was commissioned in September, 1965. The decline in performance of dredger 'Mormugao' in 1964-65 as compared to previous years is stated to be due to the repeated breakdown of her machinery, which is very old.

The Committee regret to note that dredger s.d. Governador which remained under repairs in Bombay from 21st January, 1964 to 9th May, 1964 (para 71) had again to remain inoperative for another 16 months (till September 1965) due to repairs carried out departmentally. The Committee are not happy that s.d. Governador should have been allowed to remain inoperative for a period of nearly 20 months. They would like the port authorities to investigate the matter with a view to take suitable remedial measures to avoid recurrence of such delays in future.

68. The expenditure incurred on the dredging operations during each of the above three years is as follows:

(Rs. in lakhs)

1962-63	16·59
1963-64	9·22
1964-65	20·45

The reasons for the increase in the dredging cost from Rs. 9·22 lakhs in 1963-64 to Rs. 20·45 lakhs in 1964-65 have been stated to be due to the larger volume of silt dredged during 1964-65 and on account of higher dry-docking charges during that year as indicated below:

(Rs. in lakhs)

	1963-64	1964-65
(1) Operational Expenses	2·97	3·65
(2) Dry-docking Expenses	6·25	16·80
	9·22	20·45

*Includes Rs. 13·45 lakhs for capital dredging amounting to 9,00,000 cu. yards which was done by a Dutch firm. Provision for capital dredging was made during the years 1963-64 and 1964-65.

Unit Cost of Dredging:

69. The unit cost of dredging by the dredgers during each of the last three years is given below:

Name of Dredger	1962-63	1963-64	1964-65
	Rs.		
s. d. Governador . . .	0·42	Out of commission	
s. d. Mormugao . .	0·35	0·27	0·19
s. d. Mandovi . . .	2·26	Rs. 1·51	Rs. 0·73
	per cu. yd.	per cu. yd.	per cu. yd.

The reasons for the difference in the cost of dredging are stated to be as under:

> "The dredger "Mandovi" is an oil fired trailing suction dredger. Her hopper capacity is 505 cu. yards while the dredger "Governador" is a coal burning suction dredger and her hopper capacity is 235 cubic yards. The third dredger is the grab dredger "Mormugao" of hopper capacity of only 75 cu. yards with a diesel engine. The difference in the unit cost is therefore due to the difference in their different capabilities."

The Committee welcome the declining trends in the unit cost of dredging from year to year. They hope that the dredgers would be utilised to their optimum capacity and careful watch would be kept on the cost of dredging with a view to reduce it further.

70. It has been stated that the approach channel was dredged from 28 to 30 feet by contract in early 1963 at the rate of Rs. 1·45 per cubic yard by a Dutch firm. The foreign exchange paid to the contractor for this capital dredging amounted to Rs. 4·10 lakhs. The channel has further been dredged from 30 to 32-33 ft. in 1965-66 departmentally by the new dredger Zuari, the cost of which is estimated to be Rs. 1·37 per cubic yard.

The Committee expect that the new dredger would be utilised fully and no occasion would arise in future to invite foreign firms for dredging. The Committee would like to stress the necessity of Indian ports becoming self-reliant in these matters and they hope that concerted attempts would be made by Government/port authorities to dispense with the necessity of calling in foreign firms to undertake dredging as far as possible.

B. Repairing Facilities

Marine Craft Repairing:

71. The workshop at Mormugao has only limited facility for undertaking routine repairs to machinery and equipment of the marine craft. It has a team for attending to structural repairs to steel work above the hull. There are, however, no dry-dock and slip-way facilities for undertaking extensive repairs to marine craft which have to be sent to Bombay for the purpose. It has been stated that port craft have been sent only to M/s Mazagon Dock, Bombay for repairs.

The particulars of the craft sent to Bombay for repairs during each of the last three years and the expenditure incurred on such repairs are shown in the table below:

	Period in Bombay	Cost of Repairs
		Rs.
1962-63		
1. Tug "Mocambique"	19-2-62 to 8-4-62	1,67,799
2. Dredger "Mormugao"	9-4-62 to 25-5-62	2,35,150
3. Dredger "Mandovi"	9-4-62 to 25-5-62	4,32,022
		8,34,971
1963-64		
1. Tug "Mocambique"	11-4-63 to 22-4-63	46,996
2. S. D. "Mandovi"	21-1-64 to 9-4-64	Bill to be settled.
3. "Governador" (part)	21-1-64 to contd.	Bill to be settled.
1964-65		
1. "Goverador" (part)	to 9-5-64	
2. "Mombique"	28-4-64 to 9-5-64	38,820

Outstanding Bills:

72. It will be seen from the above table that the repair bills in respect of dredgers "Mandovi" and "Governador" for the year 1963-64 are still to be settled. The reasons furnished by the port authorities regarding non-settlement of repair bills are that the disputes are "mainly connected with the rates charged for the steel work. Whereas it was agreed that a charge of Rs. 6,250 per ton of steel work would be levied, the firm (M/s. Mazagon Dock, Bombay) has included in their draft bill an average rate of Rs. 9,000 per ton.

The firm claims that the difference in charges is due to overtime work and for miscellaneous charges, normally connected with the replacement of plating."

It has been stated that the charges of Rs. 6,250 include a sum of Rs. 800, as the price of steel and the balance of Rs. 5,450 is charged for labour, overheads and supply of electrodes, rivets etc. It is the contention of the Port authorities that the labour and overhead rate should normally include an element of overtime and labour charges for attending to the removal and refitting of equipment attached to the plating. There has been no agreement between the firm and the port till date (January, 1966).

Asked whether open tenders were invited before the dredgers were sent to the Mazagon Dock for repairs, the Chairman of the Port Trust stated during evidence "No Sir. This is the simplest thing—public sector to public sector. Otherwise we have to go through the process of calling tenders, scrutinising them etc." It has further been stated in a written note that "open tenders were not invited since M/s. Mazagon Dock, Bombay are the only repair firm in Bombay who own their own dry docks. Even before liberation, the port crafts were being maintained by M/s. Mazagon Dock, Bombay."

The Committee note that bills of repairs carried out by Messrs. Mazagon Dock, Bombay to dredgers "Mandovi" and "Governador" in early 1964 have not been settled so far due to disputes mainly connected with the rates for the steel works. The Committee regret to note that such disputes have arisen due to lack of proper care on the part of the port authorities and feel that these could have been avoided if the port authorities had placed the work orders after inviting the quotations and entering into a firm agreement. They urge that these long outstanding bills should be settled expeditiously.

The Committee cannot help regretting the failure of the port authorities to invite open tenders for the repair and overhauling of the harbour marine craft even though they were aware that the repairs charges of M/s. Mazagon Dock, Bombay were high. They are not convinced with the reasons advanced by the authorities that "even before liberation, the port craft were being maintained by M/s. Mazagon Dock, Bombay" or that orders by a government undertaking should as a matter of course be placed only on a public undertaking without calling for tenders. The Committee would urge Government to issue necessary directions regarding the need to call for competitive tenders in all such cases. The Committee feel that such a system is necessary for the economic management and work-

ing of the public undertakings, which should be expected to do things more economically.

Remodelling of Workshop Facilities:

73. As already mentioned, the workshop facilities at Mormugao are very limited at present. It has been stated that programme of remodelling and increasing the workshop facilities has been drawn up and will be implemented in stages during the Fourth Plan period. The total outlay for remodelling the workshop with a view to making it adequate for carrying out repairs to the marine craft and the proposed mechanical handling plant is of the order of Rs. 41 lakhs with a foreign exchange content of about Rs. 10 lakhs. The break-up of figures is as under:

(a) Purchase of tools and plant. .. Rs. 29 lakhs.

(b) Construction of additional sheds. .. Rs. 12 lakhs.

The Committee note that a phased programme for remodelling and increasing the workshop facilities has been drawn up by the port authorities for implementation during the Fourth Plan period. The Committee have no doubt that care would be taken to see that the expansion programme of the workshop fits in with the larger requirements envisaged in the Master Plan.

C. Dry-docking Facilities

74. The Consulting Engineers in their Report have stated that "a dry dock for the craft belonging to the Port Trust has been included in Stage I of the development. If such a dock is not provided tugs and dredging plant will have to go to Bombay for docking and repairs. This procedure would result in craft being away from the port for such long periods that additional tugs etc. would be required for operating the port in the meantime. It is not considered that it would be satisfactory to combine this with the naval requirement."

Explaining the need for a dry dock in Mormugao the Port Trust authorities have stated during evidence that "all other major ports in the country have dry dock facilities for docking port craft. The Port of Mormugao will have 14 large crafts which require a dry dock by the end of 1969. Each vessel will be in the dry dock on an average of 3 weeks per year *i.e.*, for 6 monthly bottom painting, and cleaning and annual survey and repairs. Two or three of the smaller vessels will be docked at the same time. We estimate that the dry dock will be occupied by the Port's own craft for about 30 weeks in a year, 3 weeks will be lost in shifting blocks for preparing the dry dock for docking special craft. For about 19 weeks

the dry dock will be available for taking in large size ore barges now plying in Goa We expect that the dry dock will be fully utilised and the docking and undocking revenue will compare favourably with a similar size dry dock in use elsewhere. The port would save a considerable amount of money by way of reduced cost of repairs carried out departmentally and a lot of idle time of the craft will be reduced if comparisons are made between the dry docking facilities at Mormugao and the marine craft proceeding to Bombay for annual repairs. This saving will offset any imbalance in the economics of a dry dock."

The Committee suggest that early decision should be taken on the provision of dry dock/slip-way facilities at Mormugao Port keeping in view the repair requirements of marine craft and already available dry docking facilities in the neighbouring ports on the western coast.

D. Tugs

Need for Tugs.

75. It has been stated that the port is catering at present for about 700 ships in a year for the ore and other general cargo trade. Each ship during its stay in port and specially in stream moves about 3 times to enable it to load to its final loading drafts. It is stated that out of these 700 ships, nearly 200 ships berth alongside for loading and unloading cargoes. All the manoeuvres *i.e.*, berthings, unberthings, shiftings etc. are carried out in restricted waters for which the assistance of tugs is essential.

The Committee have been informed that it has not been possible to berth, unberth or manoeuvre vessels longer than 600 ft. alongside and 650 ft. in stream with the only tug available at the port which is of 850 H.P. Moreover, each berthing, or unberthing operation requires the assistance of at least two tugs. Since longer and deeper ships would be handled in the port in future, it has been stated that it will not be possible to do so unless powerful tugs are acquired. In addition to two powerful tugs of about 1,200 H.P. each, the port authorities feel that it would also be necessary to acquire two or three small tugs to tow the water barges, mooring barge or assist the country craft and other barges in difficulty in the harbour. The Committee have been informed that the need for acquisition of two tugs has already been accepted; but on account of non-availability of foreign exchange, order could not be placed on the lowest tenderer. The Chairman of the Port Trust has further stated during the course of evidence that "the gap between the lowest tender which was for Rs. 40 lakhs and the next higher tender which was

for Rs. 66 lakhs, was so wide that we wanted to try and find out the position in fuller detail". The Mormugao Port Trust have been asked by the Ministry of Transport to conduct negotiations with a firm in Singapore on deferred payment basis which are stated to be in progress.

Indigenous capacity for manufacture of Tugs.

76. As to the indigenous manufacture of tugs, it has been stated that indigenous capacity for the manufacture of tugs is available with a few Indian firms. The difficulty, however, is that most of the machinery required for the manufacture of tugs has still to be imported. In some cases, even the design and hull model tests have to be carried out abroad. Owing to the current shortage of foreign exchange, the Government is anxious to purchase all imported equipment, on deferred payment terms or under General Credits. The countries concerned are reluctant to supply machinery and equipment required for the manufacture of tugs, under defined payment terms or under Aid Credits.

It has further been stated that when tenders were advertised in April, 1964 the two Indian firms who submitted quotations, had stated that they were not in a position to undertake the construction of the tugs before 1967, owing to their yards being fully occupied with outstanding orders. Thereafter the period required for construction was 18 to 21 months. Moreover, the quotations for the tugs manufactured in India were 50 per cent higher than those manufactured abroad.

The Committee note that the tug requirements of the Port of Mormugao are at present estimated to be two tugs of 1200 H.P. and a few small tugs to tow the water barges etc. The Committee would like Government to review the position comprehensively regarding manufacture of tugs within the country so that as far as possible the requirements are met from indigenous sources. Effective measures should also be taken simultaneously to bring down the cost of indigenous tugs so that it is comparable with those manufactured in foreign countries.

The Committee would suggest that a comprehensive list of items of raw materials, stores and components which are difficult to procure at reasonable rates and are required to be imported, should be prepared and necessary steps taken to make them available in sufficient quantities for ship-building and repair industry. At the same time, Government should also draw up a phased programme for the indigenous manufacture of these items with a view to reduce the foreign component in the manufacture and repair of harbour craft as far as possible.

E. Hydrographic Survey Section

77. The Hydrographic Survey Section was set up in the middle of 1964. Its functions are stated to be as follows:—

(1) To take monthly soundings of the navigable areas of the harbour.

(2) To take current and silt observations as required.

(3) To take soundings of the areas dredged by the dredgers.

(4) To indicate the positions to be dredged to the Dredging Master.

(5) To indicate the correct position for the buoys etc.

(6) To check the position of the floating buoys etc. regularly.

(7) To carry out soundings of the various sections of the Mormugao bay.

(8) To carry out a full survey of the water areas under the jurisdiction of the port.

(9) To maintain the sounding equipment and gear in good condition.

(10) To check and maintain the daily registers of the rise and fall of tides at various tidal stations established in the bay.

The staff strength and organisational set up of the Hydrographic Survey Section are indicated below:—

Marine Surveyor	.. 1
Dy. Marine Surveyor	.. 1
Asstt. Marine Surveyors	.. 5
Senior Draughtsman	.. 1
Tracer	.. 1
Tide Recorders	.. 2
Tide Readers	.. 11
Lascars-II	.. 5

It has been stated by the Port Trust authorities that the existing strength and organisational set up will require augmentation as soon as the development work of the port commences.

78. Since the inception of the Hydrographic Survey Section the following works have been carried out by the Hydrographic Survey Section:—

(a) In addition to the routine soundings etc. the tidal, wave, current and silt observations have been carried out

regularly. All the data required by the Central Water, Power and Research Station for the preparation of the models of the Port of Mormugao have been collected and supplied

(b) The portions of the Cumbarjua Canal which require immediate development, have been surveyed for the State Government and the necessary data supplied to them.

(c) That portion of the Mandovi river which is being dredged by the port dredger had been surveyed and the results supplied to the State Government.

The estimated initial and recurring expenditure involved on the working of the hydrographic survey section are as follows:—

Estimated initial expenditure.	..	Rs. 3·66 lakhs.
Recurring expenditure.	..	Rs. 0·51 lakhs.

The Committee realise that with the proposed development of the port and particularly in view of the necessity and possibility of the extension of its jurisdiction over the inland waterways, the hydrographic survey section will be called upon to undertake study of larger number of problems in the coming years including the inland waterways which, the Committee expect will also come under the jurisdiction of the port authorities. They, therefore, suggest that the scope of the Survey Section should be expanded gradually to enable it to face the additional responsibilities ahead. The Committee also stress the need for close liaison between Hydrographic Survey Section of the port and the Central Water and Power Research Station, Poona so that the former is helped to develop on more scientific lines.

CHAPTER VI

IRON ORE

A. Export of Iron Ore

79. The mining industry in Goa, which is the backbone of its economy, was started in the year 1908 when many foreign companies specially French, and German started exploration for iron ores and manganese ores respectively. About 100 manganese and iron ore mines were opened and worked by the said companies but they had to suspend the work due to World War I in 1914. They abandoned the mines and returned to their countries and upto the year 1949 there was practically no sign of revival of these industries.

In 1949, due to some demands from abroad for manganese ore, many old mines were acquired by some enterprising people and new areas were explored. The iron ore mining was resumed in 1951. The following table gives the trend of the export of iron ore from Mormugao Port during each of the last seven years:—

Year	Iron ore exported (in tons)
1958	2,486,129
1959	3,359,398
1960	5,574,167
1961	6,458,518
1961-62	6,235,108
1962-63	6,119,191
1963-64	5,261,047
1964-65	6,269,500

80. The Committee have been informed during evidence that the Ministry of Commerce has formulated an "Iron Ore Export Plan",

which envisages an export capacity of 30 million tons in 1970-71. The main features of the Plan are as follows:—

State	Mining Area	Production (in million tons)	Port	Export Targets (in million tons)
Madhya Pradesh	Kiriburu	2	Vishakhapatnam	8
	Bailadilla	6		
Mysore	Bellary-Hospet	7	Madras	3
			Mormugao	4
Goa	Goa	6	Mormugao	6
Orissa	Tomka Daitari	2	Paradeep	5
	Nayagarh	3		
Orissa	Barabil-Banspani	2	Haldia	2
Mysore	Chitaldurg, Tumkur, Chikmangalur	2	Mangalore	2
				30

It will be seen that the target for export of iron ore by 1970 from the Mormugao Port has been laid down at 10 million tonnes, the highest for any port in India.

B. Export of Manganese Ores

81. The following table gives the figures of export of ferro-manganese ore and manganese ore from Mormugao Port during each of the last four years:—

1961-62	1962-63	1963-64	1964-65
83,348	74,062	123,480	170,924
35,341	13,310	17,120	42,905

The Committee are glad to note that exports of ferro-manganese ore and manganese ore have risen from 1,23,480 and 17,120 tonnes (in

1963-64) to 1,70,924 and 42,906 tonnes (in 1964-65) respectively, and they suggest that sustained efforts should be made to step up these exports.

C. Facilities for handling Iron Ore

82. The existing port facilities for handling iron ore at Mormugao include—

(a) Five alongside berths for loading and unloading cargo, out of which berths Nos. 3, 4 and 5 are suitable for handling iron ore.

(b) In addition berth No. 6 is equipped for loading of iron ore by mechanical installation. The mechanical installation is owned by a private firm Messrs Chowgule & Co.

(c) The draft available alongside the berths is 28 feet. Loading is permitted in the fair season upto 30 feet draft and 29 feet in monsoons, on the rise of tide on the day of sailing. On the berth, with mechanical loaders, loading is permitted upto 30 feet draft on the rise of tide on the day of sailing in monsoons also.

(d) Three protected moorings are provided in the shelter of the break-water for loading upto 24 feet, 29 feet and 30 feet on the rise of tide on the day of their sailing. Completion down to the load lines is done west of the break-water in the fair season.

D. Iron Ore Handling Plants

Existing Plant.

83. For mechanical loading and unloading of iron ore in bulk, an iron ore handling plant was installed by M/s Chowgule and Company at Mormugao Port in 1959 at a cost of approximately Rs. 1.5 crores and put into operation on the 14th April, 1959. The rated capacity of the plant at the time of its installation was 1.25 million tons per year but its actual performance since then is stated to have ranged between 1.2 and 1.5 million tons per year.

84. The terms and conditions governing the concession granted to M/s Chowgule and Company to instal the iron ore handling plant are laid down in Decree Law No. 41816 which has two annexures. Annexure I is an agreement between the Portuguese Government and the Port Authority and Annexure II is an agreement between the Portuguese Government and M/s Chowgule and Company, the

concessionaries. For working of the plant, Regulations were framed under Article 2 of the Decree.*

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*Some of the important terms and conditions incorporated in the Decree, Annexures and Regulations are as follows:—

(i) The concession was granted for a period of 36 years (clause 2 of Annexure II) as from the sixth month after the completion of berth No. 7 and allied works (21st March, 1958).

(ii) On the expiry of 36 years, the plant and all allied constructions would vest in the Port Authority free of charge (clause 27 of Annexure II).

(iii) The export of a minimum of the 1.25 million tons of ore per annum constituted the standard of efficient performance of the installation (clause 7 of Annexure II).

(iv) M/s. Chowgule and Co. were to retain not less than 60 per cent. of the ore stacking area for their own use and divide the rest into suitable plots for being leased to other exporters subject to the condition that each such plot should be capable of stacking 20,000 tons of iron ore (Articles 8 and 9 of Regulations).

(v) If berth No. 6 was likely to remain unutilised for a consecutive period of 10 days, the Port Authority could use the berth for other purposes free of charge (clause 16 of Annexure II).

(vi) If the plant was not used for ore handling and ceased to constitute a benefit to the Harbour it could be utilised for other purposes and the installation disposed of (articles 14 and 15 of Annexure I).

(vii) For a total area of 34,567.10 sq. metres, rent is to be paid at the rate of Rs. 800/- per 100 sq. metres per annum to be recovered from 20,000 sq. metres earmarked for storage of ore from M/s Chowgule and Co. and other users (clause 9 of Annexure II).

(viii) M/s Chowgule and Co. were entitled to recover for the use of the plant at the rate of Rs. 4/- per ton of ore handled out of which they were to retain Rs. 2-10as. for themselves and pay Rs. 1-6as. to the Port Authority. The amount of Rs. 2-10as. was subject to reduction to Rs. 2/- per ton after the installation had handled 36 million tons of iron ore and the reduction added to Rs. 1-6as. payable to the Port Authority (Clause 10 of Annexure II).

No loans were advanced to M/s Chowgule and Co. for the installation of the plant but assistance was provided to them by handing over berth No. 6 costing Rs. 55 lakhs and by constructing berth No. 7 and allied works at a total cost of Rs. 25 lakhs and by agreeing to maintain depths of 27 feet along berth No. 6 and 13 feet along berth No. 7. At present the users of the plant are:—

(i) M/s. Chowgule and Company;

(ii) M/s. V. S. Dempo and Company; and

(iii) M/s. V. M. Salgaocar and Bros.

The users of the mechanised iron ore handling plant are charged @ Rs. 4/- per ton of which Rs. 1·37 P. is paid to the Port authority towards port dues.

85. The Study Group have been informed during their visit to the Port in October, 1965 that there was a proposal to improve the loading capacity of the existing plant of Messrs Chowgule & Co. from 600 to 1000 tons per hour. This involved the extension of the existing plot towards the east, providing an additional reclaimer to step up the present capacity of the reclaimer from 300 tons to 600 tons per hour, providing an additional barge unloader, extending the arm of the loader by 20 ft. to enable it to load deeper steamers and improving the conveyor belt system and other mechanical equipment. It is stated that out of the above proposals only that part involving the belt system and the extension of the arm of the loader has been implemented. This has the result of increasing the loading rate to about 750 tons per hour with effect from January, 1966.

Regarding the question of further increasing the capacity of the plant to 1000 tons per hour, the Committee have been informed that "the modifications as proposed (by M/s Chowgule & Co.) were estimated to cost Rs. 60 lakhs. The desirability and feasibility of modifying an existing plant at such a high cost just to have a slight increase in the loading rate, has been reviewed by the technical officers concerned; the problem as to who should carry out and finance the operation is another question that needs to be solved. From the various opinions collected, there is broad agreement that carrying out costly modification on existing plant with a view to getting a slight increase in the loading rate would not be desirable. The correct approach to improving the rate of loading at the Port of Mormugao would be to instal the new Mechanical Ore Handling Plant along with a deep drafted berth as soon as possible. Another disadvantage in merely increasing the loading rate to 1000 tons per hour is that it does not solve the problem of handling deep drafted ships alongside the existing berth".

86. The Study Group of the Committee during their visit to the port have been informed by the port authorities that the existing plant of M/s Chowgule and Co. can continue so long as there is work for it can attract the ore or pellets to it. If a stage arises when the plant has no work, the Port Trust may consider negotiating with its owner for taking over the plant at a reasonable cost. There is also a possibility of the plant being modified for use for unloading incoming coal. The details for this modification have, however, to be gone into further.

In this connection the Consulting Engineers have proposed in the Master Plan that "when it is no longer required for handling iron ore the existing mechanical loading plant should be slightly modified to handle small imports of coal and the 300,000 tons of coke per annum required for the proposed Pig Iron Plant to be sited in Goa. In Stage II when the new coal, limestone and coke unloading istallation is operational it is then proposed to transfer these commodities to that plant and to again modify the existing mechanical plant to handle only the fine ore removed by the ore screening operation.."

As to the taking over of the plant by Port authority it has been stated that the agreement with M/s. Chowgule and Co. provides that on the expiry of 30 years the plant and all allied constructions would vest in the Port authority free of charge. If however, the plant is taken over earlier compensation as per formula mentioned in the agreement will have to be paid.

The Committee would like the capacity of the existing ore handling plant to be increased to the optimum level by providing necessary components and equipments, keeping in view the investment and its effect on ore handling charges and the ultimate use to which this iron ore handling plant would be put, after the installation of the bigger ore handling plant.

New Ore Handling Plant.

87. In the Master Plan, the Consulting Engineers, M/s. Rendel, Palmer and Tritton have provided for the installation of a new ore handling plant to take alongside ships of 60,000 tons d.w.t. with a draft of about 40 to 42 feet. The total cost of equipment and erection based on the report of the Consultants is estimated at about Rs. 420 lakhs, with a foreign exchange component of about Rs. 320 lakhs. for the plant capable of loading 3000 tons per hour. It has been stated that the plant would be capable of handling about 8 million tons of iron ore per year to start with and be capable of expansion

to handle about 12 to 14 million tons per annum. The notable features of the proposed plant are stated to be as under:—

(a) Ten barges unloading berths with garb unloaders each capable of handling 300 tons per hour;

(b) Four bucket wheel reclaimers each capable of handling 1500 tons per hour;

(c) 2 ship loaders on one berth, each capable of 3,000 tons per hour; and

(d) About 5 kilometres of conveyor system that would connect the barge unloading facilities with stocking plot and from the stocking plot to the skyloaders.

It has been stated during evidence that the various problems connected with the plant design and layout will be carried out by the new Consulting Engineers (M/s. Howe India (Pvt.) Ltd.) who will carry out detailed designs study which will indicate the precise lay-out of different installations, such a barges, berths, stacking areas, loader berths, type and kind of equipments, etc.

88. Asked during evidence whether Government had undertaken any comparative study of the iron ore handling plants being installed at Mormugao, Vishakhapatnam and Paradeep with a view to determine the most efficient units, it has been stated that "the iron ore handling facilities at Vishakhapatnam, Paradeep and Mormugao are not easily comparable. The ore is transported to Vishakhapatnam by rail, to Paradeep by road and at Mormugao principally by barges. The ore handling plant at the unloading stages has therefore to be of different nature for each type of transport *i.e.* suitable for unloading of wagons, trucks and barges. A comparative study of this system is by itself not feasible. The common features between the 3 mechanical loading plants would be in respect of:—

1. Stockpile conveyors.
2. Conveyor system.
3. Ship loaders.
4. Transfer points.
5. Sampling arrangement.
6. Interlocking and control system.
7. Screening plant (if required).

The design of the above equipment depends to a large extent on the rate of loading required at each particular port, ex. the loading rate at Vishakhapatnam is designed for 2,600 tons per hour and similar rating has been specified for Paradeep. But in the case of

Mormugao the new Mechanical handling plant will have to be designed for a theoretical loading rate of 6,000 tons per hour to obtain net loading rate of 4,000 tons per hour. The design of the reclaimers, transfer points and the conveyor system varies with the different rates of handling required. For medium rates of handling Shovel reclaimers may be suitable but in case of a very high loading it may be necessary to go in for Bucket wheel reclaimers, which are a costly and sophisticated type of equipment.

The overall layout of a mechanical plant largely depends on the land available for stacking in close vicinity of the deep water berth. In case of Vishakhapatnam and Paradeep there have been no restrictions in selecting stocking areas in the close vicinity of the port, whereas in Mormugao the stocking areas have to be located away from the water front in view of the limited flat land available adjacent to the berth."

The Committee understand that Australia, which is one of our major competitors for export of iron ore to Japan, is developing facilities for mechanical ore handling at a rapid rate, particularly in Western Australia. If India is to maintain its position in the export market, particularly in regard to Japan, it is imperative that no time is lost in modernizing the port facilities for handling of iron ore and in installing mechanised ore handling plants, as required. The Committee consider that as the rate for loading ore and the port dues play an important part in determining the competitive price of the ore, every care should be taken to see that the design of the new iron ore handling plant at Mormugao is such that it ensures utmost economy and efficiency in operation. This should not be difficult as Government have by now the experience of a number of ore handling plants at Vishakhapatnam, Paradeep and Madras. The Government should also ensure that the new ore handling plant is installed without any avoidable delay so that timely facilities are available for achieving the targetted export of 10 million tons of ores by 1970.

E. Ore Handling Charges

89. In a recent study of the 'Cost Price Structure of Iron Ore', made by the National Council of Applied Economic Research, it has been stated that port charges account for 16 to 35 per cent of the total F.O.B.T. cost of iron ore depending on the source of supply and port of export. The figures of port charges per ton of iron ore at various Indian ports are shown in Appendix VIII. For the sake of

ready reference, particulars in respect of main ore-exporting ports are given below:

Name of the Port	Total port charges
	(in Rs.)
Mormugao—Mechanised berth—	
to Chowgule	2·25
to others	4·88
Other berths	6·37
Midstream	2·50
Clacutta—Loaded directly from wagons—	
5 K.G.D.	12·53
G.R.J.	12·01
Others	11·31
Loadedfrom Sonai Plot—	
5 K.G.D.	18·00
G.R.J.	17·12
Others	16·78
Paradeep (after Orissa Mining Corpn.)	8·93
Vishakhapatnam—Jetty	5·63
Madras	12·93

It will be seen from the above that ore handling charges vary considerably from port to port. The variation ranges from Rs. 2·50 per ton for mid-stream loading at Mormugao to Rs. 18·00 per ton for ore loaded from Sonai plot at Calcutta.

90. The Study Group of the Committee which visited the port in October, 1965 desired to know the estimated handling charges at the new ore handling plant to be installed at Mormugao. In reply it has been stated that "based on the approximate costs supplied by M/s Rendel, Palmer and Tritton and other factors taken into account by us, the approximate cost of handling 8 million tons has been worked out to be about Rs. 4 per ton. The approximate cost of handling at the plant operated by Chowgule's is Rs. 2·63 per ton. It would, however, not be correct to compare the rate arrived at by us for the new plant with the present rate as our plant will be capable of loading 60, 000 tonners in 24 hours, whereas Chowgule's will not be able to load such ore carriers at all as these steamers cannot get alongside

it. It is also to be noted that the plant of Chowgule's can load only at the rate of about 7000 to 9000 tons per day as against our proposed capacity of 60,000 tons per day. By loading at this high rate there will be a very substantial saving in the freight element of ore (3½ dollars per ton) as it will save a considerable amount of valuable time of the ore carriers and bring down the C.I.F. cost of ore."

91. In the study made by the National Council of Applied Economic Research referred to above, it has been estimated that "with deep-water ports, equipped with rapid bulk loading facilities ocean freight would also be reduced appreciably. Thus with a 60,000 tonner, ocean freight to Japan is likely to be 52 per cent lower and with a 30,000 tonner 21 per cent lower to Europe. While the above costs are reduced, the mining cost as a proportion of the F.O.B.T. would tend to go up. However, the end cost of Indian ore in Japan would be lower by 34 to 40 per cent and 21 to 28 per cent in Europe. With these, Indian ore would be quite competitive in Japan as well as in Europe".

92. The Committee would also like to refer to the observations made by Shri S. Kasthuri, Director (Mechanical) Ministry of Transport, Government of India, in a paper* on "Iron Ore Exports and Port Facilities", wherein he has stated that he "was amazed to learn from L.A.M.C.O authorities that the total cost of production, processing, rail transportation, stockpiling and shiploading of ore from the Nimba mines through the port of Buchanan with a rail haul of 170 miles worked out to $ 1·87 *i.e.* Rs. 9 per ton. This cost included Rs. 4·80 per ton spent on social services such as establishment of two townships at the mine and port respectively and amenities for personnel having to work in isolated areas far removed from civilisation, but was exclusive of amortisation charges or interest on the overall investment of $ 220 million *i.e.* Rs. 105 crores".

The Committee note that one of the main reasons for Mormugao Port loading other ports in India in the export of ores hitherto has been its competitive rate for ore handling. Now that the export target of 10 million tons of ore has been fixed for Mormugao in the next Plan period, the Committee would like the Government to ensure that the competitive nature of the handling charges at this port is not adversely affected by the developmental expenditure. The Committee see no reason why it should not be possible to achieve comparable economy in transport and handling charges of ore at Mormugao specially when the lead from the mines to the port is less than 100 kilometres and the port is so well served by inland waterways.

*Presented at the Sixth Shipping and Shipbuilding Conference, Bombay 11 February, 1966.

As stated earlier in para 89, the ore handling charges in Indian ports vary considerably from port to port. These charges are also higher as compared to foreign ore-exporting ports. Since these high charges are likely to affect adversely the exports of Indian ores, the Committee suggest that the Ministry of Transport in conjunction with the Ministry of Commerce should make a comprehensive and comparative study of handling charges of ores prevailing in the various Indian ports and in foreign ports with a view to reduce the overall costs of handling of ores at Indian ports.

F. Ore Stacking Area

93. The Consulting Engineers have stated that "an area of some 25 acres will be needed to stack one million tons of iron ore. This area will best be obtained by cutting into the hillside. Approximately 4 million cubic yards (3 million cubic metres) of earth will have to be excavated and this can be used to provide valuable reclaimed land for later stages of the development. The whole of the stacking area will not be wanted immediately, an area sufficient to hold 500,000 tons may be excavated as a first stage and the stacking and reclaiming machinery installed. Extension of the yard to its full capacity can be effected by utilising the bucket wheel reclaimers as excavators and arranging for them to load into Euclid or similar wagons for transport to the area to be reclaimed. Rock, if encountered, will have to be well shattered by blasting. The ore reclaimers will only be handling iron ore whilst a ship is being loaded. There will be many days during which no ship is at the jetty and it is estimated that two million cubic yards of earth could be loaded by them in nine to twelve months without interfering with the iron ore traffic."

The Study Group which visited the port in October, 1965 have been informed that the main modification suggested as a result of departmental study of the Consultants' Report was to locate Ore Stock Pile on the top of the hill instead of by cutting into the hill. The iron ore from the stacking areas to the proposed iron ore handling plant would be conveyed by belt conveyers. The question of feeding the belt conveyers advantageously and economically at the requisite rate would form a part of design study by the new Consulting Engineers. During the course of the evidence the Chairman of the Port Trust stated that "it is true that if we go by cutting into the hill, that would cost us Rs. 3 crores. So we decided to stockpile the ores on the top of the hill itself as it would lead to a saving of Rs. 2.75 crores. The Consultancy Board said that if we go to the hill, conveyer belts required would be little longer, the operational

cost also would be very little extra. Capital cost would be less by 2·75 crores while the work will be done quicker.

The Committee hope that the design studies regarding the location of the ore stacking area would be completed expeditiously by the Consultants keeping in view the technological advances made in the mechanical handling of iron ore and the arrangements made for the efficient handling of iron ore in other principal iron ore exporting countries viz. Africa, South America and Australia so as to achieve maximum economy in the cost of handling consistent with optimum loading.

CHAPTER VII

HANDLING EQUIPMENTS

A. Cranage Facilities

94. The cranage facilities available at the port include:

14 quay cranes—Nine 3-ton (electric cranes). Four 2 1/4-ton (steam cranes). One 30-ton (steam crane).

3 other cranes—One mobile 6-ton (electric crane). One 5-ton (electric crane). One 2 1/2 ton (electric crane).

During the course of the visit of the Study Group in October, 1965 the port authorities stated that "our cranage facilities are woefully inadequate. For realisation of optimum capacity of each of the berths, cranage facilities will have to be augmented in addition to the replacement of old and obsolete steam cranes. Apart from augmentation of cranes of 3-ton capacity we also require a higher capacity crane at each of the three berths for handling heavy lifts of upto 6 tons also".

It has been represented to the Committee by some non-official organisations that "cranes at berths Nos. 1 and 2 are steam cranes which are too old and unserviceable. These should be substituted by electric cranes similar to those at other berths."

Steam Cranes.

95. The performance of the steam cranes is stated to be not satisfactory because of frequent breakdowns and the necessity for coaling and stoking the 2 1/4 ton cranes. By working round-the-clock the cranes are able to handle not more than 600 tons. It has been stated that if they are replaced by 3-ton electric cranes, the capacity of the berth could be raised to at least 1200 tons per day.

The performance of the 30-ton steam crane is also stated to be not satisfactory. Apart from its age and its obsolete design, it has not been possible to maintain the capacity of the crane to its rated capacity. Due to frequent breakdowns, the weight of the loads to be handled by this crane often had also to be restricted

Explaining the reasons for frequent breakdowns of the steam cranes the Committee have been informed during evidence that "the steam cranes are over 52 years old and by all standards they have served their useful life. The various moving parts including gear wheels etc. are badly worn out and replacement spares are not easily available. The structure of the cranes is also badly corroded and has to be replaced in small portions at a time....No statistics of the gang hours lost due to the breakdown of the steam cranes have been accurately maintained. A rough estimate of the gang hours lost would be in the vicinity of 200 hours per annum."

Replacement of Steam Cranes.

96. It has been stated by the port authorities that limited tenders from rupee payment countries were invited for the replacement of all the steam cranes. M/s Nikex of Hungary and Jessops of Calcutta tendered for the replacement of four 2½ ton steam cranes by four 3-ton electric cranes. The total cost of cranes as quoted by Nikex is Rs. 13,40,600 while that quoted by Jessops is Rs. 20,61,000 subject to escalation. The delivery period quoted by Nikex is 12 to 15 months ex-works, while that quoted by Jessops is 22 to 24 months after receipt of all materials at their yard. Giving further information during evidence, the representative of the Port Trust has stated that the release of required foreign exchange to import these cranes has just been received and that firm orders will be placed on M/s Nikex of Hungary as soon as import licence is received.

As regards replacement of the 30-ton steam crane by an electric crane, it has been stated that only M/s Nikex have quoted for this crane and its tendered cost is Rs. 6,85,000 F.O.B. European port. Orders for this crane will be placed as soon as the foreign exchange is secured by the port authorities.

Electric Cranes.

97. In a written note furnished to the Committee, it has been stated by the port authorities that out of the nine 3-ton electric cranes, four cranes at berth Nos. 3, 4 and 5 are "over 30 years old. One out of these nine cranes, in rotation, is always under overhaul so that, in fact, we have only 8 electric cranes working at any one time. This means that there are 3 cranes available at two of the berths and only 2 at the third berth."

It has been added that apart from the replacement of steam cranes, "there is a proposal to provide three 3-ton electric cranes and

three 6-ton electric cranes, which is under examination by the Government. Global tenders were invited for the three 6-ton cranes. The lowest tenderer was Nikex (Hungarian Trading Company). The total outlay according to this company's tender comes to Rs. 10½ lakhs, including foreign exchange component of Rs. 8 lakhs, while that of Jessops comes to Rs. 18,00,000 including a foreign exchange component of Rs. 90,000. The delivery period of Nikex is 12 to 15 months F.O.B. foreign port while the delivery period quoted by Jessops is 22 to 24 months after the receipt of all raw materials at their works."

The port authorities are also proposing to acquire 2 mobile cranes of 12 and 7½ tons capacity indigenously manufactured at an estimated cost of Rs. 4.75,000. The tender for the purchase of those cranes has been approved by the Trustees and forwarded to the Government.

B. Repair and Maintenance of Cranes

98. The Committee have been informed during evidence that the arrangements for repairs and maintenance of cranes are adequate and that proprietory spares such as boilers, main gear wheels etc. have to be procured from indigenous sources at very high prices. Regarding the expenditure incurred on the maintenance of the cranes it has been stated that no separate account of expenditure is being maintained for each crane installed in the harbour. The repair work is carried out departmentally by the port workshop. The expenditure for the 3 years which includes the supply of coal and the maintenance of 9 electric cranes is as under:

1962-63	..	Rs. 1,25,437
1963-64	..	Rs. 1,42,040
1964-65	..	Rs. 1,38,337

As the working of cranes is of crucial importance in ensuring quick handling of goods and turn-round of ships, the Committee cannot too strongly stress the need for maintaining them in efficient working condition. They are glad to note that action has already been initiated by the port authorities to improve the crane maintenance facilities by expanding and modernising the workshop facilities.

The Committee note that plans have been drawn up for replacement of old cranes and for installation of some new cranes. Government are, however, finding it difficult to meet their crannage requirements from indigenous sources at reasonable competitive rates. The

price quoted by M/s Jessop & Co. for four 3-ton electric cranes is Rs. 20·60 lakhs with an escalation clause against Rs. 13:40 lakhs of firm quotation by a Hungarian firm (*i.e.* about 54 per cent lower than Jessops). Further the period of delivery given by Jessop & Co. is also much longer, being 20—24 months against 12—15 months quoted by the foreign firm. While the Committee desire the country to become self-sufficient in the manufacture of cranes and other related equipment, they would like to sound a note of caution that self-reliance should not mean indigenous manufacture at uneconomic prices. The Committee recommend that Government should devise effective measures to reduce the costs of indigenous manufacture of cranes so as to make them comparable with imported ones. For this purpose a comprehensive review of the available manufacturing capacity within the country may be made by Government and a phased programme drawn up for the manufacture of cranes at competitive rates and with reasonable delivery periods.

CHAPTER VIII

RAIL/ROAD COMMUNICATIONS

A. Railway

99. In the whole of Goa territory, there is only one metre gauge railway line, extending from Castle Rock to Mormugao Harbour—(78·8 kms. in length). It links up with the Southern Railway at Londa on the Bangalore-Poona Section.

This line was known as the Western India Portuguese Guaranteed (W.I.P. Rly.) and was worked by the Southern Railway under agreement with the Portuguese Government. The Southern Railway stopped working of this branch line from the 1st January, 1956 when the Portuguese Government took over the management. Both passenger and goods traffic with the rest of the country were cut off from that date. After liberation, the section between Vasco-da-Gama to Castle Rock was transferred to the Southern Railway with effect from the 1st May, 1963, along with service buildings, staff quarters and allied structures located in that section and a part of the rolling stock. The section from Mormugao Harbour to Vasco-da-Gama was retained as Port Railway and is being administered by the port authority.

Determination of Railway Assets and Liabilities

100. It has been stated that no financial settlement regarding the assets and liabilities pertaining to the portion transferred to Southern Railway have yet been determined. In this connection, the Port Trust authorities have furnished the following information:

> "To facilitate the valuation of the assets transferred to the Southern Railway so that financial settlement could take place, it was proposed in 8/63 that a Committee of officers of the Port and the Railway be appointed for the purpose. This did not, however, materialise. At a meeting held on 11.6.1964 the Dy. F.A., Southern Railway stated that before the question of financial adjustment was considered the Railway Board desired that a full list of assets taken over by the Southern Railway should be drawn up in sufficient detail and the original booked cost of each item

should be ascertained. For this purpose, a complete inventory of assets as on 31.12.1955 when the railway line within the Goa sector ceased to be operated by the Southern Railway, was already available with the Southern Railway for the entire railway line in the Goa sector. The details of cost of individual assets, however, were not available but the total value of the assets at the charge of capital as on 31.3.1954 was available. It was desired by the railway representative that the details of further assets created after December, 1955 should be made available by the Port Administration. It was pointed out by this Administration that at the time of the taking over of the Collemen-Vasco-da-Gama section by the Southern Railway lists of movable assets and stores which were being transferred had been prepared and signed by the officers handing over and taking over. It was also pointed out that very little information regarding the original cost of the assets acquired or constructed prior to 1.4.1961 was available with the Port Administration. Besides the most important item is the construction of the railway from Vasco to Goa border including bridges, tunnels, etc. As expenditure on this was incurred between 1882 and 1901, it is doubtful if the original cost could now be ascertained. In this context it was felt that ascertaining the cost of individual assets created prior to 1.1.1956 would present a major problem.

The Railway authorities agreed that the handing over lists referred to above would be examined and that the Port Administration would be informed of the items, the original cost of which was required to be ascertained by the port. In view of the aforesaid difficulties this Administration suggested that the financial settlement should take place on the basis of the current market value of the assets transferred.

The Railways, however, insisted that the original booked cost of each item should be ascertained and as the booked value of the individual assets created prior to 1.1.1956 was not available (only the total booked value of the assets as on 1.1.1956 being available) a detailed examination of the records available with both the Port Administration and the Railway might help in ascertaining the booked cost of individual assets. This matter remains inconclusive.

Another meeting was held in October, 1964 to assess the nature, scope and magnitude of the work involved in the matter of evaluation of the assets transferred and to decide upon the manner in which the work should be begun.

We once again reiterated our view that the financial settlement should take place on the basis of the current market value of the assets transferred. It was suggested that the current market value could be assessed by competent personnel on the basis of the latest available information on the cost of similar assets and the extent of depreciation warranted by the state and age of the assets. Two methods of ascertaining the present day value was suggested:

(1) to take the book value of the assets, appreciate them to the current market value and allow depreciation depending on their life and other factors;

(2) to assess the cost of the assets in terms of the present day value and allow depreciation depending on the life and other factors. The former course would require details of precise cost of the assets as booked in the records, which are not available with the port authority. The Southern Railway also does not have similar details. It, therefore, appeared inescapable to follow the second line of valuation. The Railway representative agreed to examine this further in the light of details and records available with the Railway and the policy adopted by the Railway Ministry from time to time in taking over such railway units from other agencies including the former French Settlements.

Notwithstanding the final shape of valuation that may be decided upon, it was agreed that the preliminary work of valuation should be completed by 31-12-1964.

It has been reported by the Financial Adviser and Chief Accounts Officer, Southern Railway, Madras, in September, 1965 that the list of assets taken over has since been prepared and is under verification. Thereafter they propose checking the same with the list of assets available with the port for the period ending 30-4-1963. They have further stated that the detailed costs of the assets are not available with them and hence they propose to extract the information from the records of the port wherever available. For this purpose, the Railway intend deputing

their staff to this Port to verify the lists and to collect the other available data.

The principles which should govern the financial settlement have, however, not yet been advised by the Railways."

The Committee are distressed to note that in spite of several discussions held between the port and railway representatives, it has not been possible to decide the principles which should govern the financial settlement of the assets and liabilities in respect of railway section beyond Vasco-da-Gama which was transferred to Southern Railway in May, 1963. Since there is a basic difference in the viewpoints of the representatives of railways and the port administration regarding the valuation of assets transferred to the railway, the Committee would suggest that a high level committee consisting of representatives of the Ministries of Finance, Transport and Railway Board may be appointed to settle the assets and liabilities. The Committee need hardly stress that the matter should be settled early at any rate before the closure of next financial year (1966-67).

Transportation of Iron Ore by Rail

101. The quantity of iron ore which has been moved by Railways during each of the last three years is given below:

1963	2,57,064 tons
1964	3,60,991 tons
1965 (upto 27th Nov.)	5,13,225 tons

As to the railway arrangements for the transportation of iron ore from the interior to the port, it has been stated that the section Castle Rocken-Collemen-Mormugao, which serves the port of Goa, has a limited capacity as it passes over a ghat section between Castle Rock and Collem. The load of trains on the ghat section in the ascending direction i.e. from Collem to Castle Rock is severely limited. The load of trains is also limited to some extent in the reverse i.e. the descending direction to conform to the requirements of brake-power for the trains.

102. When the metre gauge section in the territory of Goa was taken over it was found that the track had to be rehabilitated and bridges had to be strengthened before it could be put to intensive use for heavier movements. While these works were taken in hand immediately, action was also taken to build more crossing stations so that more trains could be run. It was also simultaneously decided that some of the diesel engines on order for Southern Railway for

augmenting capacity on other metre gauge sections should be used over this difficult sec ion so that loads of trains could be increased. All possible steps were thus immediately taken as soon as it became known to the Railway that they would have to serve Goa in an increasing way. The steps have now been completed and the track has been rehabilitated, bridges have been regirdered and diesel engines have been put on to work goods trains over the sections concerned.

It has been further stated that the pattern of traffic to and from Goa has now undergone a considerable change. A movement capacity of 120 loaded wagons or a net freight of about 1650 tonnes a day from Castle Rock and about 60 loaded wagons carrying a net freight of 850 tonnes from Goa by running threa diesel trains besides the existing steam trains have become available. The Railways have stated that the process of replacing the existing steam engines by heavier class of steam engines will be taken in hand, on completion of which a movement capacity of clearing 200 loaded wagons or a net freight of 2800 tonnes daily from Castle Rock to Goa and about 100 loaded wagons *i.e.* a net freight of 1400 tonnes from Goa to Castle Rock will become available. In the first phase, the existing capacity of movement of 70 wagons per day of ore from the internal sources of iron ore in Goa, *i.e.* Collem, Kalay and Sanvordem to Mormugao will also be increased to 90 wagons a day. There will, thus, be a considerable increase in the capacity of movement both to and from Goa shortly under a process which has already been set in motion. As a result of the increase in the capacity, against the target movement of 1.5 lakh tonnes of iron ore and 0.25 lakh tonnes of manganese ore from Bellary-Hospet and Londa sectors to Goa last year, a movement target of 7.5 lakh tonnes of iron and manganese ore from these sectors for the current year *i.e.* from October onwards, has already been accepted. The increased capacity of movement in the direction to Goa will thus provide a greater outlet for ore from the interior for export to other countries via Mormugao.

During the course of evidence the representative of the Railways has further stated that "So far as Railway transportation is concerned, there is no difficulty. There is no difficulty. There is no complaint either. It should be possible for us to move the targeted quantity. There was some paucity of demand and also inadequate loading arrangements on the area where iron ore is being loaded near about Hospet. We persuaded them to load for longer hours from 6 O' lock in the morning to 22 hours. We expect that if loading is done for longer hours it will be possible to increase the flow of iron ore into the port and consequently the export thereof."

The Committee are glad to note that the Railways have been able to handle the increased movement of iron ore to Mormugao Port from 2.6 lakh tons in 1963 to over 5 lakh tons in 1965 (upto November).

Conversion of Metre Gauge into Broad Gauge

103. It has been stated that as a result of the necessity to anticipate and provide for the future transport needs of the country regarding rail borne traffic, the Railway Board has already undertaken a survey for the work of conversion of the metre gauge connection to Mormugao into a broad gauge one. The representative of the Railway Board has stated during evidence that "the conversion of rail line between Poona and Miraj from metre gauge to broad gauge is in progress. The target date for completion is December, 1967. As regards further conversion beyond Miraj, the traffic possibilities and the feasibility of conversion from Miraj to Mormugao and from Londa to Hospet etc. are being surveyed from engineering and from traffic point of view. Final decision on the extent of the conversion of the line upto Goa will be taken depending upon the results of the Survey".

The Committee have no doubt that the traffic survey being carried out by the Railways, would fully take into account the quantum of ore which is to be carried by rail to Mormugao Port to achieve the estimated export target of 10 million tons by 1970. The Committee would urge early completion of the survey report so that timely decisions can be taken and implemented, to increase the rail capacity commensurate with the export requirements of Mormugao Port.

B. Roads

Difficulties in Transportation of Ore by Roads

104. Goa has 924 mileage of road system, of which 21.3 per cent only are surfaced. Sections of some of these roads are used for transporting mineral ores either to rail heads or to river points for onward despatch to the harbour.

A representative of a non-official organisation has stated that "the conditions of all the roads which are used for the transport of ore from the mines to the respective railway station or river points, are in a horrible state. The movement of the vehicles through these roads, without any exception, being harder and harder every-

day and if proper measures are not taken immediately, the roads will be absolutely unfit for transport in a very short time."

It has been stated in the Report of the National Council of Applied Economic Research on the Techno-Economic Survey of Goa, Daman and Diu (1964) that "most of these roads have not been maintained properly in spite of the fact that the Government has been collecting a tax of 50 paisa a ton of ore for the last eight years. It is said that the collection amounted to Rs. 30 lakhs in 1961 alone. The bad condition of the roads not only results in breakdowns and heavy repairs to vehicles but also retards movement. It is estimated that if the roads are in proper condition the vehicles could make more trips and carry 30 per cent more traffic."

The Committee have been informed that most of the roads on which the ore is transported from the mines to the barge loading points belong to the mine owners themselves who prepare the roads and maintain them to standards which suit the running of their own trucks. In certain cases, however, the trucks transporting ore from the mines to the barge loading points have to cross or go over roads owned by P.W.D. or local bodies. Some of the portions of these roads belonging to the P.W.D. and local bodies are maintained to fairly satisfactory standards while others need some improvements. Recently, some of the portions of the roads belonging to the mine owners and also to the P.W.D. and local bodies etc. have been improved by providing suitable road surface including asphalting of the surfaces in certain cases.

The Committee consider that efficient road link between mine pit-head and loading jetty points is imperative for quick transport of ore to the Port. The Committee note that according to the National Council of Applied Economic Research the vehicles can carry 30 per cent more traffic if the roads are maintained in a proper condition. The Committee feel that as the Government have been collecting a tax of 50 paisa per ton on the ore for the last eight years, they should have developed the roads by utilising the tax collected. The Committee would suggest that a detailed plan for improving the road link between the iron ore mines and the loading jetty points may be expeditiously drawn up by Government in consultation with the users keeping in view the export target from the port and implemented at an early date.

Approach Road to Port

105. It has been represented to the Committee by a non-official organisation that there is only one road connecting the harbour

with the city. This road is narrow and winding with many sharp turns. It is in dilapidated condition and is not adequate for the requirements of the port. The road runs alongside the North-Eastern part of the hill following the hilly contour which is 2-3 miles long. It is an asphalted road with a width of 14 to 15 feet and is under the administrative control of the State P.W.D.

It has been stated that matters relating to widening and re-aligning of the road have been discussed with the representatives of the Goa Administration on a number of occasions. The question of the road being taken over by the Port Trust is also under consideration. A final decision will be taken after the location of the ore stocks is finalised by the Consultants after which permanent alignment of the road with proper width will be fixed and improvement of the road carried out.

The Committee regret to note that sufficient attention has not been given to the proper maintenance of the approach road to the port. They would urge that the question of widening and realigning the road should be taken up with Goa Administration on priority basis.

In view of the fact that this road largely feeds the traffic to the port, the Committee would also emphasise that the question of taking over the road from Goa Administration should be finalised expeditiously so that it may not remain in a state of disrepair due to uncertainty on this account. The Committee feel that due to paucity of funds with Goa Administration and in view of the fact that this road is mostly used for port traffic, it may be desirable for the port to take it over.

CHAPTER IX

ESSENTIAL SERVICES

A. Power Supply

106. The electric power for the port is at present being purchased at 20 paisa per unit from M/s. Chowgule & Co. who are the licensees for the supply of power in the area. The existing installed load of the port equipment is about 1,000 KW but the peak demand is around 200 KW only. The power supply arrangements are considered by the port authorities adequate to meet their current needs.

It has been stated that to cater to the needs of power for additional electric cranes which are proposed to be acquired, a provision of Rs. 50 lakhs for installing a thermal generating set was made by the port authorities in the budget estimates for 1965-66. The anticipated requirements, however, did not materialise because the proposal for the acquisition of electric cranes was not approved by Government.

The port authorities now anticipate that the bulk power supply will be made available from Sharavati by the time, the additional electric cranes are received, installed and commissioned in another 15 to 18 months' time. If there be a change in the completion schedule for the supply and distribution of Sharavati power, the port will make arrangements to instal a thermal generating unit of about 300 KW capacity.

In a written note furnished subsequently, the port authorities have informed the Committee that the position regarding the supply of power from Sharavati is somewhat uncertain at present and that no realistic commitments have been received from the Government of Goa.

It has further been stated that the power requirements of the port in the next 5 years which are estimated to be of the order of about 12 to 15 m w have been included in the overall power requirements of Goa. The Central Water and Power Commission have promised to make every effort to see that the power requirements of the port are met in time.

It is obvious that with the increased utilisation of the existing equipment, installation of new cranes and the execution of the development schemes, the power rquirements of the port will increase considerably. There are estimated to be about 12 to 15 m.w. The Committee are greatly concerned at the uncertainty which still prevails regarding the supply of power to Mormugao Port. Since power would be necessary for the operation of additional electric cranes and the new ore handling plant, proposed to be installed at the port, it is imperative that adequate supply of power from Sharavati or the Southern Zone Grid should be assured to the port in time.

To enable the port authorities to make necessary arrangements for taking bulk power, it is necessary that final commitments regarding the quantum of power and the dates of supply are firmly made in advance. The Committee, therefore, urge that immediate action should be taken by Government, in consultation with the Central Water and Power Commission, to decide about the sources of supply of power to the port.

B. Water Supply

107. The present daily requirements of water for the port are stated to be about 1,00,000 gallons per day, of which about 50,000 to 60,000 gallons are required for ships. There are at present two reservoirs—one of the capacity of 1,00,000 gallons and the other of 32,000 gallons. These arrangements are considered by the port authorities just adequate at present. However, considering that the demand for water is on the increase, arrangements have been made to build an additional storage reservoir of a capacity of 1,25,000 gallons to meet the needs for the next 2 years or so.

It has been represented to the Study Group during the course of their visit to the port in October, 1965 that there are frequent break-downs in the supply of fresh water to the ships due to bursting of pipelines or failure of barges.

It has been suggested that there should be a storage tank of sufficient capacity to meet the requirements of vessels in port on such occasions.

The Committee urge that the additional storage reservoir of 1·25 lakh gallons of water proposed to be established at Mormugao should be put in position expeditiously. They further consider that as water requirements should form an integral part of planning, Government may well ask the Consultants to make suitable provi-

sion to meet the increased water needs as a part of the Master Plan for the development of Mormugao Port.

C. Warehousing Facilities

Existing Capacity

108. The port has 11 sheds with an area of 17,582 square metres for storage of cargo. The annual income from these warehouses is the ground rent (demurrage) on goods which are not cleared within the free days and the lease rent in respect of some of the warehouse accommodation which has been leased to the Director of Agriculture, Government of Goa, for storage of fertilisers and the Regional Director (Food), Government of India for the storage of foodgrains and fertilisers. The following figures indicate the income and expenditure during each of the last three years on the warehouses in the port:—

(Rs. in lakhs)

	1962-63	1963-64	1964-65
Demurrage . . .	2·49	3·30	1 49
Lease rent	0·66	0·76	2 46
Expenditure . . .	0·30	0 16	0 50

The Study Group of the Committee have been informed during their visit to Mormugao that the condition of warehouses is very poor and that they leak in monsoons. In this regard the representative of Government admitted during evidence that "the warehouses which are built a very long time back with most of them having thin sheet walls, need extensive repairs. The repairs are being carried out to the extent possible and to the extent galvanised iron sheets and A.C.C. sheets are available. It is proposed to replace the thin sheet walls and roofs of some warehouses with masonry walls and A.C.C. sheets so that they can withstand the heavy monsoon conditions in the port."

The Committee note that the condition of the warehouses is poor and they often leak also. It needs no emphasis that the port warehouses should be maintained in good condition to avoid damage to the goods and the complaints from the owners. The Committee, therefore, urge that immediate steps should be taken by port authorities to improve the condition of the warehouses.

Proposed Capacity

109. As to the provision of storage accommodation for export cargoes, the port authorities have informed the Committee that they are currently building a warehouse (with area of 1016 square metres) for storage of export cargoes and are also extending two other sheds (with an area of 1,430 square metres) to augment storage capacity. The proposed warehouse would be utilised for providing storage of sugar which has potentialities for export particularly from sugar mills in Kolhapur region which are situated nearer to the Mormugao than Bombay. Besides this, they are also proposing to provide bonded warehousing (with storage area of 400 square metres) facilities in the near future for import cargoes.

As the warehousing facilities available are not adequate, the Committee appreciate the port proposals to augment the warehousing facilities forthwith; but the Committee like to stress that, to avoid infructuous expenditure, the new warehouses should be so designed and located that they fit into the outline proposed in the Master Plan.

D. Security Arrangements

Maintenance of Law and Order

110. The existing arrangements for maintenance of law and order within the port area is presently undertaken by the State Government as part of the general law and order arrangements in the territory of Goa, for which the port unlike other major ports, has not to pay any charges. A company of reserve police on deputation from Andhra Pradesh to the Government of Goa has been stationed in the port. The company was drafted during the exposition period and thereafter continued during the periods of strikes in the harbour and has not yet been withdrawn.

Watch and Ward Staff

The port has its own watch and ward arrangements for safeguarding of cargoes and property. The strength of the watch and ward staff, both at the time of liberation and now, is as follows:—

At the time of liberation:

Subedar	1
Havildars	2
Watchmen	37
TOTAL . . .	40

Present :

Security Officer	1
Inspector Watch and Ward	1
Clerk	1
Record Attendant	1
Havildars	4
Watchmen	62
TOTAL	70

The expenditure incurred on the maintenance of the watch and ward staff during each of the last three years is given below:—

	Rs.
1962-63	60,018
1963-64	75,982
1964-65	136,180

Asked about the measures taken to improve security arrangements, the port authorities have stated that if the general watch and ward and security arrangements of the port are also handed over to the police who are responsible for the maintenance of general law and order, it would lead to more effective control, closer vigilance and efficiency. With this in view, they are examining the feasibility of transferring the port security and watch and ward arrangements to the State Government. A preliminary discussion in this regard is stated to have been held with the police authorities.

The Secretary of the Ministry of Transport stated during evidence that the question of constituting a regular security force for all major ports which would be administered on an all-India basis is under active consideration of the Government.

The Committee in their Sixty-Seventh Report (Third Lok Sabha) on Ministry of Transport (Calcutta and Haldia Ports) have already suggested that "the question of having a separate Port Protection Force on the lines of the Railway Portection Force, may be considered by the Union Government in consultation with the Port authorities and the State Government." The Committee urge that a very early decision may be taken in the matter so that a uniform pattern of security arrangement may be introduced in all the major ports including Mormugao.

Incidence of Pilferage:

112. The port authorities have stated that the incidence of pilferage in the port is negligible. There has been only one recorded case of theft of ball bearings in 1964. The entire property was later on recovered.

CHAPTER X

PORT ADMINISTRATION

A. Management

113. After liberation in December, 1961 the management of the Port of Mormugao was placed under the control of the Administrative Officer upto the 30th June, 1964. With effect from 1st July, 1964, a Board of Trustees was constituted with the following membership under the Major Port Trusts Act, 1963 which was extended to it under notification dated the 28th June, 1964:

CHAIRMAN

Trustees

(1) Collector of Customs and Central Excise, Goa (representing the Customs Department).

(2) Divisional Superintendent, Hubli (representing Indian Railways).

(3) Naval Officer-in-Charge, Goa (representing the Defence Services).

(4) The Engineer and Ship Surveyor, Mercantile Marine Department, Mormugao (representing the Mercantile Marine Department).

(5) The Secretary, Industries and Labour, Government of Goa, Daman and Diu (representing the State Government).

(6) The President, Mormugao Municipality (representing the Mormugao Municipality).

(7) The Regional Manager, Minerals and Metals Trading Corporation of India Ltd.

(8) Representative of the Indian National Steamship Owners' Association

(9) Representative of the All India Sailing Vessels Industry Association.

(10) Representative of the Goa Mineral Ore Exporters' Association, Panjim.

(11) Representative of the Goa Mining Association, Panjim.

(12) Representative of the Goa Chamber of Commerce and Industry, Panjim.

B. Organisational Set-up

114. The Chairman of the Board of Trustees administers the port with the assistance of a number of heads of departments, such as—

(i) The Chief Engineer.

(ii) The Mechanical Engineer.

(iii) The Traffic Manager.

(iv) The Financial Adviser and Chief Accountant.

(v) The Deputy Conservator.

(vi) The Medical Officer.

(vii) The Secretary.

A chart showing the organisational set up of the Mormugao Port is given at Appendix IX.

C. Powers of Chairman, Port Trust

115. One of the non-official organisations of Goa has suggested "full powers necessary to the Chairman for efficient administration and operations in the port". The Chairman of the Port Trust stated during evidence that "as a matter of fact, the Chairman of the three or four new Port Trusts like Kandla, Cochin, Vishakhapatnam and Mormugao have got more powers that what the Calcutta and Bombay Port Trusts Chairman have". He added that the financial and administrative powers delegated to the Chairman of the Port are adequate for the present.

A statement showing the powers delegated to Mormugao Port Trust Board/Chairman, is given at Appendix X.

The Committee note that the powers of the Chairman of the Port Trust are considered adequate at present, but they feel that as Mormugao is yet an undeveloped port and would require radical improvements and developments in near future, the present powers of the Chairman may not then be found adequate. The Committee suggest that the schedule of delegation of powers may be reviewed at an opportune time after the Master Plan for the development of port has been approved in order to ensure that expeditious execution of development works is not hampered for want of adequate powers of the Chairman.

D. Staff

116. The administrative set up obtaining at Mormugao Port was first reorganised under the orders of the Military Governor dated the 29th January, 1962. With the application of the Major Port Trusts Act, 1963, from the 1st July, 1964, when the Port Trust was constituted for the port, rules and regulations were framed which are stated to be identical with those obtaining in the other three newly created port Trusts at Vishakhapatnam, Kandla and Cochin.

The terms and conditions of employment of the W.I.P. Railway and Junta staff were revised by the Port Trust to bring them in line with those obtaining at other major ports in India. It is stated that sanction of the Government of India has been received in respect of staff integrated into class III and class IV services but sanction in the case of class I and II staff is awaited. The scheme of superannuation is also stated to be under scrutiny of Government.

117. The Committee have been informed by the Ministry of Transport that revised scales of pay have been prescribed, in the light of the recommendations of the Second Pay Commission, for most of the posts under the Mormugao Port Trust. The scales of pay for the following posts only remain to be finalised:

(1) Secretary
(2) Medical Officer
(3) Assistant Medical Officer
(4) Security Officer
(5) Berthing Master
(6) Pilots
(7) Apprentice Pilot(s)
(8) Light House Keeper

It has been stated by the Ministry of Transport that the Port Trust Board is itself competent to prescribe the scales of pay for the posts of Security Officer and Light House Keeper under the Major Port Trusts Act, 1963, as the Board is competent to create those posts. A scale of pay for the post of Secretary has been suggested to the Port Trust and the Board's formal proposal in the matter is awaited. In regard to the other posts namely, Medical Officer, Assistant Medical Officer, Berthing Master, Pilot and Apprentice Pilot, certain information has been called for from the Port Trust to enable Government to arrive at a decision. The information is awaited.

Since uncertainty about the scales of pay tends to affect the efficiency of the employees concerned, the Committee would urge the Government to expedite the finalisation of the pay scales which have not yet been prescribed.

E. Medical and Hospital Facilities

118. It has been stated during evidence that the medical and hospital facilities provided to the employees of Mormugao Port are not adequate, as compared to those available to the employees of other major ports. For about 2,000 employees, there are indoor arrangements for only 10 patients. The hospital is housed in a building which is not only old but also unsuitable for the purpose. The diagnosis and surgical arrangements even for ordinary operations are not available. Consequently, employees are sent to Government hospital at Panjim or Margao which entails both expenditure and inconvenience.

The authorities propose to establish a hospital adequate to meet the requirements of the Port Trust, Mormugao Dock Labour Board and also to some extent of general public in Mormugao and Vasco-da-Gama. Donations are stated to have been promised to meet the initial cost and it is expected that land for the purpose would be made available shortly by the Government of Goa.

The Committee realise that as Mormugao has been only recently taken over by the Government and declared as a major port, many amenities for the staff including medical facilities may not be upto the standard of other major ports. The Committee would like Government to take urgent measures to provide adequate medical and hospital facilities for the employees working in the port. It would be helpful if the question of providing medical and hospital facilities to employees of the major ports is reviewed by the Conference of the Chairman of Port Trusts and a suitable scale laid down in this behalf for guidance of all concerned.

F. Accommodation

Office Accommodation

119. The Committee has been informed that the office accommodation for the port administration at present is not adequate. The area of office accommodation is 9,800 square feet. It is stated that based on the existing sanctioned staff, the requirements for office accommodation are about 20,000 sq. feet. The port would need more

staff when the project works start and correspondingly more office accommodation would be needed

The port authorities are building a shed which is being suitably partitioned for temporary use as an office to start with, till permanent office accommodation is made available, after which the shed will be used for its normal purpose. An incomplete building which was meant to be a hotel has been acquired and is being converted into an administrative office building at an estimated cost of Rs. 3,50,000.

The Committee hope that urgent action would be taken to provide adequate office accommodation to meet the requirements of the Port Trust.

Residential Accommodation

120. The categories of employees who have been provided with residential accommodation is given below:

	No. of employees as on 1-10-65	No. of employees housed	Percentage	Remarks
Class I and II	46	33	71·7%	15 housed in rented houses.
Class III and IV	1550	283	18·26%	3 housed in rented houses.

The overall percentage of staff including officers works out to only about 19:8. Against this, the percentage of employees provided with accommodation in other major ports in April, 1964 was as follows:

Bombay	15%
Cochin	8%
Calcutta	28%
Madras	1·7%
Vishakhapatnam	15%
Kandla	37%

In this connection, the Committee have been informed that proposals for the construction of 76 units and 108 units of residential accommodation were sent by the port authorities to Government in

November, 1964 and August, 1965 respectively for sanction which is still awaited.

The Port Trust authorities have tentatively proposed a sum of Rs. 226 lakhs for the construction of 1000 units of quarters in the Fourth Five Year Plan. The amount provided includes the cost of all appurtenant works like roads, water supply, drainage and also all amenities like hospital, primary school, a staff institute and other essential amenities of a housing colony.

The number of houses of various categories as proposed are given below:

	Nos.
Type I Quarters	450
Type II „	300
Type III „	177
Type IV „	50
Type V „	20
Type VI „	3
TOTAL	1,000

While the Committee are for simplification of procedures to avoid delay in according sanction and for timely completion of construction works, they consider that economic factors should not be overlooked in the matter of provision of accommodation to staff. The Port Trust should draw up a phased programme for the construction of quarters particularly for lower categories of staff taking care to see that it would not unduly burden the resources of the Port Trust. As land in Mormugao is very limited, the staff quarters should be so located that they do not come in the way of future development of operational facilities in the port.

G. Accidents to Port Employees

121. It has been stated in evidence that no major accident involving employees of the port took place during the last three years. The Senior Inspector, Docks Safety, Bombay is taking steps to constitute a Dock Safety Committee which is to be constituted under the provisions of the Indian Dock Labour Act, 1934 which was extended to Goa with effect from the 1st February, 1965.

It has been added that after the extension of the Indian Dock Labour Act, 1934, extracts from that Act and Indian Dock Labour Regulations, printed in English and Hindi, were circulated widely

for the purpose of educating both the labour and employers of the labour to make them conversant with the requirements of safe working and safety of the gear. Posters were also pasted for the purpose at prominent places all over the port premises.

The Committee are glad at the absence of any major accident at the port. They would, however, urge that early action should be taken to constitute Dock Safety Committee so that it can take preventive measures to maintain the past good record in this respect.

The Committee would also suggest that wide publicity should be given to the safety measures in all the languages commonly spoken and understood by the employees in order to make them well conversant with safety requirements.

H. Labour Situation

Output of Labour

122. Asked whether any comparative study of the output and cost of labour for handling ore at Mormugao Port and other ports like Madras, Vishakhapatnam and Calcutta, had been made, the Port Trust authorities have stated that "no comparative study of the output and cost of labour for handling ore at Mormugao as compared to Madras, Vishakhapatnam and Calcutta has been made. In regard to cost of labour for handling ore and other commodities, for example, a start is now being made after the incorporation of the Dock Labour Board and rationalisation of the wage structure. Previous to this labour was employed by a large number of employers and *muccadams* who paid varying scales of pay which were not readily ascertainable. Similarly, in regard to the output, now that labour has been brought under the Dock Labour Board, a shift-wise study of performance is being made."

Incentive Schemes

123. As to the introduction of incentive schemes for labour, the Committee have been informed that no incentive scheme has yet been introduced as far as the labour directly employed by the port is concerned. The question, however, is being examined by an informal committee of Port Officers and users of the port. 78 per cent of the traffic is, however, handled by the labour of the Dock Labour Board. There are two categories of labour in the Dock Labour Board *viz.*, gangmen and winchmen. The wage pattern of these two categories provides for incentive on the quantum of work done.

80 ton is considered to be datum represented by one *hazri*. The wage pattern, inclusive of incentive of these two categories, is as follows:

No. of hazries	Categories	
	Gangmen	Winchmen
	Rs.	Rs.
Ist hazri	3·32	4·40
2nd hazri	3·50	4·70
3rd and subsequent hazries	3·70	5·03

The Committee would like the port authorities to make at an early date a comparative study of labour efficiency in handling ore at various ports so that concerted measures can be devised to effect an improvement in labour output and a reduction in handling charges. The Committee would also like a careful review to be made of the existing incentive scheme to assess whether it is achieving the objectives underlying its introduction.

Labour Strikes

124. The details of labour strikes in Mormugao Port during 1963, 1964 and 1965 (so far) are given below:—

Year	Total No. of strikes		Period		Categories on strike
			From	To	
1	2	3	4	5	
1963	2	(*i*)	23-5-63	3-6-63	Winchmen and Barge-crew.
		(*ii*)	10-7-63	14-7-63	Gangmen.
1964	14	(*i*)	17-5-64	19-5-64	Winchmen.
		(*ii*)	9-6-64	21-6-64	Barge-crew.
		(*iii*)	7-7-64	8-7-64	Gangmen.
		(*iv*)	17-7-64	19-7-64	Barge-crew.
		(*v*)	[29-7-64	6-8-64	Gangmen.
		(*vi*)	28-8-64	[29-8-64	Winchmen.

1	2	3	4	5	6
		(*vii*)	2-9-64	5-9-64	Barge-crew.
		(*viii*)	30-10-64	31-10-64	Winchmen.
		(*ix*)	10-11-64	1-2-65	Winchmen.
		(*x*)	12-11-64	25-1-65	Workers of Mechanical Ore Handling Plant.
		(*xi*)	19-11-64	29-11-64	Gangmen.
		(*xii*)	19-11-64	20-11-64	Staff of Port Trust Workshop.
		(*xiii*)	20-12-64	22-12-64	Foremen, Tally Clerks and clerical staff of the Pool of Stevedores' Association.
		(*xiv*)	24-12-64	26-12-64	Foreman.
1965 (upto Oct.)				No Strike.	

It has been stated that since the constitution of Dock Labour Board in April, 1965, the labour situation has improved very considerably.

The Committee hope that sustained efforts would continue to be made to improve the labour situation.

CHAPTER XI

GENERAL

A. Fire-fighting Arrangements

125. The existing fire-fighting organisation at the Mormugao Port consists of a small fire station and a fire tender. It has been stated by the port authorities that these arrangements have been made as a result of the recommendations made by Mr. Pradhan of the National Fire Service College, Nagpur. It has been further added that "the existing fire-fighting arrangements are absolutely temporary." The port authorities propose to organise a full-fledged fire-fighting organisation by acquiring additional pumps and jeeps and providing extra hydrants and fire points in the harbour. They also propose to construct a full-fledged fire-fighting station along with staff quarters.

The Committee fail to understand as to why the existing fire-fighting arrangements in the port are considered temporary. The Committee suggest that the programme for the provision of fire-fighting facilities in the port, which should be drawn up in consultation with National Fire Fighting Service College, Nagpur, should form part of the Master Plan and should be executed in stages according to developing requirements of the port.

B. Trunk Telephonic Communications

126. The Committee have been informed during evidence that the telephonic contacts from Mormugao with the rest of the country are not only very much delayed but at times are not at all available. The reasons given for this are multiplicity of telephone exchanges which are of the old type, under-water cable connections and frequent breakdown of communication lines. The port authorities have stated that "we had from time to time brought this to the notice of the Posts & Telegraphs Department who had promised to take remedial measures but nothing has been done so far."

The Committee are convinced that there is urgent need for effecting improvements in the existing system of trunk telephonic communications from Mormugao to the rest of the country. They

understand that the Posts and Telegraphs Department have a scheme for introducing automatic exchanges at Vasco-da-Gama and Mormugao and have also prepared a scheme for improvement of the trunk telephonic communications to Bombay and New Delhi. The Committee hope that no efforts would be spared to extend the benefits of these schemes to Mormugao Port within the shortest possible time.

CHAPTER.XII

CONCLUSION

127. Mormugao which has only recently been taken over by the Government of India, is endowed by nature with one of the finest natural harbours. It commands a strategic position on the Western Coast which offers it a full view over the Arabian Sea. Plans for systematic development of the port have just been taken in hand. Mormugao has a hinterland with vast potentialities of industrial, commercial and agricultural development which would give a great fillip to the traffic passing through this port. Diversification of this traffic is also bound to follow.

At present largest exports of iron ore from the country are made through this port. India's reserves of iron ore are estimated at 19500 million tons and rank the 4th largest in the world; and within the territory of Goa these possible reserves of iron ore are estimated at 600 million tons. Besides, sustaining a large internal steel industry, a reserve of this magnitude can be fully exploited for large scale exports of iron ore to earn valuable foreign exchange. With a distance of less than 100 kilometres from the iron ore mines to the port and cheap river transport through inland waterways, Mormugao is advantageously placed in the matter of export of iron ore. The port has thus great potentialities of developing still further into a major export port of iron ore.

The present plan for export of iron ore through this port envisages an increase from 6·3 million tons in 1964-65 to 10 million tons in 1970. The exports of iron ore from Goa have mostly been to Japan. The Committee understand that Japan one of the biggest purchasers of iron ore from this country, is entering into agreement with Australia for import of 10 million tons of iron ore from that country; and Australia is reported to be contemplating integrated development of ore mines, transport facilities from mines to the port and loading arrangement into the ships. The Committee consider that if India is to retain its preshent market for export of ore to Japan and increase its competetive capacity, it will have to keep abreast of the developments in other iron ore

exporting countries and take suitable measures to constantly improve its position by effecting all round economies particularly in transport and handling costs.

The Committee further consider that if the target of 10 million tons of export of iron ore from Mormugao is to be achieved by 1970 and the potential for increased exports in future created, it is essential that Government should take early decision on the development of facilities for handling of ore at the port, as in the last analysis port facilities and economies in the transport and handling costs play a key role in export trade. The Committee feel now that Government have experience of working of iron ore handling plants at several ports notably Paradeep, Vishakhapatnam and Madras, it should be possible for them to devise the most economic and efficient method for handling of iron ore at Mormugao.

Further since cheap and quick transport of ore from the mines to the port is equally important in determining its export potential, the Committee would suggest that early decision should be taken on the question of extending the port jurisdiction so as to include the Combarjua canal which connects river Mandovi with river Zuari, and other inland waterways upto jetty loading points, so that their navigability could be maintained at the optimum level for quicker turn-round of barges.

The Committee would also urge Government to carefully consider the question of location and sitting of the naval base at Mormugao keeping in view the overall national interest, its strategic position and potentialities of future expansion of both the commercial port of Mormugao and the naval base. Industrial and commercial development of the hinterland, development of rail/road communications, deepening and widening of the Combarjua canal and improvement in the navigability of the rivers are all bound to result in expansion of traffic through this port. The Committee hope that Government would consider all these aspects of the development of Mormugao port in an integrated manner and take an early decision in the matter.

NEW DELHI;
March 15, 1966.
Phalguna 24, 1887 (*Saka*).

ARUN CHANDRA GUHA,
Chairman,
Estimates Committee.

APPENDIX I

(*Vide* Para 6)

PORT OF MORMUGAO

Statement showing Assets and Liabilities Position as on 31-3-1962

LIABILITIES	Rs.	Rs.	ASSETS	Rs.	Rs.
CAPITAL		1,51,43,793·86			
			FIXED ASSETS		
LOANS & ADVANCES					
			Construction of line & harbour, incl. buildings, plant, rolling stock and equipment	1,51,43,793·86	
Loan from the (Portuguese) Government	1,34,46,554·59				
Advance from the (Portuguese) Govt. for purchase of new carriages	2,83,333·33		Equipment purchased during the year	4,31,323·58	
Advance from the (Portuguese) Govt.	8,33,333·33		Capital works in progress	1,46,317·97	1,57,21,435·41
Advance/Wharfage on Ore	1,37,731·00	1,47,00,952·25			
			OTHER ASSETS		
RESERVES & FUNDS					
			Stores in stock	12,46,141·30	
Reserve for retirement gratuities to Staff	4,72,865·33		Stores in transit	76,382·96	13,22,524·26
Staff Provident Fund	4,03,656·10				
Tuberculosis Patients' Fund	17,383·58	8,93,905·01			
DEPOSITS			INVESTMENTS		
Wharfage dues	1,17,000·00		Cost of 2,500 shares of Estaleiros Navis, each of Rs. 100	2,50,000·00	
Freight on ore	1,23,000·00				
Wagon Registration Fees	11,725·00				
Shipping Agents	57,000·00		Deposit at call at 2·1/2% with the State Bank of India	12,00,000·00	14,50,000·00
Stevedores	3,750·00				
Security deposits	55,796·75	3,68,271·75			

LIABILITIES			ASSETS		
	Rs.	Rs.		Rs.	Rs.
CREDITORS			DEBTORS		
Sundry Creditors	5,49,600·96		Sundry debtors	23,46,021·78	
Unclaimed Wages	3,321·79		Deposit with the Banco Nacional Ultramarino/Escudos Account	1,17,90,682·77	
Unclaimed Provident Fund	888·51		Do. Sterling Account (£.387,300/7/6)	51,74,978·51	
Deductions from salaries	7,486·67	5,61,297·93	Banco Nacional Ultramarino : Lettrs of Credit/dishonoured	4,63,408·68	1,97,75,091·74
EXCESS OF EARNINGS OVER EXPENDITURE			CASH		
For the period: 1-4-1961 to 20-12-1961	52,13,096·25	73,00,398·75	Cash in hand	29,739·46	6,99,568·14
Do. 21-12-61 to 31-3-1962	20,87,302·50		Cash in Bank (State Bank of India)	6,69,828·68	
		3,89,68,619·55			3,89,68,619·55

APPENDIX II

(*Vide* Para. 8)

MORMUGAO PORT TRUST

Statement showing Comparative Reserve & Fund

	Balance as on 19-12-1961	Contribution or recovery from 20-12-1961 to 31-3-1965	Payment from 20-12-1961 to 31-3-1965	Balance as at 31-3-1965
	Rs.	Rs.	Rs.	Rs.
(1) Reserve for gratuities to staff	4,57,185·33	15,680·00	13,966·84	4,58,898·49
(2) Provident Fund	3,85,511·43	4,17,916·58	1,13,429·32	6,89,998·69
(3) T.B. Patients' Fund	13,867·48	36,925·70	11,200·00	39,593·18
(4) Wharfage dues	1,17,000·00	1,06,000·00	75,000·00	1,48,000·00
(5) Freight on Ore	1,23,000·00	25,000·00	29,000·00	1,19,000·00
(6) Wagon Registration Fee	11,725·00	5,300·00	3,575·00	13,450·00
(7) Shipping Agents	57,000·00	6,500·00	8,130·00	55,370·00
(8) Stevedores	3,750·00	1,500·00	500·00	4,750·00
(9) Security Deposits	55,754·02	5,26,803·79	3,89,158·57	1,93,399·24

APPENDIX III

(*Vide* Para 13)

MORMUGAO PORT

Statement Showing Imports and Exports
(Commodity-wise)

Commodities	1961-62	1962-63	1963-64	1964-65
Imports				
Cement	14909	24422	16922	28628
Coal	7215	..	..	..
Fertilisers	2718	2871	4608	48792
Flour	7525	1905	1776	2850
Grain & Pulses	28868	8824	7630	21636
General Goods	33056	14338	13515	11455
Iron & Steel	5386	2387	2068	1216
Motor cars & Parts	5376	445	287	608
Rock Phosphate	..	..	3575	15009
Sulphur	..	..	..	1500
Sugar	7323	..	..	..
Wines & Spirits	2896	322	105	102
Miscellaneous	47201	56563	64921	84556
TOTAL (Tonnes)	162473	112077	115405	216352
Exports				
Iron Ore	6211181	5257852	5690451	6156225
Ferro Manganese Ore	88348	74062	1234800	170924
Manganese Ore	35341	13310	17120	42906
Cashew Kernels	1561	319	141	173
Coconuts	336	1025	913	559
Crushed Bones	..	..	58	109
General Goods	6037	2491	109	305
Oilcakes	..	..	7875	31820
Miscellaneous	4606	4847	811	335
TOTAL (Tonnes)	6347410	5353906	5840958	6403356
GRAND TOTAL (Imports & Exports)	6509883	5465983	5956363	6619708

APPENDIX IV

(*Vide* para No. 22)

Works actually taken up in Mormugao Port since its liberation.

(i) Dredging of the entrance channel and the basis to enable ships of deeper draft to use the port.

(ii) Improving the surface of the wharves by a modern type of paving to ensure speedier movement of traffic on the wharves.

(iii) Reclamation of an area to the east of the mechanical loading plant for stockpiling ores.

(iv) Construction of two barge loading jetties adjacent to (iii) above for expediting the loading of rail borne ore into steamers in the stream.

(v) Improvement of fendering on the wharves.

(vi) Making good the deficiency of the wave breaker blocks to the west of the breakwater.

(vii) Providing Fire Fighting arrangements including the construction of a Fire Brigrade Station with a hose-drying tower.

(viii) Construction of additional sidings to facilitate the movement of rail borne ore, and preparation of areas for the stacking of ores.

(ix) Providing additional storage accommodation by the construction of sheds and extension of some of the existing sheds.

(x) Providing amenities to labour by way of additional latrines and washing places and water coolers.

(xi) Completion of an Annexe to the Port Workshop with a compound wall around it for security.

(xii) Provision of accommodation for a Stores Godown.

(xiii) Providing immediate residential accommodation for staff by converting some of the existing structures into residential quarters and making them suitable for living.

(xiv) Carrying out improvements to the Institute Building for the use of the staff.

(xv) Providing accommodation for a Co-operative Stores and Fair Price Shop.

(xvi) Carrying out preliminary investigations for extension of wharves for future development by conducting:—

(a) Hydrographic surveys in the harbour area.

(b) Hydrological observations of the river Zuari.

(c) Atomic tracer studies to watch the movement of the dredged spoil dumped on the sea-bed.

(d) Marine and land borings for the investigation of the sub-soil conditions; and

(e) Construction of two hydraulic tidal models at the Research Station at Khadakvasla.

(xvii) Assembling of one 6-ton Coles Mobile Crane that was received in knock-down condition during the previous regime.

(xviii) Installation of a new 250 KVA transformer in the Workshop along with the laying of a new high tension line from the Power House to the Workshop.

(xix) Acquiring a new 1500 cub. metre suction dredger from Holland.

(xx) Acquiring one 40' Mooring Launch.

(xxi) Acquiring one powered Dinghy.

(xxii) Providing mooring facilities by provision of two mooring Buoys, six 3-tons anchors and 89 metres of anchore chains.

(xxiii) Construction of 180 ton water barge.

APPENDIX V

(*Vide* Para—29)

Estimate of Costs—Civil Port Mormugao

STAGE I

	Rupees
DREDGING of entrance channel, berthing area, existing berths, dry dock reclamation area.	
9,500,000 cubic yards at 3 rupees/cubic yard : say	3,00,00,000
DREDGING Pre-reclamation dredging for Stage II. 1,250,000 cubic yards at 3 rupees/cubic yard : say	40,00,000
EXCAVATION for ore stacking area including tipping on sea bed 4,000,000 cubic yards at 7 rupees/cubic yard : say	3,00,00,000
ORE JETTY, BARGE JETTIES reclaimed area for dry dock	2,80,00,000
DRY DOCK—300 feet long	50,00,000
RAIL-TRACK—Ore sidings, through lines, main sidings, including signalling and lighting	60,00,000
MISCELLANEOUS to include:—Roads, Lighting, Services, Surfacing, Drainage, Foundations, Buoys and Markets	50,00,000
TOTAL	10,80,00,000
10% contingencies	1,08,00,000
	11,88,00,000

TOTAL FOR CIVIL WORKS—RUPEES 12 CRORES

MECHANICAL PLANT

Stage 1(a):	
Loading and unloading equipment, screening plant stockyard equipment to handle 6 million tons a year	3,50,00,000
Stage (b)	
Additional shiploader, unloaders, screening plant, stockyard equipment to increase annual capacity to 12 million tons	1,60,00,000
Plant to unload Railway Wagons :	
4 million tons a year	60,00,000
Locomotives :	
Five diesel shunting locomotives	30,00,000
	6,00,00,000

TOTAL FOR MECHANICAL PLANT—RUPEES 6 CRORES

STAGE II

	Rupees
DREDGING in general cargo area, coal and oil berths: 5,250,000 cubic yards at 3 rupees/cubic yard	1,60,00,000
DREDGING Pre-reclamation dredging for Stage II: 1,400,000 cubic yards at 3 rupees/cubic yard	42,00,000
EXCAVATION for coal stacking area, including tipping on sea bed: 4,000,000 cubic yards at 7 rupees/cubic yard	2,80,00,000
COAL JETTY, BARGE BERTHS, approach arm	1,60,00,000
OIL JETTY	1,30,00,000
GENERAL CARGO BERTHS	
Five berths on land reclaimed in Stage I, five transit sheds, storage silos for grain and fertiliser	3,70,00,000
RAIL TRACKS and sidings	27,00,000
MISCELLANEOUS To include:—Roads, Lighting, Services, Slipway, Repair Berth	1,40,00,000
TOTAL	13,09,00,000
Contingencies	1,41,00,000
	14,50,00,000

TOTAL FOR CIVIL WORKS—RUPEES 14·50 CRORES

MECHANICAL PLANT

COAL, COKE AND LIMESTONE HANDLING

Unloading plant for 10 million tons of coal, coke and limestone a year including stockyard equipment, barge loaders and rail wagon loaders	7,00,00,000
Modify existing plant to handle coal	[75,00,000
QUAY CRANES ETC.	
16 quay cranes, 16 forklift trucks, 1 mobile crane	₹5,00,000
OIL JETTY	
Hose handling gantry, manifolds, fire fighting equipment, pipework (on jetty head only)	₹15,00,000
	8,70,00,000

TOTAL FOR MECHANICAL PLANT—SAY, RUPEES 9 CRORES:

STAGE III

DREDGING general cargo berths : 4,000,000 cubic yards at 3 rupees/cubic yard	1,20,00,000
GENERAL CARGO BERTHS	
Seven berths on land reclaimed in Statge II, seven transit sheds	6,00,00,000
RAIL TRACKS and sidings	30,00,000
MISCELLANEOUS TO include:—Roads, Lighting and Services	20,00,000
TOTAL	7,70,00,000
10% contingencies	77,00,000
	8,47,00,000

TOTAL FOR CIVIL WORKS, SAY—RUPEES 8·5 CRORES

	Rupees
MECHANICAL PLANT	
QUAY CRANES ETC.	
22 quay cranes, 22 forklift trucks, 4 mobile cranes	1,00,00,000
TOTAL FOR MECHANICAL PLANT—RUPEES 1 CRORE	
BREAKWATER	
500 feet extension to existing breakwater and 5,500 feet island breakwater	6,00,00,000
TOTAL FOR BREAKWATER—RUPEES 6 CRORES	
LARGE DRY DOCK	
DREDGING channel from Vadem Bay: 4,500,000 cubic yards at 3 rupees/cubic yard say	1,50,00,000
DRY DOCK 850 feet long	3,50,00,000
TOTAL	5,00,00,000
TOTAL DRY DOCK—RUPEES 5 CRORES	
ROAD BRIDGE OVER RAILWAY	
Road bridge near south-west corner of Vasco Bay	10,00,000
TOTAL FOR ROAD BRIDGE—RUPEES 10 LAKHS	
HARBOUR CRAFT	
Dumb Grab Dredger. 120', 2 grabs	16,00,000
Two Hopper barges 170'-0"-600 BHP diesel powered Rupees 27 lakhs each	54,00,000
Mooring launch, 18'-0" diesel powered	24,000
Pilot launch 38'-0" twin screw	1,60,000
Salvage Tug and Firefloat 120'-0"—1300 BHP	30,00,000
Two small tugs 67'-0"—300 BHP Rupees 6 lakhs each	2,00,000
Floating crane—60 tons twin screw diesel electric	50,00,000
Two survey launches 25'-0" diesel powered—40,000 Rupees each .	80,000
Inspection-cum-general purpose launch 25'-0" diesel powered . .	30,000
Anchor Hoy-cum-Water Barge 110'-0"—400 BHP	30,00,000
Lighting launch 35'-0" single screw diesel powered	2,00,000
	1,96,94,000
COST OF HARBOUR CRAFT—RUPEES 2 CRORES	

APPENDIX VI

(*Vide* Para—30).

Statement Showing estimated expenditure on Stage I of Master Plan for Mormugao Port

(In lakhs of Rupees)

Sl. No.	Name of Work	Estimates	
		Total Estimated cost	Foreign Exchange
1	Preliminary Expenses	45·50	20·00
2	Land acquisition, including compensation	47·50	..
3 (a)	Ore Pier	250·00	25·00
(b)	Excavation for ore stacks incuding soling	35·50	..
(c)	Foundation of ore Plant structures	25·00	..
(d)	Mechanical ore loading plant, including duty	420·00	322·00
(e)	Dredging: Ore Pier	105·00	..
4 (a)	Fertiliser & General Cargo Berths	200·00	10·00
(b)	Reclamation Bund	28·00	..
(c)	Topping the reclaimed area with selected earth	10·00	..
(d)	Dredging: Fertilizer Berth	87·00	..
(e)	Railway track for Fertilizer Berth	5·00	..
(f)	Approach to Fertilizer Berth	1·50	..
(g)	Stacking area behind Fertilizer and General Cargo Berths and paving	6·30	..
(h)	Five wharf cranes for Fertilizer and General Cargo Berths	50·00	..
5 (a)	Railway Track	10·50	..
(b)	M. G. Locks and Wagons	26·00	14·00
6	Roads including widening of main road, approach to dry dock and along stacking area etc.	21·00	..
7	Electrification	64·00	40·00
8	Water supply and drainage	7·00	..
9	Floating craft	372·00	190·00
10	Workshop equipment	41·00	10·00

(In lakhs of Rupees)

Sl. No.	Name of work	Estimates	
		Total Estimated Cost	Foreign Exchange
11	Civil Engineering Plant.	6·75	2·75
12	Additional/replacement of wharf cranes and mechanised cargo handling equipment.	91·00	40·00
13 (a)	Dry dock	50·00	24·00
(b)	Sheet piled wharf for repair berth	25·00	
(c)	Shifting of 30-ton crane	1·50	..
14	Office and other service buildings	52·00	..
15	Housing, including roads, water supply etc. . .	150·00	..
16	Fire Station and equipment	13·50	..
17	Night navigational aids	12·00	5·00
18	Mooring facilities	11·25	5·63
	TOTAL	2,270·80	708·38
	Contingencies 5%	113·54	..
	GRAND TOTAL . . .	2,384·34	708·38

APPENDIX VII

(*Vide* para—57)

Proposed limits of Port of Mormugao

A.—*Mormugao—Panjim*

North

From a point on the coast in the parallel of Latitude 15°30'N due West along the same parallel to a point in Long. 73°42'E (marked 'A' on Chart).

West

From the position 15°30'N 73°42·5'N in a SxE direction to a position in Lat. 15°20'N Long. 73°44·5'E (marked 'B' on Chart).

South

From the position in Lat. 15°20'N Long. 73°44·5'E due East along the parrel of Latitude 15°20'N to a point where this parallel meets the coast.

The port limits include the harbours with all rivers creeks and channels leading thereto and so much of the shores thereof, whether of the mainland or the islands, as are within 50 yards of the high water at spring tides.

B—*Betual*

North

From a point on the coast in the paralled of Latitude 150°12'N due West to where the parallel meets the ten fathom line (marked C' on Chart).

West

The ten fathom line.

South

From a point on the coast in the parallel of Latitude 15°5'N due West to where the parallel meets the ten fathom line (marked 'D' on Chart).

APPENDIX VIII

(*Vide* Para 89)

Port Charges per Ton of Iron Ore

(In rupees)

	Harbour dues	Harbour terminal rail charge	Handling charges				Agent's commission	Total port charge
			Unloading	All other shore handling	Stevedoring and trimming	Total		
1	2	3	4	5	6	7	8	9
Calcutta—Loaded directly from wagons								
5 K.G.D.	6·81	1·10	0·60	2·06	1·96	4·62	..	12·53
G.R.J.	4·84	1·10	..	4·11	1·96	6·07	..	12·01
Others	4·84	1·10	0·60	2·06	2·71	5·37	..	11·31
—Loaded from Sonai Plot								
5 K.G.D.	6·81	1·10	1·87	6·26	1·96	10·09	..	18·00
G.R.J.	4·84	1·10	1·87a	7·35	1·96	11·18	..	17·12
Others	4·84	1·10	1·87	6·26	2·71	10·84	..	16·78
Paradeep (after Orissa Mining Corpn.)	1·55	..	0·50	5·75	1·13	7·38	..	8·93
Vishakapatnam-Jetty	3·00	..	0·90	1·32	0·41	2·63	..	5·63
Kakinada	1·00	0·15	0·73	4·12	0.90	5·75	0·95	7·85

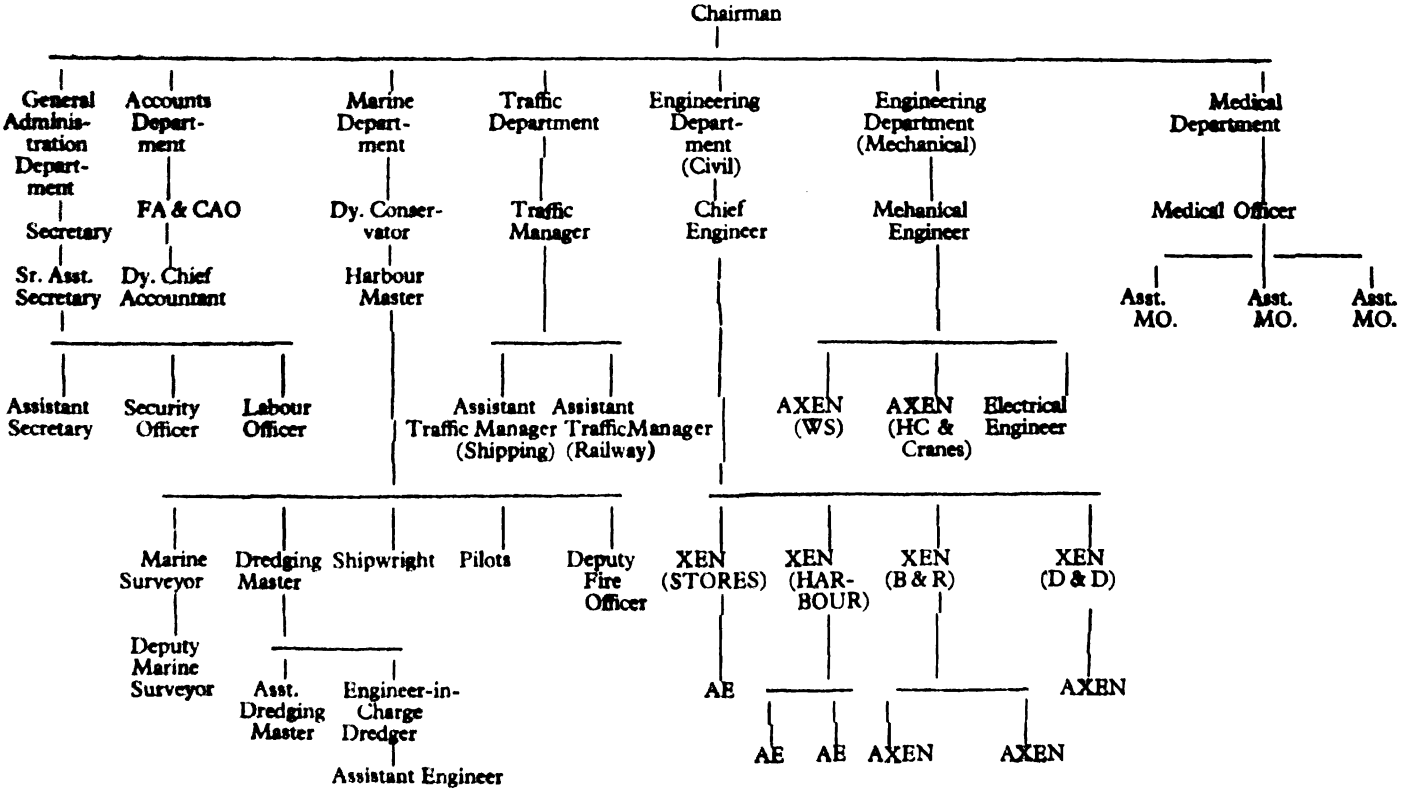
1	2	3	4	5	6	7	8	9
Masulipatam	1·00	..	..	N.A.	N.A.	N.A.	N.A.	8·63
Madras	1·80	1·00	1·35	8·36	0·42	10·13	..	12·93
Pondicherry	N.A.	N.A.	..	N.A.	N.A.	N.A.	N.A.	8·25
Cuddalore	0·98	0·37	..	5·19	0·74	5·93	0·49	7·77
Cochin-depending on plot	..	0·60	1·17	1·67	2·71	5·55	..	6·15
	..	0·60	1·17	2·16	2·71	6·04	..	6·64
	..	0·60	1·67	2·41	2·71	6·79	..	7·39
Mangalore	0·49	..	0·25	5·57	0·99	6·81	0·49	7·79
Honawar	0·80	..	N.A.	5·78	1·60	7·38	0·99	9·17
Belikere	0·80	..	0·25	3·82	1·36	5·43	..	6·23
Karwar	0·80	..	0·49	6·28	0·12b	7·19	0·49	8·18
Redi	N.A.	..	N.A.	N.A.	N.A.	N.A.	N.A.	7·66
Bombay	1·65	0·70	0·74	4·59	3·07	8·40	0·49	11·27
Kandla	0·99	1·50	0·52	2·83	0·99	4·34	0·49	7·32
Goa-Mechanised berth to Chowgule	1·37	..	0·88c	..	..	..	..	2·25
to others	1·37	..	0·88c	2·63	..	3·51	..	4·88
Other berths	2·62	..	1·00d	1·00	1·75	3·75	..	6·37
Midstream	1·00	..	..	..	1·50	1·50	..	2·50

a Unloading BOX wagons. b Trimming charge only. c Unloading from river barges. d Unloading from rail wagons

APPENDIX IX

(*Vide* Para. 114)

Mormugao Port Trust—Organisational Chart



APPENDIX X

(*Vide* Para 115)

Statement of powers delegated to Mormugao Port Trust Board/Chairman.

Subject of delegation		Extent of power delegated Extent	
		Board	Chairman
1		2	3
Debit of Expenditure to "Capital"		Not exceeding Rs. 1 lakh in each case.	
Commencement of work/ approval of estimates and acceptance of Tenders/ award of contracts	Commencement of work/ award of contract and provision of appliances without approval of Plan & estimate by the Board	Rs. 50,000/-	Rs. 25,000/-
	Commencement of work/ award of contract and provision of appliances with approval of Plan & estimates by the Board.	Between Rs. 50,000/- and Rs. 15 lakhs.	
Power to enter into contracts for the acquisition or sale of immovable property or for the lease of any such property for a term exceeding thirty years and other contracts without the approval of Central Government.		Rs. 15 lakhs.	
Power ocompound or compromise claims		Rs. 1 lakh in each case.	
Write Off of losses		Rs. 5,000 in individual case & Rs. 1 lakh in the aggregate in any year.	Rs. 1,000 in individual cases & Rs. 20,000 in the aggregate in any year.
Expenditure on Pressing Emergency		Full powers subject to report to Government, if amount exceeds Rs. 50,000/-	
Expending of money without its being included in an estimate of the Board at the time in force which has been finally sanctioned by the Central Government.		Rs. 50,000/-	
Power to make appointments. (Posts other than those of Heads of Departments)		In case of a post the maximum of pay scale for which is not less than Rs. 1,000/-	In case of a post the maximum of the pay scale of which is less than Rs. 1,000/-

APPENDIX XI

Summary of Conclusions/Recommendations

Serial No.	Reference to the Page No. of the Report	Summary of Conclusions/Recommendations
1	2	3
1	4	The Committee commend the promptness with which the cargo handling operations at Mormugao Port were resumed within two weeks of liberation.
2	7	The Committee consider that as Mormugao Port Trust is now a statutory body under the Major Port Trusts Act and prepares its own Balance Sheets the uncertainty about its assets and liabilities should not be allowed to continue indefinitely. They would suggest to Government to constitute a high-level committee consisting of representatives of the Port Trust,. Ministries of Transport and Finance and the Comptroller and Auditor General to thoroughly scrutinize the assets and liabilities inherited by the Mormugao Port Trust on liberation and to settle them for good. This should enable the Port Trust to prepare the Balance Sheet in a realistic manner reflecting correctly the financial position of the working of the port.
3	8	The Committee observe that there is considerable variation in the nomenclature and purposes underlying the constitution of reserves and funds by major ports in the country. The Committee would suggest to Government to review the position in consultation with the Ministry of Finance and the Port Trusts and prescribe the reserves and funds which should be maintained by the major ports for various purposes. The Port Trusts may be authorised, where necessary, to add to the approved list of reserves and funds only with the prior approval of the Ministries of Transport and Finance.
4	14	The Committee welcome the steps taken by the Port Administration to step up ore exports from

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		Mormugao Port. They hope that the tempo of progress made in the export of ores since 1962-63 will be maintained and that concerted measures will be taken to ensure that the target for exporting 10 million tonnes of ores from this port by 1970 will be achieved.
5	16	Although the Mormugao Port has the capacity for handling about 2·40 lakh tons of bagged wheat, rice or fertilizers annually, it actually handled much less cargo on this type during the years 1964 and 1965. The Committee regret that in spite of the persistent congestion at the Bombay Port, no serious effort appears to have been made by Government so far to divert the cargo from Bombay to Mormugao Port. The Committee cannot over-emphasise the need to utilise the facilities and capacities available at all the ports to handle foodgrains and fertilizers which would be required to be imported in the country in larger quantities in the coming months. In their opinion, it is necessary that an overall integrated plan for the handling of foodgrains and fertilizers for the whole country should be prepared taking into account the requirements of the various regions, port capacity and rail/road transport, facilities. The movement of ships from ports of embarkation should be arranged according to the overall plan. The Committee would suggest that in the context of the integrated plan, the facilities for handling of foodgrains and fertilizers at Mormugao should be properly geared up so as to serve adequately the requirements of the regions and to relieve congestion of traffic in Bombay.
6	17	The Committee note that there has been no export of iron ore from the subsidiary port of Betul in 1964-65 due to labour trouble and in 1965-66 (upto December 1965) due to shoaling of the entrance. The Committee cannot help regretting that the depths of the entrance to this port should have been allowed to fall so low that barges could not be drafted for loading operations, with the result that export of iron ore amounting to about 1·5 lakh tonnes which was effected through this port annually during the previous two years, could not be undertaken. The Committee hope that the port authorities

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		would ensure that in future the port of Betul is kept open for shipments of ores by proper dredging of the entrance channel.
7	18	In view of the fact that coastal and overseas passenger traffic handled by the port is above 30,000 and that Goa has some traditional links with African countries, the Committee feel that the provision of passenger amenities at Mormugao should receive due attention. The Committee would suggest that a careful assessment may be made of the likely passenger traffic during the next 10—15 years and a phased programme drawn up for augmenting passenger amenities. Government should also take suitable steps to develop coastal passenger traffic.
8	19	The Committee cannot help regretting that the number of "shipdays waiting" has increased from 442 in 1962-63 to 2682 in 1964-65 representing an increase of over 500 per cent, whereas the increase in the total number of ships handled at the port has been no more than 18 percent. The Committee feel that this heavy increase in detention of ships should have attracted some remedial measures by the port authorities. As detention to ships adversely affects the freight rate, which is the key economic factor in the export of ores, the Committee suggest that the port authorities should spare no efforts to reduce the period of detention and speed up the turn-round of ships.
9	20	The Committee would like the Port Trust authorities to take necessary preventive measures so that accidents to vessels do not recur.
10	21	The Committee hope that early action would be taken to clear the wreck of the sunken ship in the harbour—as this may produce serious obstruction in the operation of the port.
11	22	The Committee are unhappy to note that there has been heavy shortfall in the planned expenditure of the port during 1964-65 and 1965-66. Against the total provision of about Rs. 140 lakhs in 1964-65, a sum of Rs. 104 lakhs only has been spent in that year. Similarly, in 1965-66 against an estimated outlay of Rs. 228 lakhs, the actual expenditure is likely to be of the order of Rs. 74 lakhs (*i.e.* 32%).

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		As regards the shortfall of Rs. 63 lakhs in 1965-66 due to non-materialisation of contracts for capital dredging, the Committee would refer to para 70 of this report wherein they have expressed the hope that with the full utilisation of the new dredger Zuari, no occasion would arise to invite foreign firms for dredging. The Committee consider that the programme for the execution of development works and the estimated outlays thereon should be realistic. The Committee like to stress that if this is true for an already developed port like Bombay or Calcutta, this is all the more true for a port like Mormugao which has been only recently taken over as a major port by the Government and whose development programmes are of a very basic nature. Once the programme has been finalised, every effort should be made to complete it within the stipulated period.
12	25	The Committee cannot help regretting that detailed investigations were not made by the port authorities/Government before fixing the targets for handling of export and import cargoes which were to serve as the basis for the drawing up of the Master Plan by the Consultants, M/s. Rendel, Palmer & Tritton. The Committee hope that the assessment of the prospective export and import trade of the port will be made in the light of the industrial and agricultural development programme for Goa. The Committee also hope that the port authorities and Government would ensure that detailed projections of exports and imports to be handled at the port during next 10—15 years at least would be given as early as possible to the new firm, M/s Howe India Limited so that detailed planning and designing by this firm is done on realistic basis.
13	26	The Committee consider that as the Master Plan for the development of Mormugao Port is a matter of far-reaching importance to the economy and future development of Goa, Government should have taken steps to suitably consult representative associations/bodies of trade, industry, shippers, users etc., who are vitally concerned with the development of the port. The Committee would, therefore, suggest that the salient features of the Master Plan may be suitably publicised amongst all concerned so as to elicit their suggestions.

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14	32	The Committee are unable to appreciate as to how the estimated expenditure on Stage I has been increased from Rs. 20—24 crores to Rs. 29 crores representing an increase of 21%. They further consider that the estimated surplus of Rs. 190 lakhs *i.e.* 6.8% would hardly be sufficient to meet the interest on the capital. The Committee, therefore, urge that earnest efforts should be made by the port authorities to bring down the estimated capital expenditure on Stage I of the Master Plan so as to be able to earn a reasonable return on the heavy investments. The Committee would also like Government to be reminded that the heavy capital investment is sure to result in unduly increasing the port handling charges which would adversely affect the competitive position of the Mormugao Port in respect of export of ore.
15	35	The Committee are not convinced by the reasons advanced by Government for appointing two sets of technical consultants—one for drawing up the Master Plan and the other for detailed design study. They find it a little difficult to appreciate how detailed design study can be undertaken without any firm decision having been taken on the Master Plan. The Committee apprehend that the detailed design study for which the second firm of consultants—Messrs Howe India Ltd.—has been appointed is intimately linked with the study of feasibility for handling 10—12 million tons of iron ore at Mormugao. The Committee have no doubt that Government would make sure before appointing any firm of consultants that they have the requisite expertise and practical experience of designing ore handling plant which is the central feature of the developmental works to be undertaken at the port.
16	35	The Committee hope that Government would ensure that precise and firm requirements for which developmental planning is to be undertaken at Mormugao would be indicated to the new Consultants before long and that a phased programme with specified dates of completion would be drawn up and implemented.

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17	35	The Committee would like the Consultants to be given a specific instruction to ensure that as much of the equipment as possible for implementing the development programme should be procured from within the country. The Consultants may also be asked to draw up an interim report indicating the inescapable requirements for import of foreign equipment and machinery so that Government may initiate action, without loss of time, to arrange for external assistance. Experience in the case of Calcutta and Bombay ports has shown that securing of such assistance is a time consuming process which can seriously impede execution of development works.
18	38	The Committee would suggest that authorities should take an early decision in consultation with the Geological Survey of India and the consultants to select quarries to get stones for extending port facilities.
19	39	The Committee are glad to note that the Planning Cell has rendered valuable service to the port in undertaking useful research studies besides doing the work of collection and collation of port statistics and their analysis. The Committee are, however, unable to appreciate as to why the Planning Cell has been merged with the Traffic Department. The Committee consider that the Planning Cell has an important function to discharge in collecting and collating vital statistics and data about potential exports and imports which would be required for finalising the Master Plan for the development of the port. The Committee recommend that the question of reorganising the Cell as a separate unit in the Port Administration may be gone into urgently.
20	41	The Committee consider that the Ministry of Transport, which has a full fledged technical section under the Development Adviser (Ports) should have taken positive steps, in conjunction with the Port Trusts, to bring about establishment of an inter-port technical consultancy service by now. Besides the functions enumerated in para 40 above, the consultancy service

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		may also help in standardising equipment and harbour craft used in the ports which would result in considerable economy not only in the initial costs of manufacture but also in repair charges later on. The Committee hope that effective action would be taken to establish such a consultancy service in the country for the Fourth Plan; this should not be too difficult as the ports as well as Government have by now extensive experience in the development of ports.
21	43	The Committee appreciate the importance and the claims of both the civil port and the naval base for location on the Goa coast due to strategic reasons. They would, however, urge that the location and siting of these two should be decided in such a manner as will not adversely affect the free and uninhibited development of either of these in the years to come. Goa has vast potentialities of industrial and agricultural development, including exploitation and export of iron ore, setting up of a fertiliser factory, possibilities of the location of a refinery and the development of small scale industries; with these there will be a consequent rise in the standard of living of the people. All these would mean vast increase in the traffic to be handled through the commercial port of Mormugao. Similarly, with the expansion of the Indian Navy in the near future, the naval base at Mormugao would also be required to be developed and expanded. The Committee apprehend that the paucity of land at Mormugao may affect the expansion of both the commercial port and the naval base unless a long-term view of their requirements is taken at this stage. The Committee recommend keeping in view the overall national interest that the question of locating the port and the naval base at Mormugao may be carefully examined by a high-powered technical committee which should take into consideration the future needs of expansion of both the port and the naval base.

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22	44	The Committee consider that for a busy port like Mormugao action should have been initiated in the first instance for the establishment of a shore wireless station so as to facilitate communications with ships. They deprecate the procedural delays in the supply and return of forms etc. which have impeded the grant of licence. The Committee hope that action would be taken without further delay to establish the necessary shore wireless facilities at Mormugao Port and other ports not having similar facility.
23	47	The Committee regret to note that night navigation scheme which was first drawn up in 1963 could not be forwarded to Government earlier than January 1965; and that it has not yet been approved by Government. They consider that the foreign exchange difficulty should not be allowed to come in the way of implementation of the night navigation scheme as the absence of such facilities is bound to result in payment of heavy detention charges in foreign countries to ships. The Committee would urge that all efforts to find requisite foreign exchange should be made so that the scheme which is vital to improve the operational efficiency of the port is executed at the earliest.
24	47	The Committee also note that the rehabilitation of existing lighthouses which was taken up in 1962, would be implemented only by the middle of 1966 i.e. after a lapse of about four years. The Committee deprecate the procedural delays which have not only impeded the speedy rehabilitation of the existing lighthouses but have also resulted in the increase of estimated expenditure from Rs. 43,250 to Rs. 77,200 and an increase in the foreign exchange component from Rs. 28,000 to Rs. 46,000. They hope that the processes and procedures of working would be streamlined with a view to speedy execution of the schemes.
25	48	The Committee are glad at the advance action taken by the Port Administration for training their staff for maintaining night navigation equipment. They, however, would like to observe that adequate number of persons should be imparted training in the repair and maintenance

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		of night navigation equipment so that when it is decided in due course to develop workshop facilities in the port itself, the number of trained staff is not found inadequate for this purpose.
6	58	It is well known that Zuari and Mandovi are the most important rivers of Goa through which about 90 per cent of Goan exports of iron ore are carried from the jetty loading points to the mouth of Mormugao Port in self-propelled barges. Similarly, the Combarjua canal provides a vital inter-communication link between the Mandovi and Zuari rivers during the monsoon months. Since the export of iron ore is the backbone of the economy of Goa, the Committee consider it very important that the navigability of these waterways is maintained at its best by adequate and constant dredging. This would enable the barges to complete the round trip in 24 hours instead of 36 hours as at present and would result in their optimum utilisation, increase in the tonnage of ore transported from the mines to the port and consequential reduction in transportation charges.
27	58	The Committee find that although the question of extending the jurisdiction of the port to the barge loading points was referred to the Goa Administration in 1963, no decision appears to have been taken in the matter so far. The Committee apprehend that the dredging of the inland waterways and the widening and deepening of the Comborjua Canal may not be within the technical and financial competence of the Goa Administration. They, therefore, recommend that the desirability of extending the jurisdiction of the port over the inland waterways upto jetty loading points and the Combarjua Canal, may be examined by the Central Government in consultation with the Port Trust and Goa Administration at an early date.
28	64	The Committee note that according to the assessment made by port authorities it should be possible to transport 9 million tons of ore to the port by constituting a pool out of the existing barges. This would obviate not only the need for acquisition of additional barges and saving of foreign exchange but would also ensure

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		fuller utilisation of the existing barge fleet. It would not be unreasonable to expect that the pooling would help to bring down the cost of transport of ore thereby improving its competitive capacity. The scheme can, however, be a success only if it can enlist the willing cooperation of one and all barge owners and can evolve a rational method for pooling of barges and transporting the ore at economic rates to the ships within the stipulated time. The Committee suggest that the entire question of pooling of barges may be gone into in detail by a committee which should be fully representative of the barge owners and shippers and which may be presided over by the Chairman, Mormugao Port Trust so that a dependable and economic scheme for pooling the barges can be evolved and implemented as early as possible in the best interests of all concerned.
29	65	The Committee note that some steps have been taken for the development of repair facilities for barges in Goa. They, however, consider that there is need for planned development of repair facilities in the light of the suggestion made in paragraph No. 65. The Committee to be constituted to go into the arrangements for pooling of barges may also expeditiously prepare a suitable scheme for repairs of barges. In fact, it may be better from the point of view of maintenance if the barges to be acquird in future are of a standard size and make. The barge workshops should be encouraged to undertake first the assembling of barges and gradually their manufacture.
30	67	The Committee regret to note that dredger s.d. Governador which remained under repairs in Bombay from 21st January, 1964 to 9th May, 1964 (para 71) had again to remain inoperative for another 16 months (till September 1965) due to repairs carried out departmentally. The Committee are not happy that s.d. Governed or should have been allowed to remain inoperative for a period of nearly 20 months. They would like the port authorities to investigate the matter with a view to take suitable remedial measures to avoid recurrence of such delays in future.

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31	69	The Committee welcome the declining trends in the unit cost of dredging from year to year. They hope that the dredgers would be utilised to their optimum capacity and careful watch would be kept on the cost of dredging with a view to reduce it further.
32	70	The Committee expect that the new dredger would be utilised fully and no occasion would arise in future to invite foreign firms for dredging. The Committee would like to stress the necessity of Indian ports becoming self-reliant in these matters and they hope that concerted attempts would be made by Government/port authorities to dispense with the necessity of calling in foreign firms to undertake dredging as far as possible.
33	72	The Committee note that bills of repairs carried out by M|s Mazagon Dock, Bombay to dredgers "Mandovi" and "Governador" in early 1964 have not been settled so far due to disputes mainly connected with the rates for the steel works. The Committee regret to note that such disputes have arisen due to lack of proper care on the part of the port authorities and feel that these could have been avoided if the port authorities had placed the work orders after inviting the quotations and entering into a firm agreement. They urge that these long outstanding bills should be settled expeditiously.
34	72	The Committee cannot help regretting the failure of the port authorities to invite open tenders for the repair and overhauling of the harbour marine craft even though they were aware that the repair charges of M|s Mazagon Dock, Bombay were high. They are not convinced with the reasons advanced by the authorities that "even before liberation, the port craft were being maintained by M/s Mazagon Dock, Bombay" or that orders by a government undertaking should as a matter of course be placed only on a public undertaking without calling for tenders. The Committee would urge Government to issue necessary directions regarding the need to call for competitive tenders in all such cases. The Committee feel that such a system is necessary for the economic management and working of

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		the public undertakings, which should be expected to do things more economically.
35	73	The Committee note that a phased programme for remodelling and increasing the workshop facilities has been drawn up by the port authorities for implementation during the Fourth Plan period. The Committee have no doubt that care would be taken to see that the expansion programme of the workshop fits in with the larger requirements envisaged in the Master Plan.
36	74	The Committee suggest that early decision should be taken on the provision of dry dock/ slip-way facilities at Mormugao Port keeping in view the repair requirements of marine craft and already available dry docking facilities in the neighbouring ports on the western coast.
37	76	The Committee note that the tug requirements of the Port of Mormugao are at present estimated to be two tugs of 1200 H.P. and a few small tugs to tow the water barges etc. The Committee would like Government to review the position comprehensively regarding manufacture of tugs within the country so that as far as possible the requirements are met from indigenous sources. Effective measures should also be taken simultaneously to bring down the cost of indigenous tugs so that it is comparable with those manufactured in foreign countries.
38	76	The Committee would suggest that a comprehensive list of items of raw materials, stores and components which are difficult to procure at reasonable rates and are required to be imported, should be prepared and necessary steps taken to make them available in sufficient quantities for ship-building and repair industry. At the same time, Government should also draw up a phased programme for the indigenous manufacture of these items with a view to reduce the foreign component in the manufacture and repair of harbour craft as far as possible.
39	78	The Committee realise that with the proposed development of the port and particularly in view of the necessity and possibility of the extension of its jurisdiction over the inland waterways, the hydrographic survey section

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		will be called upon to undertake study of larger number of problems in the coming years including the inland waterways which, the Committee expect will also come under the jurisdiction of the port authorities. They, therefore, suggest that the scope of the Survey Section should be expanded gradually to enable it to face the additional responsibilities ahead. The Committee also stress the need for close liaison between Hydrographic Survey Section of the port and the Central Water and Power Research Station, Poona so that the former is helped to develop on more scientific lines.
41	81	The Committee are glad to note that exports of ferro manganese ore and manganese ore have risen from 123480 and 17120 tonnes (in 1963-64) to 170924 and 42906 tonnes (in 1964-65) respectively, and they suggest that sustained efforts should be made to step up these exports.
41	86	The Committee would like the capacity of the existing ore handling plant to be increased to the optimum level by providing necessary components and equipments, keeping in view the investment and its effect on ore handling charges and the ultimate use to which this iron ore handling plant would be put, after the installation of the bigger ore handling plant.
42	88	The Committee understand that Australia, which is one of our major competitors for export of iron ore to Japan, is developing facilities for mechanical ore handling at a rapid rate, particularly in Western Australia. If India is to maintain its position in the export market, particularly in regard to Japan, it is imperative that no time is lost in modernizing the port facilities for handling of iron ore and in installing mechanised ore handling plants, as required. The Committee consider that as the rate for loading ore and the port dues play an important part in determining the competitive price of the ore, every care should be taken to see that the design of the new iron ore handling plant at Mormugao is such that it ensures utmost economy and efficiency in operation. This should not be difficult as Government have by now the experience of working of a number of ore handling plants at

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		Visakhapatnam, Paradeep and Madras. The Government should also ensure that the new ore handling plant is installed without any avoidable delay so that timely facilities are available for achieving the targetted export of 10 million tons of ores by 1970.
43	92	The Committee note that one of the main reasons for Mormugao Port leading other ports in India in the export of ores hitherto has been its competitive rate for ore handling. Now that the export target of 10 million tons of ore has been fixed for Mormugao in the next Plan period, the Committee would like the Government to ensure that the competitive nature of the handling charges at this port is not adversely affected by the developmental expenditure. The Committee see no rason why it should not be possible to achieve comparable economy in transport and handling charges of ore at Mormugao specially when the lead from the mines to the port is less than 100 kilometres and the port is so well served by inland waterways.
44	92	As stated in para 89 the ore handling charges in Indian ports vary considerably from port to port. These charges are also higher as compared to foreign ore-exporting ports. Since these high charges are likely to affect adversely the exports of Indian ores, the Committee suggest that the Ministry of Transport in conjunction with the Ministry of Commerce should make a comprehensive and comparative study of handling charges of ores prevailing in the various Indian ports and in foreign ports with a view to reduce the overall costs of handling of ores at Indian ports.
45	93	The Committee hope that the design studies regarding the location of the ore stacking area would be completed expeditiously by the Consultants keeping in view the technological advances made in the mechanical handling of iron ore and the arrangements made for the efficient handling of iron ore in other principal iron ore exporting countries *viz.* Africa, South America and Australia so as to achieve maximum economy in the cost of handling consistent with optimum loading.

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46	98	As the working of cranes is of crucial importance in ensuring quick handling of goods and turn-round of ships, the Committee cannot too strongly stress the need for maintaining them in efficient working condition. They are glad to note that action has already been initiated by the port authorities to improve the crane maintenance facilities by expanding and modernising the workshop facilities. The Committee note that plants have been drawn up for replacement of old cranes and for installation of some new cranes. Government are, however, finding it difficult to meet their cranage requirements from indigenous sources at reasonable competitive rates. The price quoted by M/s. Jessop & Co. for four 3-ton electric cranes is Rs. 20.60 lakhs with an escalation clause against Rs. 13.40 lakhs of firm quotation by a Hungarian firm (i.e., about 54 per cent lower than Jessops). Further the period of delivery given by Jessop & Co. is also much longer, being 20-24 months against 12-15 months quoted by the foreign firm. While the Committee desire the country to become self-sufficient in the manufacture of cranes and other related equipment, they would like to sound a note of caution that self-reliance should not mean indigenous manufacture at uneconomic prices. The Committee recommend that Government should devise effective measures to reduce the costs of indigenous manufacture of cranes so as to make them comparable with imported ones. For this purpose a comprehensive review of the available manufacturing capacity within the country may be made by Government and a phased programme drawn up for the manufacture of cranes at competitive rates and with reasonable delivery periods.
47	100	The Committee are distressed to note that in spite of several discussions held between the port and railway representatives, it has not been possible to decide the principles which should govern the financial settlement of the assets and liabilities in respect of railway section beyond Vasco-da-Gama which was transferred to Southern Railway in May, 1963. Since there is a basic difference in the view points of the representatives of railways and the port administration regarding the valuation of assets transferred to

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		the railway, the Committee would suggest that a high level committee consisting of representatives of the Ministries of Finance, Transport and Railway Board may be appointed to settle the assets and liabilities. The Committee need hardly stress that the matter should be settled early, at any rate before the closure of next financial year (1966-67).
48	102	The Committee are glad to note that the Railways have been able to handle the increased movement of iron ore to Mormugao Port from 2.6 lakh tons in 1963 to over 5 lakh tons in 1965 (upto November).
49	103	The Committee have no doubt that the traffic survey being carried out by the Railways, would fully take into account the quantum of ore which is to be carried by rail to Mormugao Port to achieve the estimated export target of 10 million tons by 1970. The Committee would urge early completion of the survey report so that timely decisions can be taken and implemented to increase the rail capacity to Mormugao commensurate with the export requirements.
50	104	The Committee consider that efficient road link between mine pit-head and loading jetty points is imperative for quick transport of ore to the Port. The Committee note that according to the National Council of Applied Economic Research the vehicles can carry 30 per cent more traffic if the roads are maintained in a proper condition. The Committee feel that as the Government have been collecting a tax of 50 paise per ton on the ore for the last eight years, they should have developed the roads by utilising the tax collected. The Committee would suggest that a detailed plan for improving the road link between the iron ore mines and the loading jetty points may be expeditiously drawn up by Government in consultation with the users keeping in view the export target from the port and implemented at an early date.
51	105	The Committee regret to note that sufficient attention has not been given to the proper maintenance of the approach road to the port. They would urge that the question of widening and

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		realigning the road should be taken up with Goa Administration on priority basis. In view of the fact that this road largely feeds the traffic to the port, the Committee would also emphasise that the question of taking over the road from Goa Administration should be finalised expeditiously so that it may not remain in a state of disrepair due to uncertainty on this account. The Committee feel that due to paucity of funds with Goa Administration and in view of the fact that this road is mostly used for port traffic, it may be desirable for the port to take it over.
52	106	It is obvious that with the increased utilisation of the existing equipment, installation of new cranes and the execution of the development schemes, the power requirements of the port will increase considerably. These are estimated to be about 12 to 15 m.w. The Committee are greatly concerned at the uncertainty which still prevails regarding the supply of power to Mormugao Port. Since power would be necessary for the operation of additional electric cranes and the new ore handling plant, proposed to be installed at the port, it is imperative that adequate supply of power from Sharavati or the Southern Zone Grid should be assured to the port in time. To enable the port authorities to make necessary arrangements for taking bulk power, it is necessary that final commitments regarding the quantum of power and the dates of supply are firmly made in advance. The Committee, therefore, urge that immediate action should be taken by Government, in consultation with the Central Water and Power Commission, to decide about the sources of supply of power to the port.
53	107	The Committee urge that the additional storage reservoir of 1.25 lakh gallons of water proposed to be established at Mormugao should be put in position expeditiously. They further consider that as water requirements should form an integral part of planning, Government may well ask the Consultants to make suitable provision to meet the increased water needs as a part of

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		the Master Plan for the development of Mormugao Port.
54	108	The Committee note that the condition of the warehouses is poor and they often leak also. It needs no emphasis that the port warehouses should be maintained in good condition to avoid damage to the goods and the complaints from the owners. The Committee, therefore, urge that immediate steps should be taken by port authorities to improve the condition of the warehouses.
55	109	As the warehousing facilities available are not adequate, the Committee appreciate the port proposals to augment the warehousing facilities forthwith; but the Committee like to stress that, to avoid infructuous expendiutre, the new warehouses should be so designed and located that they fit into the outline proposed in the Master Plan.
56	111	The Committee in their Sixty-Seventh Report (Third Lok Sabha) on Ministry of Transport (Calcutta and Haldia Ports) have already suggested that "the question of having a separate Port Protection Force on the lines of the Railway Protection Force, may be considered by the Union Government in consultation with the Port authorities and the State Government." The Committee urge that a very early decision may be taken in the matter so that a uniform pattern of security arrangement may be introduced in all the major ports including Mormugao.
57	115	The Committee note that the powers of the Chairman of the Port Trust are considered adequate at present, but they feel that as Mormugao is yet an undeveloped port and would require radical improvements and developments in near future, the present powers of the Chairman may not then be found adequate. The Committe suggest that the schedule of delegation of powers may be reviewed at an opportune time after the Master Plan for the development of port has been approved in order to ensure that expeditious execution of development works is not hampered for want of adequate powers of the Chairman.

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58	117	Since uncertainty about the scales of pay tends to affect the efficiency of the employees concerned, the Committee would urge the Government to expedite the finalisation of the pay scales which have not yet been prescribed.
59	118	The Committee realise that as Mormugao has been only recently taken over by the Government and declared as a major port, many amenities for the staff including medical facilities, may not be upto the standard of other major ports. The Committee would like Government to take urgent measures to provide adequate medical and hospital facilities for the employees working in the port. It would be helpful if the question of providing medical and hospital facilities to employees of the major ports is reviewed by the Conference of the Chairman of Port Trusts and a suitable scale laid down in this behalf for guidance of all concerned.
60	119	The Committee hope that urgent action would be taken to provide adequate office accommodation to meet the requirements of the Port Trust.
61	120	While the Committee are for simplification of procedures to avoid delay in according sanction and for timely completion of construction works, they consider that economic factors should not be overlooked in the matter of provision of accommodation to staff. The Port Trust should draw up a phased programme for the construction of quarters particularly for lower categories of staff taking care to see that it would not unduly burden the resources of the Port Trust. As land in Mormugoa is very limited, the staff quarters should be so located that they do not come in the way of future development of operational facilities in the port.
62	121	The Committee are glad at the absence of any major accident at the port. They would, however, urge that early action should be taken to constitute Dock Safety Committee so that it can

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		take preventive measures to maintain the past good record in this respect.
62	121	The Committee would also suggest that wide publicity should be given to the safety measures in all the languages commonly spoken and understood by the employees in order to make them well conversant with safety requirements.
63	123	The Committee would like the port authorities to make at an early date a comparative study of labour efficiency in handling ore at various ports so that concerted measures can be devised to effect an improvement in labour output and a reduction in handling charges. The Committee would also like a careful review to be made of the existing incentive scheme to assess whether it is achieving the objectives underlying its introduction.
64	124	The Committee hope that sustained efforts would continue to be made to improve the labour situation.
65	125	The Committee fail to understand as to why the existing fire-fighting arrangements in the port are considered temporary. The Committee suggest that the programme for the provision of fire-fighting facilities in the port, which should be drawn up in consultation with National Fire Fighting Service College, Nagpur, should form part of the Master Plan and should be executed in stages according to developing requirements of the port.
66	126	The Committee are convinced that there is urgent need for effecting improvements in the existing system of trunk telephonic communications from Mormugao to the rest of the country. They understand that the Posts and Telegraphs Department have a scheme for introducing automatic exchanges at Vasco-da-Gama and Mormugao and have also prepared a scheme for improvement of the trunk telephonic communications to Bombay and New Delhi. The Committee hope that no efforts would be spared to extend the benefits of these schemes to Mormugao Port within the shortest possible time.

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67	127	Mormugao which has only recently been taken over by the Government of India, is endowed by nature with one of the finest natural harbours. It commands a strategic position on the Western coast which offers full view over the Arabian Sea. Plans for systematic development of the port have just been taken in hand. Mormugao has hinterland with vast potentialities of industrial, commercial and agricultural development which would give a great fillip to the traffic passing through this port. Diversification of this traffic is also bound to follow. At present largest exports of iron ore from the country are made through this port. India's reserves of iron ore are estimated at 19500 million tons and rank the 4th largest in the world; and within the territory of Goa these possible reserves of iron ore are estimated at 600 million tons. Besides, sustaining a large internal steel industry, a reserve of this magnitude can be fully exploited for large scale exports of iron ore to earn valuable foreign exchange. With a distance of less than 100 kilometres from the iron ore mines to the port and cheap river transport through inland waterways, Mormugao is advantageously placed in the matter of export of iron ore. The port has thus great potentialities of developing still further into a major export port of iron ore. The present plan for export of iron ore through this port envisages an increase from 6·3 million tons in 1964-65 to 10 million tons in 1970. The exports of iron ore from Goa have mostly been to Japan. The Committee understand that Japan one of the biggest purchasers of iron ore from this country, is entering into agreement with Australia for import of 10 million tons of iron ore from that country, and Australia is reported to be contemplating integrated development of ore mines, transport facilities from mines to the port and loading arrangement into the ships. The Committee consider that if India is to retain its present market for export of ore to Japan and increase its competetive capacity, it will have to keep abreast of the developments in other iron ore exporting countries and take suitable measures to constantly improve its position by effecting all round economies particularly in transport and handling costs.

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		The Committee further consider that if the target of 10 million tons of export of iron ore from Mormugao is to be achieved by 1970 and the potential for increased exports in future created, it is essential that Government should take early decision on the development of facilities for handling of ore at the port, as in the last analysis port facilities and economies in the transport and handling cost play a key role in export trade. The Committee feel now that Government have experienced of working of iron ore handling plants at several ports notably, Paradeep, Vishakhapatnam and Madras, it should be possible for them to devise the most economic and efficient method for handling of iron ore at Mormugao. Further since cheap and quick transport of ore from the mines to the port is equally important in determining its export potential, the Committee would suggest that early decision should be taken on the question of extending the port jurisdiction so as to include the Combarjua canal which connects river Mandovi with Zuari, and other inland waterways upto jetty loading points, so that their navigability could be maintained at the optimum level for quicker turn-round of barges. The Committee would also urge Government to carefully consider the question of location and sitting of the naval base at Mormugao keeping in view the overall national interest, its strategic position and potentialities of future expansion of both the commercial port of Mormugao and the naval base. Industrial and commercial development of the hinterland, development of railroad communications, despending and widening of the Combarjua canal and improvement in the navigability of the rivers are all bound to result in expansion of traffic through this port. The Committee hope that Government would consider all these aspects of the development of Mormugao port in an integrated manner and take an early decision in the matter.

APPENDIX XII

Analysis of Recommendations/Conclusions contained in the Report

I. CLASSIFICATION OF RECOMMENDATIONS :

A. Recommendations for improving the organisation and working :

Serial Nos. 1, 2, 3, 4, 6, 7, 9, 10, 11, 12, 13, 15, 16, 18, 19, 21, 22, 23, 24, 25, 27, 29, 30, 35, 36, 39, 43, 50, 51, 52, 53, 54, 56, 57, 58, 59, 63, 64 and 66.

B. Recommendations for effecting economy :

Serial Nos. 5, 8, 14, 17, 20, 26, 28, 31, 32, 34, 37, 38, 41, 42, 44, 45, 46 and 55.

C. Miscellaneous recommendations :

Serial Nos. 33, 40, 47, 48, 49, 60, 61, 62 and 65.

II. ANALYSIS OF MORE IMPORTANT RECOMMENDATIONS DIRECTED TOWARDS ECONOMY :

S. No.	S. No. as per Summary of Recommendations (Appendix XI)	Particulars
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1.	5	An overall integrated plan for the handling of foodgrains and fertilizers for the whole country should be prepared taking into account the requirements of the various regions, port capacity and rail/road transport facilities. The facilities for handling of foodgrains and fertilizers at Mormugao should be properly geared up so as to serve adequate the requirements of the regions and to relieve congestion of traffic in Bombay.
2.	8	As detention to ships adversely affects the freight rate, which is the key economic factor in the export of ores, the port authorities should spare no efforts to reduce the period of detention and speed up the turn-round of ships.
3.	14	Earnest efforts should be made by the port authorities to bring down the estimated capital expenditure on Stage I of the Master Plan so as to be able to earn a reasonable return on the heavy investments.

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4	17	The Consultants should be given a specific instruction to ensure that as much of the equipment as possible for implementing the development programme should be procured from within the country.
5	20	Government should take positive steps to develop inter-port technical consultancy service in the country to increase efficiency and effect economy and save foreign exchange.
6	26	Since the export of iron ore is the back-bone of the economy of Goa, it is very important that the navigability of the inland waterways is maintained at its best by adequate and constant dredging. This would enable the barges to complete the round trip in 24 hours instead of 36 hours as at present and would result in their optimum utilisation, increase in the tonnage of ore transported from the mines to the port and consequential reduction in transportation charges.
7	28	The constitution of a barge pool in Mormugao would obviate not only the need for acquisition of additional barges and saving of foreign exchange but would also ensure fuller utilisation of the existing barge fleet.
8	31	The dredgers should be utilised to their optimum capacity and careful watch should be kept on the cost of dredging with a view to reduce it further.
9	32	Concerted attempts should be made by Government port authorities to dispense with the necessity of calling in foreign firms to undertake dredging as far as possible.
10	34	Government should issue necessary directions regarding the need to call for competitive tenders for the repair and overhauling of the harbour marine craft as such a system is necessary for the economic management and working of the public undertakings (like Mazagon Docks, Bombay) which should be expected to do things more economically.
11	37	Government should review comprehensively the position regarding manufacture of tugs within the country so that as far as possible the requirements are met from indigenous sources. Effective measures should also be taken simultaneously to bring down the cost of indigenous tugs so that it is comparable with those manufactured in foreign countries.

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12	38	Government should draw up a phased programme for the indigenous manufacture of the items of raw materials, stores and components which are difficult to procure at reasonable rates and are required to be imported, with a view to reduce the foreign component in the manufacture and repair of harbour craft as far as possible.
13	41	The capacity of the existing ore handling plant should be increased to the optimum level by providing necessary components and equipments, keeping in view the investments and its effect on ore handling charges and the ultimate use to which this iron ore handling plant would be put after the installation of the bigger ore handling plant.
14	42	Every care should be taken to see that the design of plant at Mormugao is such economy and efficiency in
15	44	in conjunction with the ould make a comprehensive and comparative study of handling charges of ores prevailing in the various Indian ports and in foriegn ports with a view to reduce the overall costs of handling of ores at Indian ports.
16	45	The design studies regarding the location of the ore stacking area should be completed expeditiously by the consultants keeping in view the technological advances made in the mechanical handling of iron ore and the arrangements made for the efficient handling of iron ore in other principal iron ore exporting countries *viz.* Africa, South America and Australia so as to achieve maximum economy in the cost of handling consistent with optimum loading.
17	46	Government should devise effective measures to reduce the costs of indigenous manufacture of cranes so as to make them comparable with imported ones.
18	55	In order to avoid infructuous expenditure the new warehouses should be so designed and located that they fit into the outline proposed in the Master Plan.

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