E.C. No. 410

ESTIMATES COMMITTEE 1964-65

SIXTY-NINTH REPORT

(THIRD LOK SABHA)

MINISTRY OF TRANSPORT

VISHAKHAPATNAM AND TUTICORIN PORTS



LOK SABHA SECRETARIAT NEW DELHI April, 1965 Chaitra, 1887 (Saka) Price : Re. 1, D5 Paiss

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CORRIGENDA

To

Sixty-Ninth Report (Third Lok Sabha) of the Estimates Committee on the Ministry of Transport--Vishakhapatnam and Tuticorin Ports.

Page 9, S. No. 1, Col. 6, For '1.50' read '1.40'.
Page 17, Line 2 from below, for 'reports' read 'report'.
Page 26, Para 17, Line 14, for 'Appendix II' read 'Appendix I-A.'
Page 41, Para 37, Line 15 from below, for '(2)' read '2'.
Page 46, Line 6, for 'Report' read 'Project'.
Page 46, Line 2 from below, add ',' after 'in'.
Page 49, Para 43, S.No. 2 of the Table, add '6' below '140'.
Page 65, Line 19, for 'cast' read 'east'.

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(1964-65)

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[•]Elected w.e.f. 18th September, 1964, vice Shri Lalit Sen ceased to be a member of the Committee on his appointment as a Parliamentary Secretary.

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I, the Chairman, Estimates Committee, having been authorised by the Committee to submit the Report on their behalf, present this Sixty-Ninth Report on the Ministry of Transport—Vishakhapatnam and Tuticorin Ports.

2. The Committee took evidence of the representatives of the Ministry of Transport on the 14th November, 1964. The Committee wish to express their thanks to the Secretary, Ministry of Transport, Chairman, Vishakhapatnam Port Trust, State Port Officer, Tuticorin 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 Indian National Steamship Owners' Association and the Southern India Chamber of Commerce for giving evidence and making valuable suggestions to the Committee.

4. The Report was considered and adopted by the Committee on the 3rd and 5th April, 1965.

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

> ARUN CHANDRA GUHA, Chairman, Estimates Committee.

New DELHI-1, 8th April. 1965/Chaitra 18, 1887 Saka.

VISHAKHAPATNAM PORT

CHAPTER I.-INTRODUCTORY

A. Introduction

1. From the beginning of the present century there has been a growing realisation of the need to have a major port on the 900 miles long stretch between Madras and Calcutta. It was found that of all the existing minor ports, the one at Vishakhapatnam in the State of Andhra Pradesh, situated 487 miles north of Madras, possessed the best natural facilities for development into a major port. The Government of India had also under contemplation the desirability of connecting the Port by rail with Raipur in the interior so as to open a vast undeveloped area. The proposal was sanctioned by the then Secretary of State for India in 1909, but was postponed on account of difficulty in finding funds during the First World War.

In 1920 the proposal was revived on the initiative of the Bengal Nagpur Railway and the Railway Board. As the Government of Madras, who were administering the then existing minor port, were unable to provide the funds, it was decided to develop the Port under the direct control of the Central Government and the work was entrusted to the Bengal Nagpur Railway. The Port was opened to oceangoing vessels in 1933.

With the protection afforded by a projecting hill into the sea known as 'Dolphins Nose' and a low tidal range varying from 4 to 6 feet, the location of the Port is ideal. Though severe cyclones strike the east coast, they do not ordinarily affect the Port. The average rainfall at Vishakhapatnam is 39 inches per year and the temperature variation is 17° C to 43° C.

The Port serves a vast hinterland comprising Andhra Pradesh, Madhya Pradesh and Orissa. Andhra Pradesh is rich in agricultural produce such as rice, tobacco, sugar. molasses, jute and groundnut, while Madhya Pradesh and Orissa are rich in mineral ores like Manganese and Iron.

Industries are also fast coming up in these areas. Besides, the Shipyard and the Oil Refinery in the Port area, there are several jute mills, sugar mills, paper mills, ferromanganese, chemical and fertilizer factories in the adjacent areas. The port also serves the huge Bhila and Rourkelas. Steel factories and other industries in the neighbouring. States.

B. Management

2. The Port was originally worked by the Bengal Nagpur Railway and thereafter its control was entrusted to the Madras Government. However, the Port was again handed over to the Bengal Nagpur Railway in 1946 and it continued to be worked by them under the guidance of the Ministry of Railways (Railway Board) until October, 1956, when its working was entrusted to the Ministry of Transport in pursuance of the recommendations made by the Estimates Committee, 1956-57, in their 19th Report on the Ministry of Railways (General Administration). Under the Major Port Trusts Act, 1963 a Port Trust has been constituted with effect from the 29th February, 1964 to administer the Port.

The Port Trust consists of a Chairman and 11 Trustees as shown below and they are appointed by the Government of India:

- 1. One Trustee representing the Customs Department.
- 2. One Trustee representing the Indian Railways.
- 3. One Trustee representing the Defence Services...
- 4. Two Trustees representing the State Government...
- 5. One Trustee representing the Vishakhapatnam. Steamship Agents Association.
- 6. One Trustee representing the Vizagapatam Chamber of Commerce.
- 7. One Trustee representing the Federation of Chamber of Commerce & Industry, Andhrag Pradesh.
- 8. One Trustee representing Vishakhapatnam Municipal Council.
- 9. Two Trustees for labour interests.

The Chairman is in overall charge of the administration of the whole Port. There are the following departments in the Port:

- 1. Administration
- 2. Marine
- 3. Traffic
- 4. Civil Engineering
- 5. Mechanical

- 6. Accounts
- 7. Stores & Purchases
- 8. Medical and Health
- 9. Labour
- 10. Security

A chart showing the organisational set up of the Vishakhapatnam Port Administration is given in Appendix I.

CHAPTER II.--TRAFFIC HANDLED AT THE PORT

3. The figures of import and export handled by the Port during the last five years are given below:

Year			Imports	Exports	Total
			مركولين والاند فينده وكالوالي	(In tonnes)	
1 959-6 0			1224,555	1261,839	2486,394
1960-61			1385,891	1461,951	2847,842
1961-62		•	1396,496	1456,850	2853,346
1962-63		•	1717,526	1505,455	3222,981
1963-64			1849,080	1671,746	3520,826

The total number of ships that visited the Port during the last five years is as under:

1959-60		573
1960-61		628
1 961-62	• •	620
1962-63		639
1963-64		719

CHAPTER III-FIVE YEAR PLAN

A. First and Second Five Year Plans

4. The following provisions were made and expenditure incurred on the various projects of the Port during the First and the Second Five Year Plans:

				Provision	Expenditure
First Plan				(Rs	in lakhs) 134.26
Second Plan	•	•	•	. 941 .	02 431.94

The details of the projects which were carried forward from the First Plan to the Second Plan are given below:

	Pr (Rs.	ovision in lakhs)
(1) Works connected with establishment of an Oil Refinery		129.00
(2) Suction Dredger 'Visakha'	•	127 • 78
(3) Staff Quarters		1 · 86
(4) Construction of Quay Berth No. IV		ı · 28
(5) TugʻRana Pratapʻ		2 · 86
(6) Miscellaneous (Works, Plant, Machin- ery and Floating Craft)		16.84
	-	2 79·62

The reasons for carrying over the above projects to the Second Plan period and the progress made in completing them have been indicated by the Ministry as follows:

- (1) Due to non-receipt of dredger D. D. "WALTAIR". Rock dredging in the entrance channel in progress.
- (2) Due to non-receipt of bills for Plant and Machinery and floating craft etc."
 - "All works completed in Second Plan except works connected with Oil Refinery and Oil

Installation Scheme (viz.) rock dredging in the entrance channel. This is an intricate and voluminous work and expected to be completed in 1965."

B. Third Five Year Plan

5. As regards the projects for the Third Five Year Plan, these may be broadly divided under two heads:

- (1) schemes carried forward from the Second Plan;
- (2) new schemes.

A provision has been made in the Third Five Year Plan for Rs. 718.83 lakhs for carry forward schemes from the Second Plan and Rs. 132.36 lakhs for new schemes. The Ministry have furnished the following statement indicating the financial and physical progress made in implementing the Plan schemes:

	r Physical progress. (Till 30-9-64)		σ		%96	%06	Received all plant and machinery (tc., except Radio Tele- phones Sets for float- ing craft.	60% work to be completed in 1964-65
in lakhs)	Spill over to Fourth		œ		:	:	:	:
(Rs.	Antici- pated expendi-	during during the next year (1965-66)	7		00.2	0.15	:	:
	Antici- pated expendi-	une during the cur- rent year (1964-65)	Q		00.2	I • 49	0.54	00.001
	re incurred hird Five Plan	Expendi- ture during 1963-64 (antici- pated)	۶		7.40	60·E	9 · 91	85°00
	Expenditu during T ¹ Year	Expendi- ture upto 31-3-63	4		۰ <u>۶</u> ۰۶۱	I · 88	92.6	92.58
	Approved Third Plan		£	SCHEMES	12 · 00	o6.\$	8.93	230-46
	*			WARD	d with oil		and	Four
	Name of wor		7	I. CARRY FOR	Works connected refinery	Roads and drain	Plant machinery floating craft	(i) Additional Berth Scheme
	Serial No.		н		-	7	m	4

	R	e.	*	~	v	~	60	6
i) [*] Ore	Loading plant	90. 38	6.19	ı£.\$61	147 - 33	ي 8	8 œ	30% Civil Engineer- ing—Certain mechi- neries have been received.
xtensi for Po	on of Dry Dock art Craft	15.38	9E-L	0.82	8 · 18	:	:	90% (Crane expec- ted in 1964-65).
epairs	s to Breakwater	11 - 45	2.12	:	00.21	4.47	4 .	%oE
Navig	uction of Night gation Scheme	2.36	9.63	16.0	cf . o	:	:	East Point Lighthouse has been put into Commission from 10-10-62. Other works are in progress.
200/1 Scr	:500 H. P. Twin ew Tug	32.54	0 1 · 6 1	:	62.21	:	:	Tug received in 1963-64.
ceplac ''Ra	æment of Tug nger"	32 · 54	01.61	:	69 - 11	:	:	Tug expected in 1964-65.
Q La C	nstruction of ters	1-85	2.84	0.12	:	:	:	Completed.
olus Que	iprovement to Liters	1 · 26	02.1	10.0	:	:	:	Completed.
hblidu	: Health	3.55	12.8	:	:	:	:	Completed.
Velfa	re amenities	19.0	0.45	t o.o	:	:	:	Completed.

5	Bridge across the swamp including road etc.	00.55	:	8	œ.\$1	£1.0E	25.00	2% (Sanction re- ceived only in April 1963 for Rs. 62-73	
14	Works	۶.8	12-7	0.03	0.25	:	:	lakhs). Almost all completed.	
	Total of I	718-83	197-93	298·73	316-19	37-35	80.65		
	II. NEW SCHEMES								
	(i) Schemes essential for maintenance of existing Services								
I	Electric Lighting	۶.00	:	6.27	02 · 1	:	:	Works under progress	
2	Drainage and Sanitary arrangements in the Port area.	3.00	61.0	:	:	2 .83	:	•	0
m	Floating Craft :								
	(a) New Engine for Pilot Launch "Padmini"	1.00	:	:	;	:	:	Dropped.	
	(b) Replacement of 10-ton dredging cranc for Bombay Duck	3.50	:	:	22.2	() S	:	Tenders are being in- vited by D.G.S.&D.	
	(c) Replacement of Boiler on 60-ton Crane	0£ .0	:	:	:	0.83	:	This will be taken up in 1965-66.	
-	(d) Replacement of 40 Nos. Skip Trucks	1.00		:	:	8 ·1	:	Do.	

	under	spected 4.	invited.						ıken up	
6	Tenders are scrutiny.	Engine is en in May, 196	Tenders are		16%	33%	Dropped.	14%	This will be ta	
œ	:	:	:		:	:	:	:	:	7.00
7	:	:	8.48		4.90	2.65	:	\$o.\$	0.46	7.40
9	06 .5	0· 16	14.52		06.1	0.87	:	00 · 1	:	o5.E
5	:	:	:		0 †.0	61.1	:	\$z.o	:	:
4	:	90.o	:		0.58	16.0	:	12.0	:	:
3	8 •	52.0	00. E z		00.01	ک .00	9.E	2.00	0.46	00.51
e	(e) 2 Nos. Lighters-cum- Pontoons 100 or 150- ton capacity.	(f) One No. Motor Launch for Traffic Department.	(g) Dredging Tug (800 B.H.P.)	(ii) Ess en tial Improvement Schemes	Land Development and reclamation.	Improvement to water supply in Port area	Sub marine pipeline ac- ross the Ship Channel at the entrance with T-head jetty	Jetty wharves for dredgers	and tugs Additional N.G. Track	Construction of New Ad- ministrative Offices.
-					I	n	ŝ	4	v	VO -

	80%	25%	Machinery is expected in 1964-65. A/T's have already been finalised Civil En- gineering Works are in progress.		Government is being addressed for sanc- tion.	k nearing completion	Work completed.	Dropped.	<pre>x/T placed. Cranes expected in 1964-65.</pre>
8.00°	:	:	:		:	Wor	;	:	:
60.6	:	2.74	:		:	:	:	:	z .63
3.77	٥٤.٥	12.0	5. 60		٥.٥	01.0	٥. ۲۱	:	23 · 68
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0.14	86.0	£0.0	:		:	80.0	0 · 12	:	:
20.00	3.00	3.74	S. 8		19.0	o5 .0	09 .0	0.30	8 9
Provision of quarters for Officers and Staff.	Improvement of Port Dispensary	Labour Amenities .	New Workshop	. Workshop Equipment :	(a) Angle Rolling Ma- chine	(b) Lighter Shipway trolley with winch.	(c) Additional transformer capacity at Dock Yard Workshop.	(d) Timber Seasoning and Preserving Plant.	Cargo handling equip- ment : (a) Seven Nos. Crane (3- ton capacity 5 Nos. and 6-ton 2 Nos.)
~	80	6	01	11.					ri l

	-	m	4	Ś	Q	٢	80	6
(b) Purchase tors, 4 tr night so in lieu of tipping k	of 2 trac- ailers and 1 bil tank trailer f 2 Nos. End orries each of actity.	ç. o	6 4 . o	8 0	:	:	:	Completed.
(c) 4 Nos. Trucks c capacity (Fork Lift of 4000 lbs. each.	02 - 1	:	:	:	07 - I	:	
13 B. G. Rai	leay :							
(a) Wagon		8.E	:	1·78	68.0	:	:	Received completely
(b) Railwa	y track .	6 8	01.0	1 · 46	52.0	:	:	(40 megan
Тота	r of II .	132-36	3.17	56 .2	64 · 44	49.20	15.00	
GRAND TO	TAL OF I & II	61 · 158	3 01 · 10	306 · 68	380 · 63	86.55	74.00	
ADDI Second Sh vestigatio	TIONS ip Channel In- ns	:	:	50.0	:	:	:	Rs. 2.64 lakhs sanc tioned for prelimi- nary investigations

	Nearing completion.	:	. Received.
:	\$ο.ο	· \$6.1	-
0/.0	0-33	:	0.21
:	:	:	
:	:	:	:
r run order bauge for car rying out repairs to Dred- gers and floating craft.	3 5-Ton winch for S. P. Jetty.	 4 Conversion of S. D. "Visakha" from coal burning to oil burning. 	5 Pick up van

The Committee note with distress that out of the First Plan projects, 6 projects with a total estimate of Rs. 279.62 lakhs had to be carried over to the Second Plan and that out of a provision of Rs. 941:02 lakhs made in the Second Plan only Rs. 431.94 lakhs representing 46 per cent were utilised with the result that a number of important projects had to be carried forward to the next Plan period.

The Committee are unhappy that the practice of carrying forward important works from one Plan period to the other has persisted throughout. They consider that if the Plan provisions for refinery works and the suction dredger in the First Plan period and for additional four berths, ore loading plant etc. in the Second Plan period, were effectively utilised to complete the works in question during the respective periods, the Port could have played a bigger part in sustaining and increasing exports of iron ore. which have gathered momentum during the current Plan period and thereby enabled the country to earn more foreign exchange. Detailed comments regarding delay in the execution of these Plan schemes are given later in this report.*

The Committee are distressed to find that as much as Rs. 74 lakhs would be carried forward from the Third Plan to the Fourth Plan and that out of this amount Rs. 59 lakhs would be for projects which were carried forward originally from Second Plan to the current Plan period. The Committee can hardly over-emphasise that every effort should be made to complete these long outstanding schemes within the current Plan period. As this sort of failure in implementing Plan Schemes has been more or less common for all ports, the Committee suggest that every such case of failure should be properly enquired into and responsibility fixed.

The Committee would further suggest that phased programme may be drawn up in advance for implementation of schemes to be included in the Fourth Plan so that the various factors which have hampered progress during the current and the earlier Plan periods do not hold up progress of works in the next Plan.

CHAPTER IV.—BERTHING FACIILITIES

A. Present Facilities

6. The Port can accommodate at present 15 vessels at a time. There are—

- 4 quay berths on the eastern side of the Northern arm for accommodating four ocean-going vessels at a time;
- 2 oil refinery berths on the Northern side of the Western Arm for berthing 2 oil tankers; and
- 3 jetty berths on the western side of the Northern Arm which can accommodate 3 ships.

In addition to the above, there are six mooring berths for use by vessels when the other berths are occupied.

B. Construction of four additional berths

7. With a view to augment the berthing facilities it was proposed in the Second Five Year Plan to add the following additional berths:

- (i) Two ore berths; and
- (ii) Two General Cargo berths.

Not much progress was, however, made in undertaking this work and it was carried to the Third Five Year Plan and a provision of Rs. 230.46 lakhs was made therein.

The contract for the construction of these berths and a lighterage wharf was awarded in October, 1961 to Messrs. Steel Crete Ltd. The scheduled time for the completion of the construction of the four berths from the date of commencement of the work specified in the contract was 18 months in the case of the two west ore berths and 30 months in the case of the two east cargo berths *i.e.* April 1963 and April 1964 respectively.

Regarding the delay in the construction of the berths. the Committee have been informed that—

> "initially delay arose due to late receipt by the contractors of construction equipment to be made available from the U.S.A. (under the U.S. President's Fund for Asian Economic Development). Work was held up due to a

labour strike at Vishakhapatnam Port in the middle of 1962. The contractors were also slow in executing the work. A penalty of Rs. 1 lakh has so far been imposed by the Port on the contractors."

The Committee have been informed during evidence that even after imposition of penalty the contractors have been going slow. According to the latest position the ore berths are expected to be completed by the end of February, 1965 and the general cargo berths by the end of December, 1965.

The work was originally estimated to cost Rs. 2,58,12,000. The estimate has, however, been revised to Rs. 3,29,85,826 *i.e.* about 31 per cent. increase. The item-wise break-up of the estimates both original and revised, is given below:

		Original Estimate	Revised Estimate	
		Rs.	Rs.	
(1)	Wharves and Berths.	1.81.46,000	2,11,08,332	Due to high ten- dered rates.
(2)	Dredging and slope protection work.	48,37,000	77,33,017	Due to extra work and adoption of increased rates.
(3)	Railways .	6,12,000	17,80,455	Due to extra len- gth of Railway lines.
(4)	Water supply and distribution.	d 1,36,000	1,74,585	Due to extra work
(5)	Plant and equip- ment for the po	20,81,000 rt.	21,89,437	Due to higher rate as per ac- cepted tender.
		2,58,12,000	3,29,85,826	
	Net excess—Rs.	71,73,826.		

The Committee have been informed that the noncompletion of the ore berths has to a great extent delayed erection of the Ore Handling Plant, and that the delay in the completion of east cargo berths and lighterage wharf has adversely affected the handling capacity of the Port.

It has been stated during evidence that in accordance with the agreement signed with Japan the export of 2 million tons of ore was to commence from 1964, but as the port facilities had not been fully provided, an *ad hoc* contract for export of $3\frac{1}{2}$ lakhs tons of ore to Japan during 1964 as against 2 million tons, was signed.

The Committee are not convinced with the reasons advanced for such inordinate delay in the construction of berths which has gravely affected the programme for installation of the ore handling plant and the export of ore to Japan. The Committee feel that in view of the resultant losses suffered by the Port and the Government on account of the delay in construction of the four berths the penalty of Rs. 1 lakh imposed on the contractors appears to be inadequate and suggest that Government should look into the matter. They would also stress that every effort should be made to expedite the completion of the two east cargo berths so that these are put into commit ion well before the end of the year.

C. Shipping Channels

8. It is stated that the Shipping Channel was originally Existing 30 feet deep and 250 feet wide at the bottom. The Channel, Vishakhapatnam Port could handle only ships upto a maximum length of 540' and drawing a maximum draft of 28'-6". As a result of an agreement with the Caltex Refinery, the Port undertook to widen the channel by 100' and also deepen the entire channel to not less than 35'. This work has almost been completed except for deepening of some portions of the extended width to 35'. It is expected to complete the present improvements by the end of 1965.

9. In connection with the export of iron ore from Second Kiruburu and Bailadilla Mines, it is proposed to provide Channel, facilities for handling 50,000 tonner ore carriers of 750 length and drawing a draft of 38'. To meet this situation there are two proposals under investigation. One is to further improve the present shipping channel at an estimated cost of Rs. 300 lakhs by widening to 500' and deepening to 43' and the alternative is to cut the second shipping channel for which the estimated cost is roughly about Rs. 7 crores. A provision Rs. 2:64 lakhs has already been made (outside the Third Plan provision) for preliminary investigations.

It has been stated that the above proposals have been referred to Poona Research Station whose reports has not yet been received. The Committee are given to understand that iron ore has already started moving from Kiriburu mines for export to Japan from the Vishakhapatnam Port in accordance with the contract signed with the Japanese. These exports would gather momentum and rise to about 6 to 8 million tons with the installation of ore handling plant and development of Bailadilla mines.

The Committee urge that early decision may be taken in consultation with the Research Station, Poona for widening and deepening further the shipping channel on long term basis so that larger carriers which are being increasingly used for carrying ore can come into Vishakhapatnam.

CHAPTER V.—ORE HANDLING PLANT

A. Plant Estimates

10. It has been stated that the ore handling plant being installed at Vishakhapatnam Port is the first of its kind in India. The preliminary plans, estimates and general specifications for the ore handling plant were prepared by the Development Adviser in the Ministry of Transport in February, 1959. Subsequently these were sent to a few well known manufacturers of ore handling plants with a view to obtaining more accurate estimates of the cost involved. The manufacturers were given the option to make alternative suggestions or to modify the preliminary estimates to the extent they found necessary. The preliminary estimate was for Rs. 2.04 crores.

In July, 1961, the Development Adviser in the Ministry of Transport finalised the revised estimates for the manufacture of the ore handling plant in the light of the replies he received from the well known manufacturers of ore handling plant, and the discussions with the various parties concerned (Railway Board, South Eastern Railway, the Japanese Steel Mills, State Trading Corporation and the local U.S. AID authorities). In the revised estimates, amounting to Rs. 3.30 crores prepared by the Development Adviser for the installation of ore handling plant with ancillary equipment and the execution of the connected civil engineering works, there was a provision of only Rs. 132.11 lakhs for the supply of the ore handling plant. Even this estimate was tentative as a more accurate estimate could be had only after the tenders had been invited from the U.S.A. Tender papers were prepared by the Development Adviser in consultation with the local U.S. AID authorities. Government, after approving the tender documents, forwarded them to the India Supply Mission, Washington in September, 1961. A rigid time schedule was drawn up simultaneously for the receipt of tenders, acceptance for handling tenders and execution of the scheme. According to the timeschedule, the tenders were to be received by the LS.M. Washington by the end of January, 1962. Tenders received by the I.S.M. Washington were first scrutinised bv

Messrs. Rendel, Palmer and Tritton and then by the ad hoc Technical Committee headed by the Development Adviser. In March. 1962. Government advised the I.S.M. to accept the lowest tender of Messrs. Stephens-Adamson Mfg. Co. for the design, manufacture, supply and erection of an ore handling plant with a capacity of 6 million tons per annum. The letter of intent (work order) was issued by the I.S.M. to the firm in May, 1962 and formal contract was signed on the 17th July, 1962. According to the contract, the entire installation work was to be completed on or before December, 1963. The value of the contract was Rs. 140.45 In July, 1962, sanction was accorded to an estimate lakhs. amounting to Rs. 164.59 lakhs for the supply of the ore handling plant by Messrs. Stephens-Adamson. This estimate is based on the actual tender cost and includes freight charges, customs duty etc.

In June, 1962, (*i.e.*, after the issue of work order to the firm) Government took a decision that the capacity of the ore handling plant at Vishakhapatnam should be stepped up from 6 million tons to 8 million tons so that the Vishakhapatnam Port might be able to handle 8 million tons of ore in the near future since the Japanese ore buyers showed interest in the import of Indian ore beyond the 6 million target. It was found that by increasing the horse powers of the motors of the plan by 33-1|3 per cent., the capacity for handling 8 million tons would be achieved. Accordingly, certain post-contract modifications were entered into with the suppliers for increasing the capacity of the plant from 6 million tons to 8 million tons. Besides, this, certain other post-contract modifications had also to be made because of the above decision.

- (i) to lower the height of the railway embankment leading to the wagon dumper on account of sub-soil conditions prevailing at the site; and
- (ii) to go in for the latest model of the sampling plant as desired by the Japanese ore buyers.

Due to these post-contract modifications and also on account of the delay in the execution of the necessary civil engineering works such as wagon dumper foundations etc. at the port, the ore handling plant is now expected to be installed and ready for trials by April, 1965.

B. Connected Civil Engineering Works

11. For the civil engineering works connected with the installation of the plant, an estimate amounting to Rs. 121.32 lakhs was sanctioned in November, 1962. This estimate

was subsequently revised to Rs. 128 lakhs. According to the original schedule, the entire civil engineering works were to be completed by October, 1963. This schedule could not, however, be kept up partly due to the late receipt of design information from the manufacturers of the ore loading plant (which was due to the post-contract modifications) and mainly due to the base failure of the railway embankment loading to the wagon dumper. The track at wagon dumper was originally fixed at +38 feet so that the tunnel leading from the wagon dumper to Junction House No. I need not be very deep. During the construction of the embankment, it was noticed that, due to the nature of the sub-soil, it was not possible to raise the height of the bank more than 10 to 12 feet. Wherever heavier loads occurred, the bank slipped owing to plastic flow of the subsoil. In order to investigate the phenomena and to take necessary remedial steps, the Government appointed technical committee headed by the Development Adviser. On the recommendations of the Technical Committee it was decided to reduce the height of the embankment by 18 feet i.e., from 38 feet to 20 feet which entailed certain consequential changes in the design of the ore loading plant and pattern of the civil engineering works. According to the present indications, all the civil engineering works are expected to be completed in March, 1965. It has been stated during evidence that "the change in the design of the plant would not affect efficiency but the main thing has been the delay".

C. Ancillary Equipment

12. Orders for all the ancillary equipment for the ore loading plant, such as locos, tractors, shovels, gantry crane, horizontal boring machine etc. have been placed in the U.S.A. With the exception of locos, all equipment have arrived at the Port. The locos are expected to be delivered by March, 1965. The cost of these ancillary equipment is estimated at Rs. 1 crore.

The Committee regret that though provision for ore handling plant was included in the Second Five Year Plan it was only in February, 1959 (i.e. after nearly 3 years of the commencement of the Plan period) that estimates and general specifications for the ore handling plant were roughly prepared and that it took the Ministry another 2½ years to finalise the specifications by which time the Second Plan period was over. Even after this inordinate delay as a result of dilatory and time consuming procedures, Government felt the need to modify the terms of the contract to raise the capacity of the plant from 6 million tons to 8 million tons soon after the contract for the ore handling plant was signed with the American firm in July, 1962.

The Committee would suggest that with a view to avoid such delays in future Government should evolve a procedure whereby preliminary estimates/plans pertaining to projects, involving heavy expenditure, can be examined by experts, at appropriate levels, in the very beginning so that the period of scrutiny and scope of revision at a later date are kept to the minimum.

The Committee would also like to point out that the nature of the soil where embankment leading to the wagon dumper was required to be constructed should have been thoroughly investigated before finalising its design. If this initial precaution had been taken it would have obviated not only delay in the execution of the connected civil engineering works but also saved the after-contract modifications in the design of the ore-handling plant.

A. Cranes

13. The quay berths are equipped with 13 electric level luffing portal cranes with capacities varying from 3 tons to 10 tons. In addition to these cranes a Scotch Derrick crane of 25 tons capacity is fixed at the end of Q-4 berth for handling lighterage heavy cargo. Packages weighing more than 10 tons can be discharged into or loaded from vessels overside with the help of floating cranes one of 25 tons and the other of 60 tons capacity. Besides these, there are fixed cranes, mobile cranes, fork lift trucks, tractors and trailers.

The Study Group of the Estimates Committee when they visited the Vishakhapatnam Port during June, 1964 were informed that—

"We have also proposed construction of 3 quay berths on the West bank of the Northern Arm in replacement of the present 3 jetty berths, with ancillary facilities under the IV Plan. Proposals are also made for additional cargo handling equipment such as floating Crane, Mobile Cranes, Forklift Trucks etc."

It has been stated during evidence that against provision of Rs. 11.90 lakhs made in the Third Five Year Plan all the cargo handling equipment has been received except the electric crane for which orders have been placed with Jessops at Calcutta. It has been stated that there is also a proposal to go in for a floating crane of a capacity of 125 tons and for 8 fork lift trucks.

The Committee suggest that a long-term view may be taken of the requirements—say for the next 15 years—with particular reference to the nature and quantum of cargo expected to be handled in Vishakhapatnam Port so that a phased programme could be drawn up in advance for modernising and augmenting the existing cargo handling facilities to meet the growing requirements and for making up the deficiencies of particular items required.

B. Lighters

14. The Port Trust own 20 wooden and 8 steel barges of varying sizes for loading or unloading of cargo from vessels berthed in the moorings and for overside discharge from vessels berthed at quays. These lighters and barges are towed by launches to and from required points.

It has been represented by a leading Steam Navigation Company that—

"due to paucity of lighters, export cargo ships, more often have had to work with reduced number of hooks. Ships with heavy lifts, even if berthed alongside quaywall do require steel barges and lighters to work with floating cranes. To that extent again, general cargo exportimport ships working at moorings are affected in obtaining lighters. It is pertinent to mention that due to inordinate delays which these ships are sustaining, their port working expenses are mounting."

The Committee have been informed during evidence that "the existing number of lighters are adequate. We propose to replace some of the old ones by new ones at a cost of Rs. 22 lakhs. We are not going to increase the number because with the general cargo berth the handling of ships at the moorings would be greatly reduced."

The Committee would suggest that a careful reappraisal of the 'requirements of lighters and other handling equipment at the Port may be made having regard to the new berths which are expected to be completed during the course of the year and having regard to the heavy lifts required for Bhilai steel plant and other heavy industries which will be handled at the Port.

CHAPTER VII.—WHARFAGE CHARGES ON OIL

15. It has been stated during evidence that a proposal has been sent to Government for the revision of wharfage charges on the export and import of oil. The rates have been in vogue for almost ten years. The revision proposed is in accordance with the agreement entered into by the Government of India and the Caltex Oil Refining (India) Ltd., for the establishment of an Oil Refinery at the Port. The revised rates proposed as compared with the charges levied at Bombay and Madras are detailed below:

			D	Vishakhapatnam			
		Madras Rs. per 1000 litres	Bombay Rs. per 1000 litres	Existing Rs. per 1000 litres	Proposed Rs. per 1000 litres.		
Crude Oil							
Import	•	3.00	5.60	2.70	3.60		
Motor Spirit (Petrol)							
Import		5 · 60	7.44	4.30	4.46		
Export	•	5.60	1 · 79	4 · 20	2· 2 6		
Furnace Oil							
Import	•	3.00	5.60	2.70	3.60		
Export	•	3.00	1.12	2.70	1 · 80		

The Committee would suggest that early decision may be taken in the matter having due regard to the need for finding finances for meeting the development cost of the Port and the capacity of the oil to bear the proposed wharfege charges.

CHAPTER VIII.—DREDGING

16. A major engineering problem at the Port has been the drift of sand along the coast to an extent of about one million tons per year. This has been responsible for continued heavy expenditure on dredging for maintenance of all the navigable waterways of the Port to the required depth. The fleet comprises of the following dredgers:

							Y Pi	ear of archase
Suction Dredgers								
'Vizaga patnam	ı'			•	•	•		1928
'Visak ha' .		•		•	•	•		1958
Dipper Dredger-cui 'Waltair'	m-R	cock	Breal	ker			•	1958

A. Cost of Dredging

17. A comparative table showing the cost of dredging per 1,000 cubic feet for dredgers 'Vizagapatnam' and 'Visakha' during the last five years is reproduced in Appendix II.

It would be seen therefrom that the cost of dredging for 1,000 cubic feet has increased in the case of 'Vizagapatnam' from Rs. 53.38 in 1959-60 to Rs. 184.20 in 1962-63 and in the case of 'Visakha' from Rs. 26.24 in 1959-60 to Rs. 61.02 in 1962-63.

The Committee note that there is wide difference in the cost of dredging 1,000 cubic feet by dredgers "Vizagapatnam" and "Visakha". The cost of dredging for both the dredgers has also been rising steeply over the years.

The annual quantum of dredging done in the Port during the last three years is as under:

1961-62	•	•	•	•	•	468-22 lakhs cft.
1962-63	•	•	•	•	•	357 · 10 lakhs с [°] t.
1 963 -64	•	•	•	•		369 · 78 lakhs cft.

B. Proposals for New Dredgers

18. It has been stated that the present fleet of dredgers is not sufficient. The port authorities proposed to go in for the following dredgers in the Fourth Five Year Plan, both for the capital works (widening and deepening the entrance channel and increasing the diameter of the existing turning basin from 1200 ft. to 1600 ft.) for handling 50,000 tonner vessels and maintenance thereafter:

- (i) One Hopper Cutter Suction Dredger with capacity to dredge upto 60 ft.
- (ii) One Dipper or Bucket Dredger.

The Committee would suggest that early decision in the matter may be taken so that the work of deepening the entrance channel to the Port and of widening the turning circle can be undertaken without delay.

CHAPTER IX.—DRY-DOCK FACILITIES

19. There is a dry-dock 450 ft. long and 60 ft. wide with a depth of $18\frac{1}{2}$ ft. below low water, to take in ships of 360 ft. in length and 16 ft. draft. This dock caters to the repairing needs of Port's own craft, dredgers and other vessels. As for merchant navy, most of the repairs are done at the terminal port of Calcutta.

The Committee find that the Report of the Planning Group on Ship Building contains inter alia the recommendations that dry dock may be provided at Vishakhapatnam Port with a capacity of 800 ft. x 100 ft. x 30 ft. The Committee recommend that early decision may be taken in the matter.
CHAPTER X.-SECURITY AND PILFERAGE

A. Port Police

20. The Port maintains a Harbour Police Force which is under the administrative control of the State Government. The strength of the police is 88 constables, one inspector and 2 sub-inspectors. It is stated that the police is withdrawn when there is emergency in the town but such occasions are not many. Two-third of the total establishment expenses of the police are met by the port authorities. The expenditure for the last three years is as follows:

1961-62	•	•	•	•	•		•	Rs. 90,000
19 62-63	•	•	•	•		•		Rs. 91,000
1963-64			-	-				Rs. 93,000

B. Watch and Ward Staff

21. The Port also maintains a Watch and Ward staff of their own. Its strength is one inspector, 2 subedars, 8 havildars and 125 watchmen. The expenditure on the establishment of the Watch and Ward for the last three years is as follows:

1961-62	•	•	•		•	Rs. 1,76,00 ⁰
1962-63	•	•	•	•		Rs. 2,41,000
1963-64			•		•	Rs. 2,18,000

C. Pilferage

22. The figures regarding pilferage in the Port area during the last three years are given below:

1962	•	•	•	•	•	•	•	529 cases
1963			•	•			•	263 cases
1964 ((upto	Aug	ust)	•	•		•	115 cases

It is stated that most of the cases are pilferages of wheat in small quantities and occasionally of coal, wagon parts and iron materials stocked in the open.

The Committee have been informed by the Chairman, Vishakhapatnam Port Trust, during evidence that "in respect of the bulk cargo we do not take the responsibility."

The Committee consider that as Vishakhapatnam Port is being increasingly used for bulk handling of cargo, security measures against pilferage particularly for wheat and engineering goods should be tightened up.

CHAPTER XI.—PORT RAILWAY

23. It has been stated during evidence that the Port has 40 second-hand wagons out of which some are hired.

The Port do not have their own locomotives. They have at present 7 hired locomotives, the details of which are given below:

(i) From Calcutta Port Commissioners . 2 small locos

(ii) From South-Eastern Railway . . . 5 standard (HS) type shunting locomotives

The following amounts are stated to have been paid for the two light locomotives which the Port had hired from the Calcutta Port Commissioners from the 17th February, 1961 at the rate of Rs. 200 per locomotive per month for haulage of trains over the road-cum-rail bridge:

				Т	DTAL	•	•	•	Rs. 13,857 · 14
1963	•	-	•	•	•	•		•	Rs. 4,800.00
1962	•	•			•	•	•	•	Rs. 4,800.00
1961	•	•	•	•	•	•	•	•	Rs. 4,257 · 14

The Study Group of the Estimates Committee which visited the Port during 1964 have been informed by a leading Chamber of Commerce that the above two locomotives have outlived their utility as they have been in use at the Calcutta Port for more than 20 years.

As regards the 5 standard (HS) type shunting locomotives it has been stated that these locomotives were hired from the South-Eastern Railway for shunting purposes when the administration of the Port was taken over from the Railways. The rates fixed by the South-Eastern Railway are Rs. 16 per shunting hour. The following amounts have been paid by way of hiring charges during the years 1961 to 1963:—

			T	OTAL	•	•	. Rs. 13,	33,069 . 60
1963	•	•	•	•	•	•	• Rs. 5,0	7,020.80
1962	•	•	•	•	•	•	. Rs. 4,	;0,105 · 6 0
1961	•	•	•	•	•	•	- Rs. 4,2	:5,943 ·20

24. The Committee are informed that proposals have since been sent to Government for procurement of 8 standard type diesel shunting locomotives and 2 light diesel locomotives as these are expected to be more economical and efficient in operation. On procurement, the locomotives hired from the South-Eastern Railway and Calcutta Port Commissioners would be returned.

The Committee have been further informed that the Port authorities propose to increase the length of all lines to 2,250 feet and also provide a separate Reception-cum-Despatch Yard. These proposals are stated to be under consideration of Government.

The Committee consider that as Vishakhapatnam is now being developed in a big way for handling exports of iron ore it is necessary that the railway operations inside the Port are placed on an efficient footing. They would suggest that a small committee consisting of respresentatives of the Port authorities and South-Eastern Railway may jointly go into the working of the Port railway and suggest measures for improving efficiency. In particular, the Committee stress that 10 diesel locomotives required for operating the Port railway should be obtained at an early date and the hired locomotives taken from Calcutta Port and the South-Eastern Railway returned to them.

The Committee would also suggest that a separate account of Port railway may be maintained so as to keep a watch on its operating ratio and devise measures to bring down the cost and improve efficiency.

CHAPTER XII.--ROAD-CUM-RAIL BRIDGE

A. Existing Bridge

25. The Rail-cum-Road Bridge which was constructed in 1951 by the South-Eastern Railway carries both rail and road traffic. It is stated that the Bridge is too narrow and not in a sound condition to take the increased traffic and hence two parallel bridges across the swamps are proposed. Asked about the reasons for replacing the existing bridge, the representative of the Ministry stated that for a number of reasons the existing bridge has to be replaced. "One is to enable the Navy to expand their arm. For that purpose it has to be demolished. Secondly the bridge is too narrow."

Subsequently in a written note, the Ministry have stated that "there is no proposal to demolish the bridge as such but as the navy expands this bridge will become out of use."

The expenditure on repairs and maintenance of the bridge during the five years (from 1st April, 1958 to 31st March, 1964) is given below:

From	То	Rs.
1-4-1958	31-3-1961	26,310
1-4-1961	31-3-1962	10,674
1-4-1962	31-3-1963	11,783
1-4-1963	31-3-1964	16,002
	TOTAL	64,769

It has been estimated that the Port would be spending about Rs. 12,000 or Rs. 13,000 per year on the repair and maintenance of the existing bridge till the new bridges are constructed in 1967.

The Committee suggest that Government may take an early decision as to whether the existing bridge should be demolished after completion of the new bridges. If it is decided not to demolish the existing bridge, the Committee need hardly say that it should be properly maintained.

B. New Bridges

26. A provision of Rs. 55 lakhs was made in the Second Five Year Plan for the construction of a Bridge across the swamp. The project, however, was not taken up during the Plan and carried forward to the Third Plan. It is stated that the estimate for the project was sent to Government in May, 1961 but the sanction was given in April, 1963. The latest position, is that the work on the approach road on the northern side is practically completed whereas work on the approach road on the Southern side has started. As regards the Bridge itself, the designs have to be revised due to the treacherous nature of soil. The revised designs are said to be under preparation. The bridge is expected to be ready for traffic in 1967.

The Committee regret that only five years after the construction of the road-cum-rail bridge in 1951 the need for its replacement by new bridges, across the swamp, was felt as evidenced by the provision made therefor in the Second Plan. It is indicative of the failure of the port authorities to make a correct estimate of the anticipated traffic.

The Committee are unhappy that despite the provision made in the Second Five Year Plan no concrete steps were taken till May, 1961 (i.e. the first year of the Third Plan) to draw up and submit the proposal to Government for sanction. The Committee are distressed that Government took another two years to accord their approval and that since then the design of the bridge is under revision due to the treacherous nature of the soil. The Committee see no reason why the nature of the soil was not fully investigated and taken into account initially while drawing up the design of the bridge.

The Committee would stress that the re-designing of the bridge should be expedited and that it should be of sufficient capacity so as to meet the requirements likely to develop atleast in the next 25 years. The Committee would urge that the construction of bridges may be taken in hand without undue delay after the finalisation of the design so as to complete them early.

CHAPTER XIII.—LABOUR RELATIONS AND OUTPUT

27. It has been represented by a leading Navigation Company that-

"the labour situation at this (Vishakhapatnam) port is noted for lightening strikes. In addition to this trouble, the Government have allotted twoseats for labour in the new Port Trust Scheme while there are three Unions in the Port, two for shore labour and one for Port Employees. In the Ad hoc Committee, they have given the two seats one to the Port Employees Union and one to the Dock Workers Union leaving the other Union, the Port Khalasis Union. In view of this the Port Khalasis Union precipitated а strike. Now both the shore labour unions are nominated in the regular Port Trust leaving out the Port Employees Union. Recently, the Port Employees Union precipitated a strike which lasted for about five days. It is understood that the Government have promised to consider giving a seat to them also. Unless the three Unions are represented in the Port Trust. there will be trouble from one section or the other."

The Committee have been informed during evidence that—

"there have been strikes in the last two-three years." It has been further added that---

> "it is true that in the current year (1964) we had two or three serious strikes. It is more due to rivalry of the Unions."

The Committee have been informed that after the introduction of the piece-rate Scheme for dock labour, the output of the labour has increased considerably. There is a marked improvement in the relationship between the Dock Labour and the Supervisory Staff. Experience has shown that although the minimum guarantee is for 21 days, yet on account of heavy volume of traffic the employment of the dock labour is more than 21 days—ranging from 20 to 25 days. The Committee would like to refer in this regard to the recommendation contained in their 66th Report on the Ministry of Labour and Employment—Dock Labour Boards of Calcutta, Madras and Bombay wherein the need for quick and efficient turn-round of ships, particularly foodgrain ships has been emphasised. The Committee hope that Government would take suitable measures to augment the output of Vishakhapatnam dock labour and keep the Port services fully operational.

TUTICORIN PORT

CHAPTER XIV.—INTRODUCTORY

A. Historical Background

28. As a Port with maritime trade, Tuticorin is much older than Madras. It has been in existence from the times of Pandian Kings, with a flourishing trade in pearl fishery. The decay and fall of the ancient Ports of Korkai and Kayal due to silting up of the harbour space with the sand particles deposited by the Thamraparni river, gave Tuticorin a preeminent position even in those days. There is a mention of this Port in Greek literature of first century.

The history of development of the Port dates back from the time, the Portuguese took over the area of Tuticorin in the year 1532. A Portuguese Governor was appointed who controlled trade activities. After much fighting the Dutch seized the Port from the Portuguese finally in the year 1658. They built a small factory and stationed a Resident to supervise the pearl and chank fisheries. There was also a fleet which was stationed at Tuticorin with the purpose of guarding the Chozhamandalam Coast from Pamban to Kanyakumari.

The Dutch conquerors in their turn were pushed out by the English East India Company, who took over the administrative control of Tuticorin Port in 1825. At that time the trade of Tuticorin was not comparable to those of Kayalpattinam and Kulasekarapattinam.

The advantageous position Tuticorin had over other Ports in the Chozhamandalam Coast in possessing a natural harbour made the East India Company plan the development of the harbour. The lighthouse at Pandian Thevu built in 1842, marked the beginnig of the evolution of the Tuticorin Port.

The rise of Tuticorin Port has been largely due to the establishment of cotton presses and mills in its hinterland which have increased the trade of the Port manifold during the last 60 years.

B. Location of Existing Port

29. Tuticorin Port is situated in Latitude 08°-48' N and Longitude 78°-09' E and is about 530 Kilometres South West of Madras. The Town of Tuticorin is the largest commercial town on the western side of the Gulf of Mannar. It has a population of more than 1:25 lakhs and has an 'A' Grade Municipality. Tuticorin is the terminus of the Southern Railway Metre Gauge Railway line which runs via Maniyachi. The town is well served by roads, which radiate to Tirunelveli, Madras via Ettayapuram and Tiruchendur.

The Port is an open road-stead, the anchorage being roughly 5 miles off-shore which renders loading and unloading operations extremely difficult at times of high seas and gales. Cargo is handled by lighters between ship and shore. The Bay formed by Hare Island, Devil's Point and the mainland gives ample protection to the lighters from monsoonic weather conditions. The Port is open to traffic throughout the year.

C. Evolution of the Port Trust

30. In the beginning, the administration of the Port was under the control of the then Presidency Port Officer and the finances formed part of the Madras Minor Port Fund. A Port Conservancy Board was also in existence. Since 1924, the Tuticorin Port is administered under the Port Trust Act of 1924 of the Madras Government.

The Port Trust now consists of 17 Trustees, who are also the Conservators of the Port of Tuticorin. The Chairman and five trustees including one representative of labour are appointed by the Government of Madras, four trustees are elected by the Indian Chamber of Commerce, two by the Tuticorin-Ceylon Cargo Exporters and Importers Chamber, one by the Hardware Merchants Association and two by the Tuticorin Municipal Council. The Port is in the executive charge of a Port Officer who, *ex-officio* acts as Secretary to the Port Trust and as Traffic Manager. He also represents the Principal Officer, Madras Region for administering the Indian Merchant Shipping Acts.

CHAPTER XV.-TRAFFIC HANDLED AT THE PORT

31. It has been stated that the existing Port of Tuticorin stands first in trade among the minor ports in India and third in South India, next to major ports of Madras and Cochin. The table below gives the total traffic through the port during the last five years:

Year		Export	Import	Total
1959 -6 0 .		5,21,955	3,60,783	8,82,738 (tons)
1960- 61 ·		5,45,051	4,14,365	9,59,416 (tons)
1961-62 ·		4,75,847	3,66,686	8,42,533 (tonnes)
19 62-63 ·		5,23,474	5,01,698 ±	10 ,2 5,172 ¹ / ₃ (tonnes)
1 963-64 ·	•	4,45,761	4,89,132]	9,34,8931 (tonnes)

32. The main commodities handled at the Port are:

Exports:

Salt, cement, cotton yarn, cotton waste, onions, cotton piece goods, fabric, dried fish, sheep and goats, senna, tiles, etc.

Imports:

Coal, chemical manure, cotton, foodgrains and pulses, copra, hardware, machinery, firewood, etc.

CHAPTER XVI.—DEVELOPMENT OF TUTICORIN PORT INTO A DEEP SEA HARBOUR

A. History of Port Development

33. The question of development of a deep-sea water Port at Tuticorin has been under the consideration of Government for a long time. From as early as 1919, schemes like the World Barry Scheme (1919), the Bristow Scheme (1920) and the Palmer Committee Scheme (1927), were put forward one after another for this purpose. In recent years, there has been considerable thinking on the subject by various experts and there are the Chatterji Scheme (1954), the Sethusamudram Committee Scheme (1955), the Chaco Scheme and lastly the Mathrani Scheme (1959).

The Intermediate Ports Development Committee considered all these schemes and in 1960 they recommended that Tuticorin should be developed into a major Port, with four berths for the use of ships, having an overall length of 183m. (600 ft.) and a loaded draft of 9 lm. (30 ft.). Thev also examined the possible sites for the location of the harbour as this had been a controversial issue for several decades. They suggested a site off Hare Island. Unlike all previous proposals, the Intermediate Ports Development Committee's recommendation was in favour of the berths being located off shore about 11 miles away, and connected to the mainland by road and rail. The site itself was to be protected by two breakwaters extending from the shore. The southern breakwater was to carry the road and rail connec-In 1961, the Committee's recommendation in favour tions. of developing Tuticorin as a major Port at an estimated cost of Rs. 10 crores was accepted by the Government of India and the project was included in the Third Five Year Plan with a financial provision of Rs. 5 crores.

The Development Adviser in the Ministry of Transport then examined the project layout suggested by the Intermediate Ports Development Committee and proposed that further technical data should be collected before the detailed layout and design was finalised.

B. Preliminary Project Report

34. A field organisation was appointed in 1962 for the collection of technical data. In February, 1963, the Development Adviser prepared a Preliminary Project Report

involving an outlay of Rs. 14 crores with a foreign exchange content of Rs. 1:44 crores. In this Report, he suggested a somewhat revised layout though the site already selected was accepted. In the Preliminary Project Report it was envisaged that there would be six berths as against four berths recommended by the Intermediate Port Development Committee. The details of the berths envisaged are given below:

(1) General Cargo Berth		One
(2) Coal Berths	• •	Two
(3) Salt Berth		One
(4) Oil Berth		One
(5) Ship Repair Berth	••	One

It was stated that "all the berths would be sited in the existing deep water and thus no rock dredging would be involved. The dock basin can be extended to provide two more berths without resorting to rock dredging." It was also stated that "the economics of this harbour design is based on two factors, viz, (1) the cost of the breakwater and (2) the cost of rock dredging. The sum total of the two costs should be a minimum for the immediate scheme as well as for reasonable future expansion."

35. As regards the siting of the breakwaters, the following observations have been made in the preliminary Project **Report**:

"On a careful examination of the Intermediate Port Development Committee layout, however, it has been noted that the two long breakwaters from shore to harbour, provided with the purpose of reducing costly rock dredging, have been kept too near each other, allowing with for only one dock basin. This narrow spacing of the breakwaters does not allow for future expansion, except on the basis of heavy and costly rock dredging. In other words, when the future expansion of the harbour has to be taken up, rock increasing the distance between the breakwaters and spreading them out, all the berths immediately required would be sited in the existing deep waters, thus avoiding rock dredging at this stage, and also providing room for future expansion on an economical basis. This spreading out of the breakwaters. however. would require provision of an additional length of breakwater in front of the enclosure; but even after allowing for the cost of this additional length of breakwater, this scheme will be more economical."

Based on the Preliminary Project Report, several preliminary works including the portion of the two breakwaters down to minus 3 metres costing about Rs. 225 lakhs have so far been sanctioned for the Project. The amount spent in 1963-64 was Rs. 1,14,30,000 and the Budget Estimate for 1964-65 was Rs. 1,13,50,000. The Project is being executed direct by the Central Government through the Chief Engineer and Administrator of the Project who was appointed by the Central Government in May, 1963.

The Committee note with concern that that even before the Detailed Project Report has been finalised and design of breakwaters settled, several preliminary works including the portion of the two breakwaters down to minus 3 metres costing about Rs. 225 lakhs have been sanctioned by Government in 1963-64 and 1964-65.

C. Detailed Project Report

36. The Committee have been informed that the Project Report has undergone some changes as a result of model studies conducted by the Central Water and Power Research Station, Poona. A special Central Design Organisation has prepared the Master Plan and detailed layout in the light of directions given by the Technical Advisory Committee. A Detailed Project Report has since been prepared by the Tuticorin Harbour Project authorities and is at present being scrutinised by the Technical Advisory Committee. The Report is expected to be submitted to Government for sanction shortly.

37. The Committee have been given to understand that the main components for the Harbour on the basis of the Detailed Project Report consists of:

(a) Berths

The requirements will be for 7 berths viz. (2) berths for general cargo, 2 for coal, 1 for salt, 1 for ship repair and 1 for oil. However, in the Detailed Project Report provision has been made for 6 berths only out of which 2 will be for coal, one each for general cargo, salt, ship repair and pil. as per the Preliminary Project Report.

(b) Breakwaters

It has been stated that based on Model Studies, it was proposed that the North Breakwater should be entirely of the rubble mound type. However, in the case of South Breakwater an opinion has been expressed that the vertical type of breakwater will be cheaper and quicker to construct. Therefore, alternative designs with rubble mound type and the caisson type have been prepared and whichever is cheaper, safer and quicker to construct, will be adopted.

(c) Alignment of Road and Railway on the Approach Arm to the Wharves

The Approach Arm which forms part of the Southern Breakwater consists of a sand reclamation connected to the Southern Breakwater. It has a total width of 61 metres. It is proposed to have two roads each of 15 metres width and two railway lines presently of Metre Gauge.

(d) Transit Sheds and Warehouses

There will be two Transit Sheds; one each for General Cargo and Ship Repair Berths. There will be open stacking areas for the Coal Berths and for the Salt Berths. Warehouses are not located in the wharves, but will be suitably located in the mainland. Other offices, stores, workshop etc. are located near the sorting sidings and also here and there on the wharves.

(e) Oil Berth and Pipelines

An oil berth will be located in North Breakwater. Pipelines for conveying oil will be taken along with the North Breakwater on the Harbour side of the Breakwater.

(f) Design of Wharves

The wharves will be designed with caissons depending upon foundation conditions. Two alternative designs have been prepared; one for rock foundation and another for sand foundation, and whichever is suitable and necessary will be used depending upon foundation data available during construction. Necessary bollards will be fixed to the berths. Harbour Cranes will be located suitably along the berths.

38. It has been stated that the revised layout "is a great improvement over all the previous proposals from all aspects. This will provide a draft up to 30 feet without necessity for any rock cutting. If the rock-cutting is taken into account, for providing draft of 30 feet as per the layout in the preliminary proposals, considerable amount of rock cutting would be involved, which in addition to proving very costly, would also put off, the time schedule for completion considerably. On the other hand, the proposal now finalised and recommended has very many advantages over the previous ones and would increase the efficiency, since with a little dredging, it will be possible to provide a draft of 32 feet. With the completion of the Sethusamudram Project, this Harbour may have to cater to the needs of ships of 32 feet draft and above quite soon. Though the cost of the Project, as now finalised, has considerably exceeded, yet, the economics of the Port would prove a surplus in its working in view of the good traffic and density. It is, therefore, programmed to complete this work with all expedition possible."

CHAPTER XVII. PROJECT ESTIMATES

39. The revised estimates on the basis of Detailed Project Report come to about Rs. 14 crores. In the revised estimates the foreign exchange component would be Rs. 1.78 crores.

The table below indicates the financial provisions of the Preliminary and Detailed Project Estimates under major heads:

Works		Preliminary Project Report (1962)	Detailed Project Report (1964)	Excess
		(Ru	pees in lakh	s)
Preliminary Works		6.50	13.45	6.95
Land Acquisition.		11·7 8	11.20	••
Construction of Brea	kwater			
including noses	•	651.48	1,164.00	506.52
Other works .	• •	463 · 6 7	816 · 16	352.49
Establishment		40.00	70.00	30.00
Tools and Plant .		175 60	257.76	85.16
Miscellaneous		8.80	23.80	15.00
Add contingencies 3%		40.91	70.79	29.88
Add Workcharged Est	ablish-		-	
ment	•	. 13.64	••	••
TOTAL .	•	1,418.38	2,430.46	1,030.28
Deduct credit for the c tion equipment after is closed at about	onstru proje 30%	c- ct of		
cost		· 17·79	31.63	••
Total .	•	. 1,400.59	2,398 · 84	998.25

A detailed statement showing the break-up of the above estimates is given in Appendix II.

It will be seen from the above that out of the excess expenditure of Rs. 1030.28 lakhs, Works' alone account for Rs. 859.01 lakhs. This difference is due mainly to the construction of rubble mound type of breakwaters including noses. It has been stated that—

... in the preliminary project estimate a provision of Rs. 657.48 lakhs was made for constructing breakwaters including the noses at the harbour entrance as detailed below :

(i) Breakwater southern arm and curved portion joining eastern and southern breakwaters and eastern breakwaters including placing concrete blocks to		
prevent overtopping	Rs.	3,92,10,256
(ii) Northern arm including curve portion	Rs.	2,55,37,588
(iii) Extra for two noses	Rs.	10,00,000
	Rs.	6,57,47,844"

- "These estimates were based on the following factors:
 - (i) Hydrographic survey done in the year 1955.
 - (ii) Layout of the harbour with the eastern limb of the breakwater at right angles to the Southern breakwater.
 - (iii) Cross sections of the breakwaters as per the preliminary design and drawings.
 - (iv) Length of the southern breakwater 3607 metre long and northern breakwater 2962 metre long.
 - (v) Rates of quarrying stone, conveyance etc. based on the rates then supplied by the Field Division.
- Provisions now made in the detailed estimates are based on the following:
 - (1) Analysis of the most economical layouts based on the hydrographic survey done during 1963.
 - (2) Minimum wave disturbance inside the Harbour.
 - (3) Prevention of sand entry through the entrance of the harbour.
 - (4) Formation of smooth curves for the railways and roads turning from the approach arms to the wharves.

(5) Great economy in the cost of construction by reducing the cost of rock cutting and dredging involved for providing minimum depths as specified was evolved after model studies at the Central Power and Water Research Station, Poona and after a number of discussions in the Meeting of the Technical Advisory Committee and the Engineering Sub-Committee meetings."

It has been further stated that—"the construction of breakwaters and wharves would be given on a single contract. Two alternatives viz., rubble mound and caisson type with pre-stressed caisson breakwaters would be given as departmental designs and the intending tenderers will have to quote for both or/and his own alternate designs. Hence a final decision regarding the type of construction to be adopted can only be taken after receipt of tenders for the Harbour contract. However, for the present, rubble type of breakwater is assumed in the detailed estimate. The final rates and cost of construction of breakwater is likely to be influenced to a major extent by the tenders received in the Harbour contract and the time when they are finalised."

Regarding the excess amount involved in the revised estimates it has been stated in the Detailed Project Report that "the total value of the detailed project estimate amounts to Rs. 23.92 crores against the Preliminary Estimate amount of Rs. 14.01 crores. Though the excess appears to be on the high side, yet it has to be pointed out that each and every item of the provisions now made has been found quite necessary and generally approved by the Engineering Sub-Committee and Technical Advisory Committee. Further, the proposals as per this detailed estimate has enhanced the quality of the Project. Therefore, taking all these aspects into account, it should be said that this excess of Rs. 9.91 crores is not on the high side."

The Committee note that the original estimate of Rs. 10 crores of the Intermediate Ports Development Committee has been revised to Rs. 14 crores in the Preliminary Project Report and then further increased to Rs. 24 crores in the Detailed Project Report. This process of making estimates and revision has consumed as many as four years and even then the Detailed Project Report is yet to be scrutinised by the Technical Advisory Committee to draw up proposals for the sanction of Government. The Committee note that the most important single item which accounts for upward revision is the increased cost of construction of breakwaters

including noses which were estimated to cost Rs. 1164.00 lakhs in the Detailed Project Report as compared to Rs. 657.48 lakhs in the Preliminary Project Report. The Committee feel that this wide divergence between the preliminary and final project reports is rather unusual when it is claimed by the Report authorities that the layout suggested by them in the Detailed Project Report would make for "great economy in the cost of construction by reducing the cost of rock cutting and dredging". The Committee would stress that the Technical Advisory Committee should. in consultation with the Central Water and Power Commission, evolve the most economical and best suited design for the construction of the breakwaters. The Committee would also suggest that due economy should be observed in undertaking ancillary works such as construction of colony, horticulture etc. which may be conveniently phased out without affecting the operational capacity of the port. The Committee consider that if ships are to be attracted to Tuticorin for bunkering, transhipment etc. every effort should be made to make the rates most competitive consistent with the provision of upto-date facilities.

The Committee need hardly stress that in finalising the plans for the Port sufficient margin should be kept for future developments such as the need for deepening and widening the entrance channel to allow bigger vessels to come in provision of additional berths, warehouses etc.

CHAPTER XVIII.—ECONOMICS OF THE HARBOUR PROJECT

A. Receipts and Expenditure of Existing Tuticorin Port

40. The receipts and expenditure of the existing Tuticorin Port for the last four years are given below:

Year						Receipts	Expenditure
1960-61						Rs. 18,55,368	Rs. 11,07,859
1961-62	•	•	•	•	•	17,33,705	10,93,15 5
1962-63			•	•	•	18,23,372	17,39,382
1963-64	•		•	•		17,58,711	15,29,861

B. Traffic Survey by the National Council of Applied Economic Research

41. A survey of the potentialities of traffic at Tuticorin was undertaken by the National Council of Applied Economic Research in 1958-59. The Council have stated *inter alia* in their Report that—

- "For the last ten years, a steady volume of traffic amounting to nearly half a million tons has passed through the Port of Tuticorin, and it can be anticipated with fair certainty that in the next few years the tonnages will continue to show an upward trend."
- "By the time the deep-sea harbour can be completed, which will take at least six years time, the likely volume of traffic passing through Tuticorin would be as follows:

	5,85,000 tons
Other Imports	20,000
Imports from Europe & America	50,000
Imports from Ceylon	10.000
Blacksheet	5,000
Gunnies	10,000
Raw Cotton	30,000
Foodgrains & fertilizers	60,000
Coal	4,00,000
Imports	

Exports

							6.15.000 7	ons
Other E	kports	•	•	•	•	•	40,000	
Exports	to Europe	: &	America		•	•	90,000	
Exports	to Ceylon		•	•	•	•	80,000	
Caustic	Soda	•	•	•	•	•	30,000	
Cement	•	•	•	•	•	•	1,75,000	
Salt .	•	•	•	•	•	•	2,00,000	

- "Total-1,200,000 tons, as against only 500,000 tons in 1954 and 700,000 tons in 1957."
- "The Port of Tuticorin as at present equipped can handle a maximum of 800,000 tons of traffic by means of lighters and other existing facilities."
- "To cope with the future increase of traffic, it is essential that a deep-sea harbour should be formed at Tuticorin."
- "In the promotion of the Sethusamudram Canal Scheme, the development of Tuticorin must be regarded as an essential preliminary."
- "There is every possibility of large quantity of iron, steel and other hardware produced in India passing through the Port of Tuticorin when a deep-sea harbour is developed."
- "The construction of deep-sea harbour should be phased in stages. In the initial stages the deep-sea harbour should have a capacity of handling one million tons of cargo. The harbour should be capable of handling two million tons per annum in the second phase, and three million tons in the third phase of development. Even if a deep-sea harbour is developed at Tuticorin, small steamers and lighters should be loaded and unloaded at the existing wharves and piers of the Port, and not separate provision should be made for this type of traffic in the deep-sea harbour."

C. Economics as worked out by Intermediate Port Development Committee

42. The Intermediate Ports Development Committee also worked out the economics of deep sea harbour for Tuticorin on the outlay of Rs. 10 crores proposed by them and have concluded as follows in their Report (1960):

> "It is seen that in the initial stages of the life of the new deep-sea harbour at Tuticorin, the port would suffer an annual deficit of Rs. 31 lakhs on the basis of full allowance being made for depreciation and interest on capital outlay at 41 per cent. The Committee is, however, of the opinion that projects of this nature cannot be expected to pay for full depreciation and interest in initial stages. Later on as the traffic grows, as is likely, the deficit will disappear. In view of this and the reasons given in para 5.51* above, the Committee recommends the development of Tuticorin as an all-weather alongside port with four berths in addition to the developmental works immediately required for the present lighterage port."

D. Financial Return on Proposed Total Outlay

43. The Tuticorin Harbour Project authorities have worked out the financial return on the total outlay of Rs. 24 crores for developing the deep harbour at Tuticorin on the basis of traffic survey, income and expenditure for the Port in 1969. The year 1969 has been selected by the Project authorities as they consider that the harbour would be commissioned by that time fully. An abstract of income and expenditure is given below.

Income

x.	Wharves- come from traffic	•	(Re	s. in lakhs) 140
2.	Port Dues and Pilotage charges	•		
3.	Income from Land and Buildings	•		20
4.	Income from Railway			10
5.	Other Miscellaneous reciepts	•		4
	TOTAL .	•	•	180

Expenditure

A.	Esta	ıblishment				(RS. IN IAKHS)
	I.	Administration .		•	•	15
	2.	Port Department .	•	•		5
	3.	Police Establishment	• -		•	3
	4.	Audit Fees	•		•	0.5
	5.	Pension, Provident Fund	•		•	6.5
		Gratuity etc. contribution	1	•	•	•
B.	Ор	eration and Maintenance				
	Ι.	Traffic Operation .	•	•		30
	2.	Dredging			•	6
	3.	Engineering Maintenance				47
	4.	Miscellaneous expenditure on rent taxes etc.	•			2
C.	Co	ntribution towatrds capital .			•	20
				т	OTAL	135.0

Surplus: Rs. 180-135=Rs. 45 lakhs.

It has been stated by the Project authorities that "the expenditure thus far amounts to Rs. 135 lakhs against the total income of Rs. 180 lakhs. Thus, there is a surplus of 45 lakhs. Out of this surplus, we have to earmark certain provision towards expenditure on account of additions. The additional structures would naturally become necessary depending upon the traffic trend and it should be assumed that the entire cost of the additional structure may not be borne by the harbour then functioning. However, a nominal amount would have to be earmarked as a Reserve."

"It should also be kept in mind whether after the declaration of the major harbour the assets of the existing minor port would continue to be separate or merged with those of the Harbour. If, any commitment is to be undertaken by the harbour on account of the take over of the assets of minor port from the Government of Madras, the expenditure would go up. But as this picture is not clear, no precise provision has been made in the financial abstract."

In conclusion, it has been stated that "there is an anticipated surplus of Rs. 45.00 lakhs even in the opening year of the harbour. But it may be pointed out that it would not be entirely unusual for a Project to work at a loss in the beginning years. Normally, the trade flows only gradually, as orientation of trade channels takes time. However, in Tuticorin there is already a traffic flow and it is therefore presumed that the process of efflux of time could not be required for the trade to flow in a satisfactory valume."

"It may also be added that the calculations have not taken into account the implications of the construction of the Sethusamudram Project. If that Project should also come into being, then traffic through Tuticorin can be expected to increase resulting in considerable additional income for the Port."

E. Expenditure Programme

44. The phased programme of expenditure for development of the deep sea port as envisaged in the Detailed Project Report, is given below:

1963-64	Works to a value of	Rs. 1.00 crore
1964-65	Do.	Rs. 2.50 crores
1965-66	Do.	Rs. 4.00 crores.
1966 -6 7	Do.	Rs. 6.00 crores.
1967-68	Do.	Rs. 6.00 crores.
1968-69	Do.	Rs. 4.19 crores.
	Total	Rs. 23.99 crores.

The Committee have stressed earlier the need for observing utmost economy consistent with requirements in deciding the outlay for the Port. The Committee would emphasise that a phased programme for the development of the Port should be drawn up having special regard to its economics and that effort should be to make the Port run on 'No-Profit-No-Loss' basis and in due course generate enough resources to pay for its development programmes.

CHAPTER XIX.—TECHNICAL ADVISORY COMMITTEE

45. The Committee have been informed that a Technical Advisory Committee was set up in February, 1963. It consists of the following Members:

(1) Development Adviser, Ministry of Transport	Chairman
(2) Chief Engineer, Government of Madras	Member

(3) Chief Engineer, Madras Port Trust . Member

(4) Nautical Adviser to the Government of India Member

- (5) State Port Officer, Madras State . . Member
- (6) A representative of the Ministry of Railways Member
- (7) The Chief Engineer and Administrator, Tuticorin Harbour Project . . . Member.

The functions of the Committee are as detailed below :

(a) To scrutinise the layout and designs for the harbour project.

(b) To advise on other important technical matters relating to the Project; and

(c) To watch the progress of the Project.

The Committee have been informed that the Technical Advisory Committee has met so far 5 times on the date indicated below :

First Meeting .	•	17-4-63	at Tuticorin
Second Meeting.		10-9-63	at Tuticorin
Third Meeting .	•	9-12-63	at Bangalore
Fourth Meeting		4-8-64	at Poona
Fifth Meeting .		5-11-64	at Tuticorin

The Committee are not happy that the Technical Advisory Committee which has been charged with the important function of scrutinising the layout and design of the harbour project have met only twice during 1964. The Committee suggest that if the tempo of work is to be accelerated the Technical Advisory Committee should meet more frequently and preferably at the harbour site itself.

CHAPTER XX.—MANAGEMENT OF THE NEW HARBOUR

46. It has been stated that the new site is completely separte from the present harbour and that work at the new site does not affect the current port operations at all. The new site would be under the administrative control of Ministry of Transport while the old site would continue to be under the State Government of Madras. The Committee are informed that surplus lands belonging to the existing Tuticorin Port Trust have been made over to the Tuticorin Harbour Project by the State authorities.

The Committee have been informed that when the new Port is completed in 4-5 years and declared as a major port, its limits would be indicated by the Central Government by notification under the Port Trust Act. It has been stated by the representative of the Ministry during evidence that "the intention is that the two ports should be complementary and supplementary to each other".

As the new habour is being developed as a major port and Government's ultimate intention is to declare the existing port as subsidiary port, the Committee suggest that Government may come to an early decision about the administration and development of the two ports so that they may work as complementary and supplementary to each other.

The Committee would also suggest that the limits for the new Tuticorin harbour should be notified as early as possible to avoid any confusion.

CHAPTER XXI.-SETHUSAMUDRAM PROJECT

47. The Sethusamudram Project Committee set up by Government of India in 1955 were charged with the duty of examining and reporting on the feasibility and desirability of connecting the Gulf of Mannar and the Palk Bay, by cutting a channel at the approaches to the Adam's Bridge for enabling deep-sea ships to navigate in safety from the west to the east of India and to examine how far "The construction of such a passage would increase the potentiality of the Port of Tuticorin, if it is to be developed into a deepsea port". The name Sethusamudram is given to the Gulf of Mannar and Palk Bay jointly, on the basis of their being united into a single sea by navigable canal or passage. The project, itself is not new. It is a revival, in modified form, of what had been known and considered in the past as the "Rameswaram Ship Canal Scheme".

The extent to which a saving in distance would be gained by ships, as a result of using Sethusamudram Navigation Route is explained by the Project Committee as under:

> "The saving in respect of ships arriving directly from non-Indian ports from the west may be computed with reference to distances from Muttum P∳int (close westward of Cape Comorin) to ports in the Bay of Bengal. The saving involved is 368 miles to Madras, 304 miles to Vizagapatnam, 265 miles to Calcutta, 220 miles to Chittagong and 119 miles to Rangoon. The distance from Tuticorin to Madras via Sethusamudram Navigation Route will be 316 miles. The distance by the Round-Ceylon-Route is 750 miles. The saving is 434 miles or 58 per cent."

The main conclusion of the Sethusamudram Project Committee is stated below:

> "In our opinion, the two projects which have been referred to us are so closely related to one another that they should be regarded as two parts of one and the same undertaking—an integrated Sethusamudram Project. The main objective of such a project should be visualised as the estab

lishment of a new Sethusamudram Navigation Route as an alternative to the existing longer and more exposed sea route round Ceylon. The relationship between the Port and Harbour of Tuticorin and the new route should be regarded as exactly the same as the relationship between the Port and Harbour of Colombo and the present Round-Ceylon-Route. In our opinion, it is feasible and desirable to design an integrated project, which will secure these objectives with assured navigational safety, and at a cost which will be commensurate with the advantages likely to be secured thereby. The execution of such a project can be completed before the end of the Second Five Year Plan period."

The Sethusamudram Project Committee estimated that the cost of the project would be about Rs. 9.98 crores. including Rs. 1.62 crores for developing facilities at Tuticorin Port. The Government of India considered the estimate of the Committee for the ship-canal project to be on the low side. The Development Adviser of the Ministry of Transport estimated the cost at about Rs. 26 crores. The services of a navigational expert. Capt. J. R. Davies, were obtained to advise on the navigational requirements connected with the project with particular reference to reducing the estimated cost of the project. Capt. Davies suggested some changes in the alignment and reduction in the navigational aids. A provision of Rs. 22.14 lakhs was made in the Third Five Year Plan for further technical investigations relating to this project. After completing the studies, the Government of Madras submitted a revised estimate in May, 1963. According to them the cost of a canal which could take ships of 26 feet draft, would be Rs. 15.50 crores. In August, 1963, the Government of Madras submitted a fresh Report to meet the requirements of ships of 30 feet draft. The cost was estimated at Rs. 21.72 crores. The foreign exchange content was estimated at Rs. 4.50 crores. The Committee have been informed that the project prepared by the Madras Government is currently under examination by a high-level technical committee. It has also been stated that another high level committee under the Chairmanship of the Special Secretary, Ministry of Transport, has been set up recently to consider advance action on the Project during the Third Five Year Plan.

The Committee urge that the investigation of the Sethusamudram Project should be completed at an early date and if it is found economic and feasible it may be taken up for execution without avoidable delay. The Committee would suggest that the development programme for Sethusamudram Project may be regulated in the light of phased programme to be drawn up by the Central Government for the development of Tuticorin as a Major Port.

> ARUN CHANDRA GUHA, Chairman, Estimates Committee.

New Delhi;

The 8th April, 1965. Chaitra, 18th 1887 (Saka).

: 58 : Appendix I-A: (<u>Vide Para 17</u>)	Comparative Statement showing the Tctal Dredging Costs and Dredging quantity in Vishakhapatnam Port.	Quantity Ccst excluding Rate Per Cost including Rate per Cft. interest and 1000 interest and 1000 Cft. depreciation Cft. depreciation	Rs. Rs.nP. Rs. Rs. Rs.nP.	S.D. 'Vizagapatnam'	163,82,000 8,74,542 53.38 *º,10,242 53.67	236,31,000 9,62,210 40.38 #9,98,107 41,88	200,60,000 12,14,255 60.53 *12,50,376 62.33	79,67,000 14,67,553 184.20 *15,04,434 188.03	173,00,000	S.D. 'Visakha'	249,41,000 6,54,535 26.24 14,92,273 59.83	91, 70,000 6, 11, 396 66, 67 12, 14, 441 132, 44	243,17,000 7,98,830 32,85 17,62,217 72,47	247,86,000 15,12,449 61.02 24,20,686 97.66	171,97,000	
	Comp Dr ed	Quantj Cft			163,82,00	238,31,00	200,60,00	79,67,00	173,00,00		249,41,00	91,70,00	243,17,00	247,86,00	171,97,00	

APPENDIX II

(Vide Para 39)

Statement showing comparative Provisions in the Preliminary and Detailed Project estimates (in respect of Tuticorin Port)

SI. No.	Description of work	Provisi	Provisions in				
NO.		Prelimina- ry Project Report (1962)	Detailed Project Report (1964)	Excess			
1	2	3	4	5			
(1) Pr	reliminary Works :						
(a)	Boring & Soil Tests	2.00	4.20	2.50			
(b)	Land Surveys	0·50	0.50				
(c)]	Hydrographic Survey .	2.00	3.75	1.12			
(d)	Model Studies	2.00	4.00	2.00			
(e) i	Marine & Meteorological Studies .	••	0.70	0.70			
		6.50	13.45	6.95			
(2) La	and Acquisition:						
(a)	Quarry site	1 · 68	1.23	••			
(b)	For collecting sand for reclamation	4.40	••	••			
(c)	Harbour Estate	1.20	4.32	2.82			
(d)	Road & Railway approaches	4.30	4.40	0.30			
(e)	Central Govt. Salt pans	••	0.60	0.00			
G	Compensation for structures .	••	0.20	0.20			
(g)	Charges for land survey & demarca-	-					
			0.10	0.10			
(3) W	Torks :	11.78	11.50	4.36			
(1)	Stoff quarters & temporary offices						
(w) (i	Temporary buildings	- 12.00	7.41	48.00			
6	(ii) Permanent buildings	12 00	(2·64)	40.00			

		·····	
I 2	3	4	5
(b) Roads & Bridges :			
(i) Approach roads	18.00	34·59	16.23
(ii) Internal Road	8.00	14 · 50	6.20
(iii) Roads to connect quarries to exis- ting roads :	2.00	4.78	2.78
(iv) Road Bridge across Korampallam	••	27.00	27.00
(c) Railway access	55.00	110.00	55.00
(d) Railway sidings & Marshalling yards	20.0 0	21.04	1.04
(e) Construction of Breakwaters includ- ing noses	657· 4 8	1164.00	50 6 · 52
(f) Filling in with sand for road & rail- way approach	101 · 36	134.00	32.64
(g) Construction of quays providing berths of to take ships 500' (Pre- liminary Project Report) (550'— Detailed Project Report) (average) :—			
(i) Oil berth	24.00	24.00	••
 (ii) Ship repair berth (iii) Two coal, one general cargo and one salt repair berth 	24·00	} 143.00	19.00
(iv) Pipe lines for oil berth	20.00	20.00	••
(h) Transit shed for general cargo		_	
berth	7.30	10.80	3.00
(i) Warehouse	7.30	10.80	3.60
(j) Workshop building	4.13	6.13	2.00
(1) Water supply (outside & inside) harbour 15.5+5.0.	10.00	20.00	10 ·50
(7) Electricity (outside & inside) har- bour 11.9+16.6	10.00	27.90	17.90
(m) Drainage	2.00	••	
(s) Drainage (Flood banks & surface drainage)	••	5.20	3.20
(ii) Sewerage (outside harbour 14.00		I4·75	14.74
(m) Administrative & other Offices	8.00	14.00	7.00
(a) Stacking area	3.00	3.00	,
(a) Dry dock for ports crafts	10.00	10.00	••
(q) Filling in low areas	10.88	19.88	9.00

I 2		3	4	5
(r) Dredging in silt & Sandy soils		6.00	6.00	
(s) Under water rock cutting .	•	••	20.00	20.00
(t) Horticulture	•	••	5.00	5.00
(u) Fencing the harbour area .	•	••	1.00	1.00
(v) Diesel pump at construction si	te.	••	0.33	0.33
(w) Railways over wharves, piers approach arm	s, &	••	20.00	20.00
(x) Roads over wharves, piers, &	ap-			
proacn arm	•	••	15.00	15.00
(y) Reclamation works	•	••	11.00	11.00
(4) Establishment	•	4 0 · 00	70.00	30 · 00
(5) Tools and Plant				
(a) Surveying & Drawing Office Eq	uip-			
ment	•	1.00	2.20	I · 50
(b) Workshop machinery	•	7.00	7.00	••
(c) Cranes-				
(i) For ship repair berth 10 t I No	:0 113	5.00	5.00	••
(ii) General cargo salt berth 3	tons			
5 NOS		15.00	15.00	••
	tons	۰۰۰	5.00	
(in) Floating crane 30 tons I No.		25.00	25.00	••
(v) Heavy lift crane of 30 to 40	ton	29 00	2) 00	••
capacity .	•	• •	8.00	8.00
(d) Construction equipment :				
(i) to (iv) in Preliminary Project mate-3 Nos. 10 ton cranes crawler & track mounted-15 dius; 3 Nos. 5 Tons cranes crawler and truck mounted- radius (Detailed) Project estim Nos. 10 tons cranes at 10 m radius and 1 No. 10 ton cran	Esti- each ' ra- each -15' ate 2 meter es at			
15' radius with grapples etc.	•	21°00	22.75	1 · 75
(v) Kall mounted derrick crane ton at 60' radius; I No.	5 IO	7.00	7.00	••
(vi) Non-propelled floating cran	es 10	7.00	7.00	
(mi) Narrow, gauge railway took	•	7:00	7.00	••
(on) rentow-Ranke Lauway (Lack	•	a-00	4.40	••

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61

1	2	3	4	5
(viii) Diese	Locos	o · 80	0.80	
(ix) Dum	b barges 100 tons 6 Nos.	9.0 0	9.00	••
(x) Tugs	for towing barges and	1		
nandii () Tianii	ng noating crane 2 Nos.	10.00	10.00	••
(m) Inppi	ation and including Dia	2.10	2.10	••
ghys,	catama rans etc.		2.64	2.64
(xiii) Tran	sport vehicle	• • •	4·77	4.77
(xiv) Misc	ellaneous construction	ı		
mach	inery	••	23 ·65	23 · 65
(xv) Labor	atory equipment .	••	0.20	0.20
(xvi) Road	& Railway weigh brid-	-		
ges	· · · · ·	••	2 · 5 2	2.52
(xvn) Road	making machinery	••	1.33	1.33
(xviii) Shu (e) Harbour	rting locos	• ••	12.00	12.00
(i) Twin s fightir ment (ii) Survey	crew tug fitted with fire and salvaging equip-	20 · 00	20.00	
Sound	er]	4.20	4.20	3.00
(iii) Rock	breaker cum dipper dred-	- 24.00	57.50	22.50
(in) Moori	ng hoat a Nos	34 00 0·30	37 30	~ <u>5</u>)0
(v) Pilot la	unch I No.	2·50	2·50	
		175 60	257.76	85 · 16
6) Miscellaneor	45			
(a) Diving eq	uipment	2.00	2.00	
(b) Station w	9700	0.20	2.20	3.00
(c) Navigatio	nal aids (Revised Project	t	2 20	
radar)	• • • • • • • •	1. 6 0	2.00	0.40
(d) Maintena	nce during construction	5.00	16.00	11.00
(e) Miscellae	nous such as photographic	2		
charges		•••	1.60	1.60
		8.80	23.80	15.00
	TOTAL	1363 . 83	2359.67	1000.40

2		3	4	5
	B/F	1363 • 83	2359.67	1000.40
Add contingencies 3% .	• •	40.91	70·79	29·88
Add Work charged establ	ishm en t .	13.64	••	••
Deduct credit for the c	construction	1418.38	2430.46	1030.28
at about 30% of cost .	• •	17.79	31.62	••
Deduct also credit for t at Thattaparai which y posed off	he quarries will be dis-	1400-59	2398·84 0·50	1030 ·28
Deduct credit for the de raised on Southern rail railway line from Milay station to Harbour & 1 ments done to the way at Ambasamudram, and Pandiyapuram	bit to be lway for the vittan railway for improv- side stations Naraikinar		123 · 20	
Net Totai	•	1400.59	2275·14	1030.58
			22.7	5 Crores.

APPENDIX III

Summary of Conclusions/Recommendations

Serial No.	Reference to Para No. of the Report	Summary of Conclusions/Recommendations
I	2	3

I

VISHAKHAPATNAM PORT

- 5 The Committee note with distress that out of the First Plan projects, 6 projects with a total estimate of Rs. 279.62 lakhs had to be carried over to the Second Plan and that out of a provision of Rs. 491.02 lakhs made in the Second Plan only Rs. 431.94 lakhs representing 46% were utilised with the result that a number of important projects had to be carried forward to the next Plan period.
 - The Committee are unhappy that the practice of carrying forward important works from one Plan period to the other has persisted throughout. They consider that if the Plan provisions for refinery works and the suction dredger in the First Plan period and for additional four berths, ore loading plant etc. in the Second Plan period, were effectively utilised to complete the works in question during the respective periods, the Port could have played a bigger part in sustaining and increasing exports of iron ore, which have gathered momentum during the current Plan period and thereby enabled the country to earn more foreign exchange.
 - The Committee are distressed to find that as much as Rs. 74 lakhs would be carried forward from the Third Plan to the Fourth Plan and that out of this amount Rs. 59 lakhs would be for projects which were carried forward originally from Second Plan to the current Plan period. The Committee can hardly over emphasise that every effort should be made to complete these long outstanding schemes within the current Plan period. As this sort of failure in implementing plan schemes has been more or less common for all ports, the Committee suggest that every such case of failure should be properly enquired into and responsibility fixed.

I 2

The Committee would further suggest that a phased programme may be drawn up in advance for implementation of schemes to be included in the Fourth Plan so that the various factors which have hampered progress during the current and the earlier Plan periods do not hold up progress of works in the next Plan.

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- 7 The Committee are not convinced with the reasons advanced for such inordinate delay in the construction of berths which has gravely affected the programme for installation of the ore handling plant and the export of ore to Japan. The Committee feel that in view of the resultant losses suffered by the Port and the Government on account of the delay in construction of the four berths the penalty of Rs. I lakh imposed on the contractors appears to be inadequate and suggest that Government should look into the matter. They would also stress that every effort should be made to expedite the completion of the two cast cargo berths so that these are put into commission well before the end of the year.
 - The Committee are given to understand that iron ore has already started moving from Kiriburu mines for export to Japan from the Vishakhapatnam Port in accordance with the contract signed with the Japanese. These exports would gather momentum and rise to about 6 to 8 million tons with the installation of ore handling plant and development of Baladilla mines.
 - The Committee urge that early decision may be taken in consultation with the Research Station, Poona for widening and deepening further the shipping channel on long term basis so that larger carriers which are being increasingly used for carrying ore can come into Vishakhapatnam.
- 12 The Committee regret that though provision for ore handling plant was included in the Second Five Year Plan, it was only in February, 1959 (*i.e.*, after nearly 3 years of the commencement of the Plan period) that estimates and general specifications for the ore handling plant were roughly prepared and that it took the Ministry another 2½ years to finalise the specifications by which time the Second Plan period was over. Even after this inordinate delay as a result of dilatory and time consuming procedures, Government felt the need to modify the terms of the contract

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I	2	3

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to raise the capacity of the plant from 6 million tons to 8 million tons soon after the contract for the ore handling plant was signed with the American firm in July 1962.

- The Committee would suggest that with a view to avoid such delays in future, Government should evolve a procedure whereby preliminary estimates/plans pertaining to projects, involving heavy expenditure can be examined by experts, at appropriate levels, in the very beginning so that, the period of scrutiny and scope of revision at a later date are kept to the minimum.
- The Committee would also like to point out that the nature of the soil where embankment leading to the wagon dumper was required to be constructed should have been thoroughly investigated before finalising its design. If this initial precaution had been taken it would have obviated not only delay in the execution of the connected civil engineering works but also saved the after contract modifications in the design of the ore-handling plant.
- 5 13 The Committee suggest that a long-term view may be taken of the requirements—say for the next 15 years —with particular reference to the nature and quantum of cargo expected to be handled in Vishakhapatnam Port so that a phased programme could be drawn up in advance for modernising and augmenting the existing cargo handling facilities to meet the growing requirements and for making up the deficiencies of particular items required.
- 6 14 The Committee would suggest that a careful reappraisal of the requirements of lighters and other handling equipment at the Port may be made, having regard to the new berths which are expected to be completed during the course of the year and having regard to the heavy lifts required for Bhilai steel plant and other heavy industries which will be handled at the Port.
- 7 15 The Committee would suggest that early decision may be taken regarding the revision of wharfage charges on the export and import of oil, having due regard to the need for finding finances for meeting the development cost of the Port and the capacity of the oil to bear the proposed wharfage charges.

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I	2	3
8	16	The Committee note that there is wide difference in the cost of dredging 1,000 cubic feet by dredgers 'Vizagapatnam' and 'Visakha'. The cost of dredging for both the dredgers has also been rising steeply over the years.
9	18	The Committee would suggest that early decision re- garding the purchase of new dredgers may be taken so that the work of deepening the entrance channel to the Port and of widening the turning circle can be undertaken without delay.
10	19	The Committee find that the Report of the Planning Group on Ship Building contains <i>inter alia</i> the re- commendations that dry dock may be provided at Vishakhapatnam Port with a capacity of $800' \times 100' \times$ 30'. The Committee recommend that early decision may be taken in the matter.
11	22	The Committee consider that as Vishakhapatnam Port is being increasingly used for bulk handling of cargo, security measures against pilferage particularly for wheat and engineering goods should be tightened up.
12	24	The Committee consider that as Vishakhapatnam is now being developed in a big way for handling exports of iron ore it is necessary that the railway operations inside the Port are placed on an efficient footing. They would suggest that a small committee consisting of representatives of the Port authorities and South- Eastern Railway may jointly go into the working of the Port railway and suggest measures for improving efficiency. In particular, the Committee stress that 10 diesel locomotives required for operating the Port railway should be obtained at an early date and the hired locomotives taken from Calcutta Port and the South Eastern Railway returned to them.
		The Committee would also suggest that a separate account of Port railway may be maintained so as to keep a watch on its operating ratio and devise mea- sures to bring down the cost and improve efficiency.
13	25	The Committee suggest that Government may take an early decision as to whether the existing bridge should be demolished after completion of the new bridges. If it is decided not to demolish the existing bridge, the Committee need hardly say that it should be pro- perly maintained.

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I	2	3	

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- 14 26 The Committee regret that only five years after the construction of the road-cum-rail bridge in 1951 the need for its replacement by new bridges, across the swamp, was felt as evidenced by the provision made therefor in the Second Plan. It is indicative of the failure of the port authorities to make a correct estimate of the anticipated traffic.
 - The Committee are unhappy that despite the provision made in the Second Five Year Plan no concrete steps were taken till May, 1961 (i.e. the first year of the Third Plan) to draw up and submit the proposal to Government for sanction. The Committee are distressed that Government took another two years to accord their approval and that since then the design of the bridge is under revision due to the treacherous nature of the soil. The Committee see no reason why the nature of the soil was not fully investigated and taken into account initially while drawing up the design of the bridges.
 - The Committee would stress that the re-designing of the bridge should be expedited and that it should be of sufficient capacity so as to meet the requirements likely to develop atleast in the next 25 years. The Committee would urge that the construction of bridges may be taken in hand without undue delay after the finalisation of the design so as to complete them early.
 - 27 The Committee would like to refer to the recommendation contained in their 66th Report on the Ministry of Labour and Employment—Dock Labour Boards of Calcutta, Madras and Bombay wherein the need for quick and efficient turn-round of ships, particularly foodgrain ships has been emphasised. The Committee hope that Government would take suitable measures to augment the output of Vishakhapatnam dock labour and keep the Port services fully operational.

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TUTICORIN PORT

The Committee note with concern that even before the Detailed Project Report has been finalised and design of breakwaters settled, several preliminary works including the portion of the two breakwaters down to minus 3 metres costing about Rs. 225 lakhs have been sanctioned by Government in 1963-64 and 1964-65. T 2

The Committee note that the original estimate of Rs. 10 17 39 crores of the Intermediate Ports Development Committee has been revised to Rs. 14 crores in the Preliminary Project Report and then further increased to Rs. 24 crores in the Detailed Project Report. This process of making estimates and revision has consumed as many as four years and even then the Detailed Project Report is yet to be scrutinised by the Technical Advisory Committee to draw up proposals for the sanction of Government. The Committee note that the most important single item which accounts for upward revision is the increased cost of construction of breakwaters including noses which were estimated to cost Rs. 1164.00 lakhs in the Detailed Project Report as compared to Rs. 657:48 lakhs in the Preliminary Project Report. The Committee feel that this wide divergence between the preliminary and final project reports is rather unusual, when it is claimed by the Project authorities that the layout suggested by them in the Detailed Project Report would make for "great economy in the cost of construction by reducing the cost of rock cutting and dredging". The Committee would stress that the Technical Advisory Committee should, in consultation with the Central Water and Power Commission, evolve the most economical and best suited design for the construction of the breakwaters. The Committee would also suggest that due economy should be observed in undertaking ancillary works such as construction of colony, horticulture etc. which may be conveniently phased out without affecting the operational capacity of the port. The Committee consider that if ships are to be attracted to Tuticorin for bunkering, transhipment etc. every effort should be made to make the rates most competitive consistent with the provision of upto-date facilities.

> The Committee need hardly stress that in finalising the plans for the Port sufficient margin should be kept for future developments such as the need for deepening and widening the entrance channel to allow bigger vessels to come in, provision of additional berths, warehouses etc.

The Committee would emphasise that a phased pro-gramme for the development of the Port should be 44 drawn up having special regard to its economics and that effort should be to make the Port run on 'No-Profit-No-Loss' basis and in due course generate enough resources to pay for its development programmes.

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I	2	3	

19	45	The Committee are not happy that the Technical Ad- visory Committee which has been charged with the im- portant function of scrutinising the layout and design of the harbour project have met only twice during 1964. The Committee suggest that if the tempo of work is to be accelerated the Technical Advisory Committee should meet more frequently and pre- ferably at the harbour site itself.
20	46	As the new harbour is being developed as a major port and Government's ultimate intention is to declare the exist- ing port as subsidiary port, the Committee suggest that Government may come to an early decision about the administration and development of the two ports so that they may work as complementary and supple- mentary to each other.
		The Committee would also suggest that the limits for the new Tuticorin harbour should be notified as early as possible to avoid any confusion.
21	47	The Committee urge that the investigation of the Sethu- samudram Project should be completed at an early date and if it is found economic and feasible it may be taken up for execution without avoidable delay. The Committee would suggest that the development programme for Sethusamudram Project may be re- gulated in the light of phased programme to be drawn up by the Central Government for the development of Tuticorin as a Major Port.

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APPENDIX IV

(Vide Introduction)

Analysis of the Recommendations contained in the Report (Appendix III). I. CLASSIFICATION OF RECOMMENDATIONS:

- A. Recommendations for improving the Organisation and working: Serial Nos. 1, 3, 4, 5, 6, 9, 10, 11, 14, 15, 16 and 19
- B. Recommendations for effecting economy:

Serial Nos. 2, 7, 12, 17, 18, 20 and 21

C. Miscellaneous :

Serial Nos. 8 and 13

II. ANALYSIS OF THE RECOMMENDATIONS DIRECTED TOWARDS ECONOMY :

Serial No.	No. as per summ- ary of Recommen- dations	Particulars
I	2	3
I	2	The penalty of Rs. I lakh imposed on the contractors for inordinate delay in the construction of four berths is inadequate and should be looked into.
2	7	Early decision should be taken about the revision of wharfage charges having due regard to the finances required for meeting the development cost of the Port and the capacity of the oil to bear the proposed wharfage charges.
3	12	Separate account of Port railway should be maintained so as to keep a watch on its operating ratio and measures should be devised to bring down the cost.
17	39	The Technical Advisory Committee should, in consulta- tion with Central Water and Power Commission, evolve the most economical and best suited design for the construction of the breakwaters. Due economy should be observed in undertaking ancillary works such as construction of colony, horticulture etc.

I	2	3	

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18	44	A phased programme for the development of the Port should be drawn up having special regard to its eco- nomics and efforts should be made to make the port run on "No-Profit-No-Loss" basis and in due course generate enough reserves to pay for its development programmes.
20	46	Early decision should be taken about the administration and development of the existing Tuticorin Port and the new Harbour so that they may work as complemen- tary and supplementary to each other.
21	47	The Sethusamudram Project should be taken up for execution without avoidable delay if it is found econo- mic and feasible. The development programme of Sethusamudram Project should be regulated in the light of phased programme to be drawn up by the Gov- ernment for the development of Tuticorin as a major port.