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MINISTRY OF SURFACE TRANSPORT

DREDGING OPERATIONS IN MAJOR PORTS

ESTIMATES COMMITTEE 1988-89

EIGHTH LOK SABHA

LOK SABHA SECRETARIAT
NEW DELHI

EIGHTIETH REPORT

ESTIMATES COMMITTEE
(1988-89)

(EIGHTH LOK SABHA)

MINISTRY OF SURFACE TRANSPORT

DREDGING OPERATIONS IN MAJOR PORTS

Presented to Lok Sabha on 26th April, 1989

LOK SABHA SECRETARIAT
NEW DELHI

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(1988-89)

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INTRODUCTION

I, the Chairman of Estimates Committee having been authorised by the Committee to submit the Report on their behalf, present this Eightieth Report on the Ministry of Surface Transport-Dredging operations in Major Ports.

2. The Estimates Committee (1988-89) took the evidence of the representatives of the Ministry of Surface Transport on 29th and 30th December, 1988. The Committee wish to express their thanks to the Secretary, Ministry of Surface Transport and other officers of Ministry of Surface Transport and Major Port Trusts—for placing before them the material and information which they desired in connection with the examination of the subject and for giving evidence before the Committee.

3. The Report was considered and adopted by the Estimates Committee (1988-89) on 20th April, 1989.

4. The Committee are of the view that so far as capital dredging is concerned it would be desirable to create a specialised central agency equipped with latest survey equipment to assess the overall requirement of capital dredging in the ports in India. They are dismayed to note that no overall assessment of future requirements of dredging at Major Ports has been done by the Ministry. The Committee are of the view that the necessary exercise should be completed expeditiously so that it is possible to have an integrated approach in undertaking capital dredging rather than leaving the problem to ports in isolation. Once the quantum of work to be done is assessed it would be expedient to draw a plan of action and to compute the cost involved in the entire operations. While working out the financial requirements for the Major Ports for undertaking capital dredging the employment potential in undertaking the job should also be worked out.

5. The Committee consider that the problem of siltation is of huge magnitude and that a consolidated approach is imperative to tackle it effectively. While maintenance dredging is essential to maintain the requisite draft, it is also desirable to undertake adequate preventive measures like resorting to afforestation, plantation, etc. The Committee have been informed that Cochin University has conducted a study on the aspect of siltation and its prevention to some extent by plantation/afforestation. It is rather surprising that the Ministry though concurring with the Committee's view on consolidated efforts to tackle this problem has fallen short of initiating serious and meaningful interaction with specialised institutions in this regard. The Committee desire that the Ministry should initiate steps to have

interaction with Universities and other such institutions where such studies are being conducted.

The Committee have noted that maintenance dredging at Major Ports is subject to a policy decision whereby the ports themselves carry out dredging by the side of the berth and in rest of the areas it is undertaken by DCI. The Committee are of the opinion that maintenance dredging should be undertaken by a centralised agency after making comprehensive study of requirements of all the Major Ports.

The Committee regret to note that though the DCI has been in existence for the last more than ten years and has been conducting maintenance dredging operations at almost all the Major Ports yet the Ministry has not made any efforts to make comparative cost study of dredging operations carried out by Ports' dredgers and those by DCI. It is desirable to undertake the necessary study with a view to find out the ultimate solution as to whether the maintenance dredging should be done by the Ports or it should be entrusted to a central agency. The Ministry should conduct a comparative cost study to facilitate a rational solution to the problem.

The Committee note that expenses on maintenance dredging in all the Major Ports (except Calcutta Port) are met by the Port Trusts by levying port charges on berthing vessels. As opposed to this, in the Ports of certain countries like Belgium, Ireland, Greece, the entire cost of dredging is met by the National Governments.

The Committee have noted that an Inter Ministerial Group (IMG) has *inter alia* recommended financing of capital and maintenance dredging needs of all Major Ports by the Central exchequer. The Committee are of the view that the Ministry should examine the recommendations of the IMG in greater depth and take a final decision as to whether the Central exchequer should finance both capital and maintenance dredging operations of major Ports in the country. *Prima facie*, they find no reason why the Government should not do so in view of the fact that the country has a vast coast line, with very high stakes in developing international trade. The Committee would like to be apprised of a final decision in the matter.

6. The Committee note that 26 out of 32 dredgers at Major Ports have been performing much below their assessed capacities. While agreeing with the Ministry's contention that this may be mainly due to old age of dredgers, requiring frequent repairs and longer maintenance periods, the Committee are of the view that the situation could have been avoided if the Ministry had done some advance planning in this regard in consultation with Major Ports and chalked out a comprehensive plan to phase out the old dredgers by introducing the concept of modernisation in this field of activity. The Committee desire that the needful may be done now and a suitable pro-

gramme chalked out to replace the old dredgers. While effecting the programme of modernisation adequate care should be taken to standardise the equipments as dredgers also get non-functional due to non-availability of spare parts.

The Committee commend the proposal of Ministry to set up a Dredge Repair Complex at Calcutta, which would go a long way in mitigating the problems due to lack of adequate repair facilities within the country. They therefore, desire that work on the proposed complex should be initiated with due promptitude.

The Commitee have observed that time and again lack of adequate trained man-power has hampered the execution of dredging operations at Major Ports. This occurs at all stages right from the initial sounding operations, assessment of quantity to be dredged, the actual operations etc. They feel that in view of the highly technical nature of work it is desirable that a training institute in dredging be established at the earliest. The Committee note that as a preliminary step a Project report is being prepared with Dutch assistance and desire that Ministry should ensure the inclusion of the proposal in the Eighth Plan period so that the modernisation of dredging operations is affected smoothly and there is adequate man-power to handle such operations efficiently.

7. The Committee are distressed to observe that there are several cases regarding payment of dredging bills, which are under dispute between the concerned ports and Dredging Corporation of India for a long time.

In the opinion of the Committee the Ministry has not shown any decisive will to sort out the disputes. They see no reasons as to why the Ministry under whose control both, the DCI and ports concerned, function should not have been able to sort out the disputes and to end unnecessary wranglings between the parties. The Committee are of the opinion that the Ministry should take serious interest in the matter and make concerted efforts to sort out the disputes as all the concerned parties are under the Ministry.

8. The Committee note that there is a gap of 15,00,000 cubic metres in the dredging performance and actual programme at Madras Port for the decade, 1978-79 to 1987-88. The Ministry's contention that there is no backlog of dredging requirement at Madras Port cannot thus be accepted. The Committee are of the opinion that maintenance dredging operations should be carried out after proper planning so that there are no substantial variations in the quantity of dredging as programmed and as actually completed.

While welcoming the decision of the Government to deepen the Bharathi Docks in the Madras Port with Dutch assistance during the Eighth Plan the Committee hope that the project would finally be included in Eighth Plan and implemented at the earliest.

9. The Committee are dismayed to note that both the capital dredging and maintenance operations undertaken at Mormugao Port have been done without a systematic study. The Committee are of the view that to ensure the completion of projects in time and to avoid time and cost over-run the Ministry should set up a monitoring cell to monitor dredging operations at Major Ports so that all slippages are rectified with due promptitude.

The Committee regret to note that like capital dredging the financial planning for maintenance dredging operations has also been unsatisfactory. During the last four years i.e. 1984-85, 85-86, 86-87 and 87-88 against outlays of Rs. 250 lakhs, Rs. 326 lakhs, Rs. 280 lakhs and Rs. 244 lakhs respectively, the actual expenditures have been Rs. 244 lakhs, Rs. 222.50 lakhs, Rs. 235.80 lakhs, Rs. 218.65 lakhs respectively.

This situation is indicative of non-utilisation of allocated resources and calls for immediate remedial measures so that the sanctioned outlays are fully utilised and the work is completed according to schedule.

The Committee commend that training programme for the survey, technical and operational staff has been arranged and hope that such training programmes would continue in future also to help the staff perform better in the discharge of duties assigned to them.

10. In view of the Governments plan to set up a Grassroot refinery at Mangalore, the Committee urge the Ministry to initiate necessary action regarding deepening of Port and augmentation of port facilities well in time so that whenever the refinery becomes operational, no difficulty is faced by the berthing vessels. Necessary exercise in this regard should be initiated right now so that there is no difficulty when the refinery becomes functional.

The Committee note that the payment done by ports for work done by DCI is on daily rate basis. They are of the opinion that in order to have a proper control over the costs it is imperative that rates should be quoted on cubic metre basis. Necessary action in this regard should be initiated.

It is disquietening to note that no rational link exists between the quantity dredged and the cost incurred for the same. Such variations in costs do not indicate a satisfactory state of affairs and there is an urgent need to analyse critically the reasons for such large variations. A scientific study in this regard is considered imperative so that it is possible to keep proper control over the expenditure incurred on maintenance dredging.

11. The Committee express their disapproval of the tardy manner in the execution of the first stage development of Tuticorin Port. A project which was to have been completed within five years of its inception in 1969 has still not been completed even after twenty years. The progress of the work has been held up after 31.3.85.

The Committee cannot hely remarking that there was total lack of perception, judgement and objectivity in deciding this case which has seriously jeo-pardised the financial interests of the Port. They expect the Ministry to draw a lesson from this bad planning and lack of sound judgement and strengthen their planning implementation and monitoring machinery to properly serve the financial interests of the Government. The Ministry should also take appropriate steps to finally clinch the issue so that the residuary work which is held up since 31.3.85 is completed.

12. The Committee note that for the award of contract of capital dredging at Paradip Port DCI was earlier in reckoning, but ultimately could not secure the Rs. 8.75 crore contract due to inadequate machinery at its disposal.

The Committee find it disquietening that a public sector undertaking has been deprived of a contract due to lack of adequate machinery, thereby also resulting in the loss of precious foreign exchange resources. This has happened due to lack of advance planning and monitoring regarding overall dredging operations in the country. This is clearly, indicative of want of a comprehensive monitoring system under one umbrella and systematic and comprehensive planning in regard to dredging requirement in the country. Procurement of dredgers is a capital intensive scheme but considering the fact that lack of dredgers with DCI is leading to more and more projects being awarded to foreign dredging contractors, the Committee consider it imperative that expeditious steps are taken to augment the capacity of DCI. In this connection the Committee would also like the Ministry to explore the possibility of seeking assistance, if necessary, from foreign sources so that future dependence on outside contractors is reduced to barest minimum and loss of precious foreign exchange minimised.

13. The Committee find huge disparities in the outlay earmarked and expenditure incurred by the Visakhapatanam Port Authorities, while executing projects relating to deepening of Outer Harbour, New Oil Mooring and Oil Berth. The Committee will definitely like to be apprised of the reasons which prompted the Ministry to revise its rates by almost 400%. *Prima facie* the increase in the cost does not appear to be justified.

The Committee also note that for work at Oil Berth three different agencies have been involved *viz.* Port's own dredgers, DCI and a private

contractor. The Committee find significant variations in the costs of dredging conducted by these agencies. The Committee therefore, desire that a study be carried out by the Ministry to see the propriety of dredging operations by different agencies to enable it to chalk out future strategy for awarding dredging contracts.

The Committee find that most of the deficiency in maintenance dredging in this Port is due to obsolescence of its dredgers. The Committee feel that it is high time that a plan to modernise the dredging fleet is chalked out by the Ministry. The Committee are of the opinion that as a centralised agency is more suitable for carrying out dredging operations at Major Ports, the Ministry may evolve a policy whereby grab dredgers for alongside dredging should be allocated to various Port Trusts while suction dredgers which are suitable for performing channel dredging should in future be procured by DCI in place of the Port Trusts.

14. The Committee are unhappy to note that due to location specific problems change of navigation channel on no less than 6 occasions since 1955 has taken place at Kandla Port. They are of the opinion that while planning establishment and development of projects which require huge capital expenditure, the overall financial returns should also be taken into account. In the instant case the Committee do not find that the Ministry had adhered to this principal while taking decision to further develop the port. The Committee also do not find any justification in the Ministry's plea that they are finding it difficult to work out economic internal rate of return and financial internal rate of return of Kandla Port. The Committee feel that the knowledge of returns on any investment are a basic rule of corporate finance and are surprised to find that the Ministry has not taken this in account, particularly when dealing with such a high capital intensive project. The Committee, therefore, desire that the information be compiled so that it is possible to assess the justification or otherwise for further development of the Port.

The Committee note that a surplus dredger of Kandla Port has been handed over to DCI on bare-boat charter and the arrangement is working satisfactorily. The Committee desire that the Ministry should find out if other ports too are having surplus dredging capacity so that similar arrangements are made to further augment the capacity of DCI and to judiciously utilise existing machinery.

15. The Committee agree with the Ministry's contention that as the Calcutta Port is based on a 'difficult river', they have yet to evolve effective control measures to arrest the huge amount of siltation taking place at the Port.

The Committee, however, feel that the Port's performance in regard to capital and maintenance dredging is dismal. They find that capital dredging operations at Calcutta/Haldia Port have been handled with extreme casualness and without adequate monitoring of projects. The Port's physical and financial performances have gone haywire in this particular field which is of immense importance for the business of the Port. The Committee desire that intensive efforts should be made to tone-up the overall machinery and strict watch should be maintained in future for timely and effective implementation of projects of critical nature, more so in the light of the fact that business at Calcutta Port has become more or less static and is in-fact on a down-ward trend.

The Committee note that 90% of dredging expenditure of Calcutta/ Haldia Port is met from the Central exchequer. They feel this is all the more reason for the Ministry to have a strict vigil over the financial management of dredging operations at the Port.

In the field of maintenance dredging the track record of Calcutta/ Haldia Port is still worse. The Committee are baffled to observes huge disparities in the costs involved in the dredging works undertaken by Calcutta Port itself and that done by DCI dredgers. During the period of last ten years while DCI dredgers with a total assessed capacity of 38.18 m. cu.m. dredged 53.18 m. cu.m at a cost of Rs. 44.88 crores, the Port's dredgers performed dismally and against their assessed capacity of 120.43 m.cu.m. dredged only 78.57 m.cu.m. at a huge cost of Rs. 192.27 crores. The explanation given for this utterly poor performance of the Port's dredgers has not been considered to be satisfactory by the Committee. In the projects of large financial value it is imperative to strengthen planning implementing and monitoring machinery so that it is possible to achieve desired objectives within the estimated cost. In view of the huge financial value of work involved in maintenance Dredging in Calcutta and Haldia it is imperative to have comprehensive review of the expenditure incurred during the last 3 years so as to as certain whether they were executed efficiently and economically and there was maximisation of resources. The Committee would like the Ministry to ensure close intensive monitoring of such projects by indepth periodical review of progress of projects, close coordination with equipment suppliers, contractors, consultants and other agencies to minimise delays. It is also essential to strengthen research activities in such projects so as to keep abreast with latest technological developments all over the world. The Committee are also of the view that as far as Calcutta Port is concerned it is imperative to go in for modernisation plan to boost international trade which is going to be containerised. The Committee, therefore, urge that high priority should be given to cargo handling and modernisation of Calcutta Port while finalising the proposals for the 8th Plan.

16. The Committee deprecate the manner in which financial details regarding capital dredging at Bombay Port have been furnished by the Ministry. The Ministry has stated that information relating to approved outlays during Third, Fourth and Sixth Plans are not available. The Committee desire that in future the Ministry should be more careful in furnishing information to the Parliamentary Committee.

The Committee find that in actual performance the Bombay Port authorities have acquitted themselves poorly. Draft levels at Pir Pau Chemical Terminal are presently around 5.5 mts. as against the required depth of 8.8 mtrs. The Committee are unable to accept the Ministry's explanation that due to less demand in initial stages dredging at the said area was neglected.

The Ministry has not conducted any study to assess the percentage of delays in berthing of ships due to dredging operations. The Committtee think that it is desirable to conduct a study to discuss the problems involved with a view to chalk out strategy to avoid delays in berthing which cause considerable loss of revenue to the exchequer.

The Port's maintenance dredging requirement is to the tune of 46 lakhs cu.m., while the actual dredging carried out annually is about 30 lakhs cu.m. This leaves a backlog of 16 lakhs cu.m., every year. The Committee feel that this is an alarming situation and warrants urgent action. The Committee have observed that due to the quantity remaining undredged the tankers arriving at the Port have to wait marginally for suitable rise in tide. The Committee are of the opinion that as similar situations regarding backlog in dredging are obtaining at almost all Major Ports, a study should be conducted by the Ministry to find out extended waiting time imposed on berthing vessels, the financial implications involved and quantity of business lost due to ships not preferring to berth at all, at these ports due to absence of required depths. The Committee would like to be apprised of the findings of such study.

17. Due to depth restrictions, Cochin Oil Terminal which can otherwise receive fully loaded tankers of 1,15,000 D.W.T. is resorting to dead freighting of ships to carry 60,000 tonnes of cargo. This is resulting in an estimated loss of Rs. 12 crores per annum, in terms of freight to oil industry. The Port consultants have suggested a programme to deepen the channel. This would entail an expenditure of Rs. 18 crores for capital dredging and Rs. 3 crores every year for maintenance dredging.

The Committee desire that immediate attention should be paid to assess this project, as in the opinion of the Committee, this additional expenditure on dredging appears to be fully justified considering the financial

savings in terms of freight to oil industry, which will start accruing once the deepening of the Port is carried out. In fact after an initial investment of Rs. 18 crores and thereafter of Rs. 3 crores annually, a net savings of Rs. 9 crores (Rs. 12 crores—Rs. 3 crores) will start accruing in terms of freight to oil industry.

The Committee have been informed that operations carried out by DCI dredgers are cheaper than those conducted by Port's own dredgers. The position in Bombay Port depicts an altogether different picture. It is worthwhile to conduct a horizontal study regarding maintenance dredging operations at all Major Ports in order to bring about rationalisation in the economics of dredging done by various agencies.

The Committee will also like to draw the attention of the Ministry to maintenance dredging being undertaken at Cochin Port. While in 1984-85 a sum of Rs. 799 lakhs was spent on dredging 62 lakhs cu.m., and Rs. 159 lakhs and Rs. 911 lakhs had been spent to dredge 63 lakhs cu.m. and 56 lakhs cu.m. respectively. In the opinion of the Committee even if standard escalations are taken into account such drastic increase cannot take place within a period of 1 to 2 years. They would like the Ministry to conduct detailed investigations into this increase in cost with a view to taking appropriate remedial measures with promptitude.

18. The D.C.I. also competed among the bidders for the contract of Nhava Sheva Port Project but did not qualify as it did not satisfy the condition that it should have a collaboration with a Dutch company. Due to the omission on the part of the DCI the contract was awarded to a Dutch firm resulting in an outflow of foreign exchange worth Rs. 51 crores. The Ministry should ensure that instructions are issued to concerned agencies under its control to be very careful while bidding for tenders so that the financial interests of the country are properly secured.

The Committee note that Nhava Sheva Port Project was sanctioned by Ministry of Environment and Forests on the condition that disposal of dredged material will be done in consultation with Environment Division of Nhava Sheva Port Trust and that no large scale dumping of wastes shall be undertaken by Nhava Sheva Port Trust without clearance from environmental angle. They are appreciative of the fact that environmental angle has been duly taken into account before clearing the Nhava Sheva Port Project. In view of pollution hazards which are being faced by sea ports, the Committee consider it as a positive step and hope that the Ministry would give paramount consideration to environmental angle while considering further expansion of Major Ports and also in undertaking capital and maintenance dredging operations.

19. For facility of reference, the recommendations/observations of the Committee have been printed in thick type in the body of the Report and have also been reproduced in a consolidated form in Appendix to the Report.

NEW DELHI;
April 20, 1989
Chaitra, 1911(*S*)

ASUTOSH LAW
Chairman,
Estimates Committee.

CHAPTER I

INTRODUCTORY

1.1 The Sea-borne trade of the country, both coastal and foreign, is carried out by movement of cargo by ships. The ships operate through ports and a minimum depth of water is required to be maintained for the ships to enter the ports and for their berthing. To achieve and to maintain the required depths in the shipping channels it is necessary to remove sand and silt from under the water as found necessary. This removal and transport of underwater material by mechanical means is known as 'dredging' and the vessels used for the purpose are known as dredgers.

1.2 When a new harbour or channel is created, where normally such depths are not available, it is necessary to carry out dredging in a big way to remove whatever type of material is under water viz., sand, silt, clay, rock etc. to obtain the required depths. This operation is called "capital dredging". This virgin material can usually be used for reclaiming suitable nearby areas.

1.3 Once a new harbour or channel is created the depths do not necessarily remain unaltered. Due to the silt deposited through currents from rivers and back-waters and that brought from the sea due to tidal effect, these channels get silted up, preventing deeply loaded ships from entering the harbour. Hence, it is necessary to remove the accumulated silt on a regular yearly or seasonal basis by dredging. This operation is called maintenance dredging". This material is usually too soft to be used for reclamation.

1.4 The under-water material is removed by means of different types of dredgers according to the requirements and site conditions. A cutter suction dredger cuts the material by means of a rotating cutter and sucks along with water and pumps ashore through a long pipeline. In case of trailer suction hopper dredger, the suction tube with drag-head is lowered and the material is disturbed with jet-nozzle and the bed material is sucked along with water by the pump and taken into a tank called 'hopper' which is situated in the dredger itself and this material is disposed of in deep waters by opening the doors in the bottom of the hopper. In both dredgers, the principle is to such the material by the powerful pumps along with water and discharge the material either on shore or in the hopper, as the case may be. There are also other types of dredgers called grab dredgers, bucket dredgers, etc. which are generally used for dredging in the isolated pockets close to the jetties, wharves, etc. within the ports.

CHAPTER II

ASSESSMENT OF CAPITAL DREDGING

2.1 About the agencies responsible for assessing the capital dredging requirements of Major Ports, the Ministry has stated that the Ports are themselves responsible for assessing the capital dredging requirements.

2.2 Asked if there have been instances where due to wrong assessments, adjustments in contractual clauses had to be carried out thereby leading to escalations in costs and delay in execution of projects, the Ministry has stated that there have been instances where due to variations in assessment of capital dredging requirements on account of changes is soil conditions, stratification, reshoaling, etc., cost escalations and delays have taken place. It has been further stated that as these are due to routine natural changes, they cannot be prevented and standard escalation clauses for these eventualities form part of contract agreements. When asked whether besides these routine escalations, have there been instances where the basic assessment and actual performance have been at substantial variance, due to wrong assessments and other factors, the Ministry has stated that, as per the reports furnished by the ports, no such instances where there were substantial variations due to wrong assessments have occurred.

2.3 When asked during the evidence of the representatives of the Ministry, if reports from the various ports had been obtained by the Ministry in regard to average quantity of dredging to be done and whether an assessment of total requirements of the Ports had been conducted.

In this connection, the representative of the Ministry of Surface Transpor stated during evidence :

> "We have not made it so far, because the exercise is still on. No approximate assessment has been made, because new ports and deepening of ports are being thought of. We have not totalled them up. We could not estimate in terms of rupees now, because quantities will have to be assessed first".

2.4 When asked whether by not making an effort in assessing the quantities and dependence on foreign agencies deprived the people not only of employment but also of an opportunity to do the work at perhaps a lesser price, the Secretary of the Ministry stated during the evidence :

> "The main point is that it is not lack of assessment which stands in the way. There is a resource constraint, well before the beginning of the 8th Plan".

2.5 Asked if while sending the proposal to the Planning Commission, the Ministry furnished employment potential as well, the Secretary stated :—

> "In the earlier Plans, there was a chapter on employment; but subsequently, the working groups have not been given the employment potential. I do not think it was done for the 7th Plan".

2.6 Asked about the extent of employment potential which could be created by having our own dredging operations the Secretary added :—

> "In our proposals we do not work out the employment potential through additional dredgers."

2.7 The Committee note capital dredging is undertaken whenever creation of new port facilities or further deepening of existing berths/channels is required and the responsibility to assess the capital dredging requirements rests with the concerned port.

They are of the view that so far as capital dredging is concerned it would be desirable to create a specialised central agency equipped with latest survey equipment to assess the overall requirement of capital dredging in the ports in India. They are also dismayed to note that no overall assessment of future requirements of dredging at Major Ports has been done by the Ministry. As stated by the Secretary during the course of evidence, an exercise to assess the quantities of capial dredging is under way. The Committee are of the view that the necessary exercise should be completed expeditiously so that it is possible to have an integrated approach in undertaking capital dredging rather than leaving the problem to ports in isolation. Once the quantum of work to be done is assessed it would be expedient to draw a plan of action and to compute the cost involved in the entire operations. While working out the financial requirements for all the Major Ports for undertaking capital dredging, the employment potential in undertaking the job should also be worked out. They would like to be apprised of future developments in this regard.

CHAPTER III

STUDY OF SILTATION AND ASSESSMENT OF MAINTENANCE DREDGING

3.1 Siltation is the root cause of reduction in design drafts at the ports. About the causes of siltation, the Secretary of the Ministry informed the Committee during evidence :—

> "We have identified three causes. One is that the huge mass of sand is moving from the south towards the Bay of Bengal. The second reason is that where we have riverine ports, huge quantities of silt is deposited by the river. The third reason is that high tides bring in a lot of sand."

When the Ministry was asked about the agencies entrusted with the study of siltation patterns at various Major Ports, it has been stated that at the time of formulation of new projects involving dredging Central Water and Power Research Station (CW&PRS), Pune is consulted to assess the capital and additional maintenance dredging requirements. Thereafter, the ports themselves monitor the actual siltation patterns and accordingly carry out their maintenance dredging. However, whenever any specific problem arises the advice of CW&PRS is taken. The ports of Paradip, Kandla and Cochin have more frequent interaction with the CW&PRS in view of their location specific problems. As regards Calcutta Port Trust they also have, in addition, their own hydraulic study department where they study their siltation problems.

3.2 Asked further if the ports have their own 'in house' research and development organisations for this purpose and whether the Dredging Corporation of India (DCI), which is normally entrusted with dredging operations at Major Ports, has any agency to monitor siltation patterns at these ports, the Ministry has stated that the Calcutta Port is the only port which has a separate Hydraulic Study Department which has been also entrusted with some R&D schemes. Other ports do not have any separate R&D organisation for dredging and DCI does not monitor the siltation in the ports. The port authorities themselves monitor the siltation pattern at their ports.

3.3 When asked if the Ministry was taking any steps to tackle the problem of siltation at Major Ports at its own level, the Ministry has stated that it agrees that a consolidated approach to solving the dredging problems in the country is necessary. This is all the more important in the case of riverine ports.

Asked further if the Ministry had looked into the aspect of afforestation to overcome the problem of siltation and whether there was a R&D wing in

the Ministry or Ports for this purpose, the Secretary of the Ministry stated during evidence :—

> "We do not have a cell either in our Ministry or in the Ports to deal with this wider question of afforestation. You are aware that this is a larger problem and the functional responsibility is with the State Governments and with the other Ministries. It will be a far greater responsibility for the ports to shoulder this task."

3.4 During the visit of the Study Group of the Committee to Cochin University they were informed that the University had prepared a total plan in this respect. When asked as to why the Ministry could not work in co-ordination with the said University, the Secretary of the Ministry stated during the evidence :—

> "We will get in touch with the Cochin University. But to undertake afforestation of the entire reach of river will be very difficult task on the part of the ports. This is a new angle which I must confess did not strike us at all. We will find out if any other University has also done this study."

3.5 It was also stated by the Ministry that no Major Port has carried out plantations/afforestation for the specific purpose of preventing soil erosion and consequent siltation. However, during the visit of Study Group of Committee to Mormugao Port, it was brought to their notice that the Port Trust authorities had acquired 10 hectares of land for the purpose of afforestation. On being asked to resolve this contradiction, the Secretary of the Ministry stated during the evidence :

> "I am happy that even without our knowledge they have started this."

3.6 In this connection it may be stated that the late Prime Minister, Smt. Indira Gandhi, had issued directives to all the Coastal States in November, 1981 calling for measures to protect the coast. In her letters to the Chief Ministries, she said the degradation and misutilisation of breaches in the Coastal States was worrying as the beaches have aesthetic and environmental values. They have to be kept clean of all activities at least 500 metres from the water at the maximum high tide. If the area is vulnerable to erosion, suitable trees and plants have to be planted on the sands without marring the beauty of the environs. Pollution from industrial and town waste must also be avoided totally, she had said.*

3.7 Asked if the Ministry was making some efforts in establishing a centralised monitoring agency in this regard, the Secretary stated during the evidence :—

> "We get reports from all the ports on the draughts which they have got. We take the question of monitoring finally the siltation at

*The HINDU, Delhi, 25 December, 1988.

different ports. So far as the inputs for siltation is concerned the Ministry is monitoring the requirements of ports for dredging and we redouble the amount needed and so on. Basically somebody takes the soundings why this particular channel which has got a 30 feet draught needs dredging. At frequent periods they take different soundings. Otherwise a ship will come assuming that a draught is available and it may touch the ground."

3.8 Asked further as to whether the Ministry had a comprehensive monitoring system for different ports, the representative of the Ministry stated during evidence :—

"The maintenance dredging in the ports is done by the ports by their own dredgers where they have their own dredgers. Where they do not have their own dredgers, it is done by the Dredging Corporation of India. There are also cases where the DCI meet their requirements. We in the Ministry are fully aware of the needs of dredging of ports like Calcutta, Paradeep, Vizag and Madras. We also regulate the annual maintenance requirements of dredging in various ports but they do not depend on the DCI for the work. What happens is, that there is a programme which is drawn up every year on the basis of their requirements. This requirement does not undergo very drastic changes unless some extraordinary situation developes like very-very high intensive monsoon or in cases where rapid siltation takes place due to a cyclone or some other reasons. Otherwise in the present situation with the existing draughts and with the need for dredging, we would see what are the requirements and the individual ports are in touch with the DCI. They indicate their programme to them. Particularly in the case of West Coast ports, no port would carry on dredging during the monsoon period because it is not possible.

Immediately after post-monsoon period and in as short a time as possible they do it. Similarly in the Eastern side the ports have got their own programme and they have got their dredgers to do that. Where they want supplementary help like Cochin or Madras which has a written-off dredger, they make a programme and we agree with it. So, we do have the annual requirements of the individual ports, the periods in which they need to be done and have an arrangement with the DCI to see that this work is taken care of. Occasionally, we may find that it is necessary to redeploy a dredger from one port to another due to exigencies. In those situations the ports come to the Ministry and say that this is the situation that is happening that their own dredger is not able to cope with the work. Then the Ministry redeploys the dredgers. In the Ministry we are totally aware of the requirements and the possible means of taking care of these annual requirements of this maintenance dredging."

The Secretary, also added :—

"I think we are talking only about maintenance dredging. There is maintenance dredging alongside the berth. Then there is dredging to be done in the shipping channel which is as long as 12 to 25 miles of the coastline. We are of the view that ports may have their own dredger to do the dredging by the side of the berth. The reason is the occupancy of the berth by the ship is very high. About 90 per cent of the time, some ships are occupying the berth. So, the time for maintenance is not adequate. There is no time to summon DCI to bring their dredgers. So, the ports have a policy decision to have their own dredgers as far as possible. Then we have channel dredging. In Calcutta, one dredger called 'Mohana' was to be replaced. We have decided that DCI will buy the dredger and not the Calcutta Port Trust."

3.9 Asked if it would be worthwhile to have a centralised controlling agency for dredging operations it was stated by Secretary of the Ministry during evidence :—

"Certainly it would be good if it is under the control of one organisation. If we take a decision that DCI will buy the dredger instead of the port trust, then the staff employed for this purpose in the port trust cannot be transferred. Anyhow we will consider this point and take a decision."

3.10 The Ministry has in a note informed the Committee that generally maintenance dredging is undertaken by Port authorities themselves and these are financed by their internal resources. Asked as to how these expenses were offset by the port authorities and of these how many were in the form of levies or taxes on berthing vessels and as to how did they compare with such charges in ports of advanced countries, the Ministry has stated that in all the Major Ports the expenses of maintenance dredging are met from the general revenues which are generated by the levying of port charges. In the case of Calcutta, however, 90 per cent of the cost incurred on items directly relate to river dredging and river maintenance and maintenance dredging of shipping channel leading to Haldia are met by a subsidy given by the Government.

3.11 In the Ports of certain countries, like Belguim, Ireland, Greece, the entire cost of dredging is met by the National Governments whereas in the case of Ports of France, the cost is shared by the National Government and the Port Authorities. It is, therefore, not possible to compare the Indian Ports with the Ports of advanced countries as the financing pattern varies from Port to Port.

3.12 Asked further if a comparision of costs of dredging done by DCI and that by ports' own dredger has been done, the Ministry has stated that some Ports have made a comparison of cost of dredging done by DCI and

the dredging done by Ports' own dredgers. However, it is not possible to come to a definite conclusion unless there is a uniform definition on the item which constitute the cost. A Working Group on Dredging facilities for the VIIIth Five Year Plan has been constituted by the Planning Commission. The Group will study, *inter-alia*, the comparative cost of dredging operations by DCI and the Ports' own dredgers. This Report is likely to be available in about three months' time.

3.13 An Inter-Ministerial Group (IMG) set up by the Ministry of Surface Transport to look into the problems faced by exporters at gateway ports, amongst others, studied the aspect of the deepening of ports. It has made following observations in this regard :

> "As for maintenance of designed drafts in ports, our examination has shown that many ports cannot always ensure this. Firstly, because siltation deposit rate in such ports compared to others, is relatively high. Secondly, they find the maintenance dredging costs beyond their capacity to finance. We understand that in some of the developed countries like USA, France, Japan, capital and maintenance dredging in ports is funded wholly by the central exchequer. There is no reason why in a country like India endowed with a vast coast line of 6000 kilometres with very high stakes in developing international trade, the Government of India should not finance the 'capital' and 'maintenance' dredging needs of all Major Ports in India. In IMG's view in deciding to give a subsidy of 90% of the total annual cost of dredging in the port of Calcutta which has been going on for several years past, the Central Government has impliedly accepted the need for financing this activity in ports."

3.14 The I.M.G. has accordingly recommended that the capital and maintenance dredging needs of all Major Ports, as is the position obtaining in other developed countries, should be financed wholly by the central exchequer.

3.15 The Ministry, when asked to furnish their views on the specific proposals of IMG has stated that at present, the Central Government is meeting 90% of the maintenance dredging of Calcutta Port. The costs of capital dredging required in ports and maintenance dredging in the navigational channel, turning circles in other ports are met by the ports themselves. The question whether Government should share the cost of dredging in ports, was examined by the Government. The Ministry of Surface Transport is in favour of such sharing. No final decision has, however, been taken by the Government in this matter so far.

3.16 The Committee find that siltation at Major Ports is an unavoidable phenomenon and that in order to keep the ports in fully operational state efficient and timely maintenance dredging is extremely essential. It has also

come to their notice that normally maintenance dredging operations are carried out by the Port Trusts themselves. The Ports seek advice in this regard from Central Water and Power Research Station, Pune. Insofar as facility for 'in house' research and development is concerned only Calcutta Port has its own hydraulic study department where they study their siltation problems.

3.17 The Committee consider that the problem of siltation is of huge magnitude and that a consolidated approach is imperative to tackle it effectively. While maintenance dredging is essential to maintain the requisite draft, it is also desirable to undertake adequate preventive measures like resorting to afforestation, plantation, etc. The Committee have been informed that Cochin University has conducted a study on the aspect of siltation and its prevention to some extent by plantation/afforestation. It is rather surprising that the Ministry though concurring with the Committee's view on consolidated efforts to tackle this problem has fallen short of initiating serious and meaningful interaction with specialised institutions in this regard. The Committee desire that the Ministry should initiate steps to have interaction with Universities and other such institutions where such studies are being conducted.

3.18 The Committee have noted that maintenance dredging at Major Ports is subject to a policy decision whereby the ports themselves carry out dredging by the side of the berth and in rest of the areas it is undertaken by DCI. The Committee are of the opinion that maintenance dredging should be undertaken by Centralised agency after making comprehensive study of requirements of all the Major Ports.

3.19 The Committee regret to note that though the DCI has been in existence for the last more than ten years and has been conducting maintenance dredging operations at almost all the Major Ports yet the Ministry has not made any efforts to make comparative cost study of dredging operations carried out by Ports' dredgers and those by DCI. It is desirable to undertake the necessary study with a view to find out the ultimate solution as to whether the maintenance dredging should be done by the Ports or it should be entrusted to a central agency. The Ministry should conduct a comparative cost study to facilitate a rational solution to the problem.

3.20 The Committee note that expenses on maintenance dredging in all the Major Ports (except Calcutta Port) are met by the Port Trusts by levying port charges on berthing vessels. As opposed to this, in the Ports of certain countries like Belgium, Ireland, Greece, the entire cost of dredging is met by the National Governments.

3.21 The Committee have noted that an Inter-Ministerial Group (IMG) had, inter alia, recommended financing of capital and maintenance dreding needs of all Major Ports by the central exchequer. The Committee are

of the view that the Ministry should examine the recommendations of the IMG in greater depth and take a final decision as to whether the central exchequer should finance both capital and maintenance dredging operations of Major Ports in the country. Prima facie, they find no reason why the Government should not do so in view of the fact that the country has a vast coastline with very high stakes in developing international trade. The Committee would like to be apprised of a final decision in the matter.

3.22 The Committee would in this connection pertinently refer to the observations of the late Prime Minister, Smt. Indira Gandhi that degradation and misutilisation of coastlines should be prevented and if the area is vulnerable to erosion, suitable trees and plants should be planted on the sands without marring the beauty of the environs. Pollution from industrial and town waste must also be avoided, as pointed out by her. The Committee desire that the Ministry should study the problem from environmental angle in consultation with the Ministries concerned and take positive steps to translate into action the above observations of the late Prime Minister. The Committee feel that high population growth, unrestrained development and inadequate infrastructure have resulted in decline in the environmental quality of the country's coastline and urgent preventive steps are considered essential to prevent further deterioration in this regard.

CHAPTER IV

MAINTENANCE FACILITIES FOR DREDGERS AT MAJOR PORTS

4.1 The Ministry, when asked if the dredgers of most of the Major Ports were working far below assessed capacities, has stated that the performance of dredgers was below the assessed capacities in some cases. A factual statement showing the details of actual dredging done *vis-a-vis* capacity of various dredgers in the Major Ports for the last three years is given below.

DREDGING PERFORMANCE OF ALL PORTS

(in million cubic metre)

Sl. No.	Name of the Port	Dredger	Assessed Annual capacity	Actual Quantity Dredged								
				1985-86			1986-87			1987-88		
				Capital	Maintenance	Total	C	M	T	C	M	T
1.	CALCUTTA	Ajoy	1·9	—	0·063	0·063	—	0·03	0·03	—	1·2	1·2
		Bully	0·855	—	0·016	0·016	—	·0012	·0012	—	—	—
		Grab-1	1·84	—	0·378	0·378	—	·186	·186	—	—	—
		Grab-2	1·39	—	0·319	0·319	—	·439	·439	—	·486	·486
		S.D. Mohana	3·62 (1·21 for 1987-88)	—	2·78	2·78	—	2·10	2.10	—	·87	·87
		S.D. Churni	1·06	—	0·43	0·43	—	·269	·269	—	·23	·23
		S.D. Subarna Rekha	0·78	—	0·419	0·419	—	·673	·673	—	·466	·466
		S.D. Maha Ganga	5·87	—	3·04	3·04	—	2·66	2·66	—	·23	1·33

DREDGING PERFORMANCE OF ALL PORTS—*contd.*

(in million cubic metre)

S. No.	Name of the port	Dredger	Assessed Annual Capacity	Actual Quantity Dredged								
				1985-86			86-87			87-88		
				Capital	Maintenance	Total	C	M	T	C	M	T
2.	VISHAKHA-PATNAM	S.D. Vishakha	0·627	—	·917	·917	—	·265	·265	NR	0·699	0·699
		G.D. Mudlark	0·008	—	0·0021	·002	—	·004	·004	—	0·004	0·004
		Waltair	0·033	—	0·0037	·0037	—	—	—	—	—	—
		GHD Durga	0·088	0·008	0·076	0·084	·023	·074	·097	—	0·042	0·042
		MD Varaha	0·924	0·926	0·926	0·927	—	·79	·79	NR	0·9	0·9
3.	MADRAS	S.D. Coieroon	1·2	0·16	1·15	1·31	—	0·521	0·521	—	1·44	·144
		S.D. Cauvery	0·913	—	0·683	0·683	—	·894	·894	—	·335	·335
		G.D. Wenlock	0·02	—	0·036	0·036	—	·037	·037	—	·052	·052
4.	COCHIN	BD LADY Willington	0·5	—	0·183	0·183	—	0·278	0·278	—	0·167	0·167
					0·755	0·755	—	1·061	1·061	—	0·309	0·309
		HSD Mattanchery	1·2	—	0·330	0·330	—	0·203	0·203	—	0·309	0·309
		GHD Bolghaty	0·4	—								
5.	MORMUGAO	SD Zuari	0·75	—	0·6	0·6	—	0·59	0·59	—	—	—
		GD Sal	0·1	—	0·07	0·07	—	0·24	0·24	—	—	—
6.	KANDLA	SD Kandla	0·65	—	0·263	0·363	—	—	—	—	—	—
		Kutch Vallabh	2·73	—	1·33	1·33	—	1·83	1·83	—	2·688	2·688
7.	BOMBAY	Vikram	1·918	—	1·2	1·2	—	1·33	1·33	—	1·15	1·15
		Vishal	1·075	—	1·18	1·18	—	0·98	0·98	—	0·57	0.57
		Vikas	0·56	—	0·255	0·255	—	0·349	0·349	—	0·31	0.31
		Virat	0·392	—	0·129	0·129	—	0·09	0·09	—	0·15	0.15
		Mayur	0·15	—	0·136	0·136	—	—	—	—	0·04	0.04
		Vidur	0·15	—	0·139	0·139	—	0·05	0·05	—	0·06	0.06
		Vasishta	0·15	—	—	—	—	—	—	—	—	—
		Vishwamitra	0·15	—	0·105	0·105	—	0·08	0·08	—	0·12	0·12
		Valmiki	0.15	—	0·104	0·104	—	0·132	0·132	—	0·13	0.13

4.2 When it was pointed out that as per the above statement, out of 32 dredgers owned by Major Ports only 6 had performed as per their assessed capacities, the Ministry has stated that most of the dredgers owned by the ports are old end require frequent repairs. Because of old age the time taken for repairs, overhaul and maintenance is also more. At certain ports like Bombay, factors like high berth occupancy rate and limitation of tidal docks also affect the working output of the dredgers. At Calcutta Port dredgers lose a number of working days for annual survey/ break-down repairs, etc. due to their old age. At Viskhapatnam Port, dredger GD Mudlark is 40 years old and is being used on single shift. SD Visakha is 30 years old. Another factor for inadequate performance is occasional lack of sufficient spare parts and adequate repair facilities.

4.3 Asked if there was any perspective corporate plan to modernise maintenance facilities at Major Ports in order to obtain maximum capacity utilisation of dredgers, the Ministry has stated that the ports of Bombay, Calcutta, Visakhapatnam, Kandla and Cochin has dry dock facilities for ship repairs. Apart from this certain shipyards like Cochin Shipyard and Hindustan Shipyard have facilities for ship repairs. It is now proposed to set-up a now Dredge Repair Complex at Calcutta to provide modern ship repair facilities and also to train the personnel in repairing of dredgers.

4.4 Asked about the details regarding the proposed Dredge Repair Complex, it has been stated by the Ministry that the Dredge Repair Complex is being set-up as a joint enterprise between DCI, Hooghly Dock and Port Engineers, Patel Engineering and IHC (India). Approval of equity participation by the DCI and HDPE in this joint-sector project is being processed.

4.5 Asked if the Ministry was contemplating setting up of a National Institute of Training in Dredging it has been stated that there is no provision in the 7th Five Year Plan for setting up of a National Institute of Training in Dredging. However, setting up of such an Institute is considered desirable. Hence, as a preliminary step a Project Report is being prepared with Dutch assistance.

4.6 During evidence the Secretary of the Ministry further elaborated on the proposed Institute:—

> "Six monthly meetings are held between the Dutch and Indian experts. This was discussed with them at the last meeting held six months ago. They agreed that this would be included in the programme. So, there is an agreement on their part to include it in the Indo-Dutch Programme.
>
> Then we have the terms of reference and DPR. Our draft for the former has been handed over to them. They have said that they would take 6 to 9 months to prepare the latter. Without waiting for

DPR, we will have it included in the 8th Plan, without the detailed report. Many of the components are included in the 8th Plan. Once it is included, we can still go ahead with it. In this case, we have started advance action in many other projects".

4.7 The Committee note that 26 out of 32 dredgers have been performing much below their assessed capacities. While agreeing with the Ministry contention that this may be mainly due to old age of dredgers, requiring frequent repairs and longer maintenance periods, the Committee are of the view that the situation could have been avoided if the Ministry had done some advance planning in this regard in consultation with Major Ports and chalked out a comprehensive plan to phase out the old dredgers by introducing the concept of modernisation in this field of activity. The Committee desire that the needful may be done now and a suitable programme chalked out to replace the old dredgers. While effecting the programme of modernisation adequate care should be taken to standardise the equipments as dredgers also get non-functional due to non-availability of spare parts.

4.8 The Committee commend the proposal of Ministry to set-up a Dredge Repair Complex at Calcutta which would go a long way in mitigating the problems due to lack of adequate repair facilities within the country. They therefore, desire that work on the proposed complex should be initiated with due promptitude.

4.9 The Committee have observed that time and again lack of adequate trained man-power has hampered the execution of dredging operations at Major Ports. This occurs at all stages right from the initial sounding operations, assessment of quantity to be dredgded, the actual operations etc. they feel that in view of the highly technical nature of work it is desirable that a training institute in dredging be established at the earliest. The Committee note that as a preliminary steps a project report is being prepared with Dutch assistance and desire that Ministry should ensure the inclusion of the proposal in the Eighth Plan period so that the modernisation of dredging operation is affected smoothly and there is adequate man-power to handle such operations efficiently. They would like to be apprised of developments in this regard.

CHAPTER V

SETTLEMENT OF PENDING DUES BETWEEN PORTS AND DCI

5.1 The Ministry when asked to state if some of the Major Ports have not made payments for dredging operations executed by DCI, has stated that the ports keep on making payments to the DCI from time to time for the work executed. However, according to DCI the following arrears are pending for mode than one year and two years port-wise.

(Rs. in lakhs)

Name of the port	More than one year	More than 2 years
Calcutta Port Trust	3·28	17·06
Paradip Port Trust	—	9·65
Visakhapatnam Port Trust	—	3·44
Bombay Port Trust	—	2·28
Kandla Port Trust	—	3·32
Cochin Port Trust	4·15	102·56

5.2 Asked about the stand of concerned ports on this issue, the Ministry has stated that these amounts are disputed by the ports trusts.

5.3 When asked during the evidence as to what led to the disputes in payments at Cochin Port, the Secretary of the Ministry stated :

> "....the Cochin Port has agreed to pay a portion of it. Dispute has arisen because the dredger was supposed to do a certain number of trips. But on specific days, instead of specific number it performed lesser number of trips. But if you take the entire trips into account it has performed the required number of trips."

5.4 Asked if this meant that there was no monitoring during the contract period at the Ministry level, the witness further stated :—

> "The DCI is extremely reluctant to come to the Ministry. Normally there is a procedure of arbitration where we appoint a senior officer of the Law Ministry to arbitrate. Ports are their customers. That is why, they do not want to do anything which would cause friction."

5.5 Asked if the amount of Rs. 102.56 lakhs disputed between Cochin port Trust and DCI was a claim, the witness stated :

> "It is a payment to be made to DCI. According to Cochin Port Trust, it is not a claim".

Asked whether it represented the version of DCI or the Government, the witness stated :

"We have given both. All these amounts are disputed."

When asked to clarify as to how a claim of DCI to which port was not agreeing to could be called a payment, the witness replied :

"We have not taken a view on merits. According to DCI these are disputed by the Ports Trust."

5.6 When asked to indicate what role the Ministry played to settle these long-pending disputes, it has been stated that the issue relating to early settlement of the outstanding dues from various ports is reviewed in the Quarterly Performance Review Meetings of the DCI taken in the Ministry.

5.7 About specific instances of long pending disputes concerning Major Ports and DCI the Ministry has furnished the following information.

1. *Paradip Port Trust* :

An amount of Rs. 198.00 lakhs has been withheld by the Paradip Port Trust on account of the cost of Salvaging a dredger of the DCI-Dredge III which, Paradip Port Trust claim, is liable for payment by the DCI. The Ministry is endeavouring to sort out this issue after taking advice from the Ministry of Law.

2. *Visakhapatnam Port Trust* :

The dispute is with regard to capital dredging done by Dredging Corporation of India in the Visakhapatnam Port and the disputed amount is Rs. 228.00 lakhs. Since no mutually acceptable agreement could be reached between the two parties it has been decided by the Ministry to refer the matter to an Arbitrator for early settlement.

3. *Cochin Port Trust* :

Dredging was carried out for the port under Integrated Development Schemes of the port with certain guarantees in the output of the dredgers. The Port Trust has withheld payment of about Rs. 113.00 lakhs due to DCI on the plea that output of DCI dredgers was short of that guarantee in the contract. To sort out the differences/dispute amicably discussions are being held between the representatives of both the parties. If these talks fail the Ministry would intervene, if requested.

4. *Calcutta Port Trust* :

As regard Calcutta Port Trust the disputed amount is Rs. 18.33 lakhs. It is under discussion between DCI and Calcutta Port. Ministry's help has not been sought as yet.

5. *Bombay Port Trust* :

A sum of Rs. 8.87 lakhs is under dispute between DCI and Bombay Post Trust. The matter is under discussion between the two parties and Ministry's help has not been sought as yet.

5.8 The Committee are distressed to observe that there are several cases regarding payment of dredging bills, which are under dispute between the concerned ports and Dredging Corporation of India for a long time.

5.9 In the opinion of the Committee the Ministry has not shown any decisive will to sort out the disputes. They see no reason as to why the Ministry under whose control both, the DCI and ports concerned function should not have been able to sort out the disputes and to end, unnecessary wranglings between the parties.

5.10 It is disquieting to find that no concrete steps have been taken by the Ministry to settle the long-standing disputes. Regarding Paradip Port where the amount disputed is Rs. 189.00 lakhs the Ministry is stated to be trying to sort out the issue after taking advice from the Ministry of Law. Regarding Visakhapatnam the matter is being referred to an Arbitrator. As for Cochin Port, the Ministry would come into the picture if requested, whereas in the case of Calcutta and Bombay Ports the Ministry's help has not been sought as yet. The Committee are of the opinion that the Ministry should take serious interest in the matter and make concerted efforts to sort out the disputes as all the concerned parties are under the Ministry. The Committee would like to be apprised of the progress in this regard.

CHAPTER VI

MADRAS PORT

6.1 Madras Port is situated in the following latitude and longitude :—

Latitude	13°	05′	46″ N
Longitude	80°	17′	48.5″ E.

6.2 Madras Port being an artificial port on the Coromandel Coast experiences heavy siltation due to littoral drift. During the South-West monsoon the sand moves from south to north and in the North-East monsoon the direction is reversed.

6.3 About the draft position obtaining at various docks, berths, navigation channel, etc. of Madras Port, the Committee were informed that drafts varying from 11.00 metres to 16.2 metres are maintained in Bharathi Dock where Ore, Oil and Containers are handled. In the Inner Harbour, where general cargo is handled, drafts varying from 7.92 metres to 9.5 metres are maintained. In the Jawahar Dock where Coal, Fertilizers and Foodgrain ships are handled, drafts of 10.4 metres to 11.00 metres are maintained. A depth of 19.2 metres is maintained in the navigation channel.

6.4 About the effect of tidal variations on navigation the Ministry has stated that there is a maximum tidal variation of 1.5 metres in the port and this does not affect the navigation since the depths are maintained below the low water level.

6.5 Regarding the basis of conducting dredging operations, the Ministry, in a note, has stated that Model studies have been conducted by the C.W. & P.R.S., Pune, for over 15 years and dredging operations are carried out based on the above studies. A sand trap is maintained to prevent siltation of the navigation channel.

It was further submitted that the dredging operations are conducted both departmentally and through contracts. Maintenance dredging is normally done departmentally. However, in certain exceptional cases contract dredging was resorted to. All capital works are carried out by contract dredging.

6.6 According to information furnished by the Ministry, earmarked outlay and actual outlay during various plan periods for improvement of

draft conditions at the port, have been as follows :—

Plan	Name of Project	Rupees in crores	
		Earmarked outlay (Dredging component)	Actual outlay (Dredging component)
I.	—	—	—
II.	—	—	—
III.	—	—	—
IV.	Construction of Jawahar Dock	1·00 (by departmental dredgers)	1·00
	Construction of First Oil Berth	7·86 (by contract dredging by M/s. Cobla, M/s. Broekhoven, and D.C.I.)	7·86
V.	—	—	—
VI.	Construction of Fisheries Harbour	1·05 (by D.C.I. dredger)	1·05
	Jawahar Dock Expansion and Container Berth	1·62 (By M/s. United Shippers & Dredgers)	1·62
	Deepening of Bharathi Dock	10·00 (by M/s. Broekhoven)	10·00
VII.	Deepening of Bharathi Dock	7·00 (By M/s. Broekhoven)	7·00

All the programmes planned during the Plan periods have been achieved and there was no shortfall.

6.7 In so far as maintenance dredging is concerned, the Committee were informed that the extent of maintenance dredging to maintain the drafts at the required levels is about 2 million cubic metres per annum. Amongst the various areas of the port this requirement is as follows :—

(a)	Outer Channel	11,00,000 Cu.m.
(b)	Turning Circle and Bharathi Dock Basin	3,00,000 Cu.m.
(c)	Inner Harbour	1,00,000 Cu.m.
(d)	Sand Trap	5,00,000 Cu.m.
		20,00,000 Cu.m.

6.8 To carry out the annual maintenance dredging the Port hitherto was self-reliant as it had a fleet of two Trailer Suction Hopper Dredgers viz.,

Cauvery and Coleroon and one Grab Dredger Wenlock. The annual assessed capacities of these dredgers are as follows :—

Dr. Coleroon .	12,56,000 Cu.m.
Dr. Cauvery	9,13,000 Cu.m.
Dr. Wenlock ..	20,000 Cu. m.
	21,89,000 Cu.m.

6.9 However the port's efforts in the sphere of maintenance dredging received a set back as dredgers Cauvery and Wenlock were condemned in December, 1987 and July, 1988 respectively. This port has, therfore, requisitioned the services of Dredging Corporation of India to meet this shortfall in dredging requirements. Simultaneously, one Grab Dredger Pride of hopper capacity 450 Cu.m has been built at Goa and the same is likely to be operational shortly. The annual assessed capacity of this dredger is 3,00,000 Cu.m.

6.10 The programme and performance of dredging in the port for the last 10 years, as indicated by the Ministry, are given below :—

Year	Programme	Performance
1978-79	19·00 lakhs m^3	17·84 lakhs m^3
1979-80	19·00 ,,	15·51 ,,
1980-81	19·00 ,,	23·69 ,,
1981-82	19·00 ,,	15·81 ,,
1982-83	19·00 ,,	19·61 ,,
1983-84	19·00 ,,	15·83 ,,
1984-85	19·00 ,,	18·62 ,,
1985-86	20·00 ,,	20·40 ,,
1986-87	20·00 ,,	14·54 ,,
1987-88	22·50 ,,	18·30 ,,

6.11 The above data reveals that during the period of 10 years from 1978-79 to 1987-88 while the total programme has been to the tune of 195.5 lakhs m^3, the actual performance has resulted in dredging of 180.15 lakhs m^3 of dredged material. The difference in programme and performance being of about 15,00,000 m^3. The Ministry has further stated that as on date there is no backlog in dredging at Madras Port. In reply to a question whether any clear guidelines had been laid down and systematic plan for the release of berths drawn up so that the dredging could be done regularly and effectively to maintain the drafts at the desired levels the Ministry has stated that to maintain drafts at the desired levels, at Madras Port, release of berths is discussed in day-to-day inter-departmental meetings

as well as weekly meetings conducted by the Chairman and berths released for dredging and survey work.

6.12 About the mode of disposal of dredged material it was stated that the standing instructions are that the dredged materials will be disposed off at a place, so that they do not flow back into the channel. The disposal sites for dredged materials have been located with the help of studies conducted by Central Water and Power Research Station (CW&PRS), Pune, from time to time. Based on the observations made in the study conducted by CW&PRS in July 1988, regarding siltation in the navigation channel, the disposal site is being changed.

6.13 Asked to further elaborate on the conditions necessitating change in disposal site and the likely extra expenditure to be incurred due to this, the Ministry has stated that the dumping distance was increased from 3 kms. to 8 kms. in the year 1986 when the project for deepening of Bharati Dock was completed and length and depth of the channel to be maintained also got considerably increased. There was a tendency for the dredged material from the previous dredging site to flow back into the channel. This necessitated change in the dumping site. Extra expenditure would be involved due to change in the disposal site because of increase cycle time but this cannot be quantified.

6.14 With the advent of mega tonnage vessels it has become necessary for ports to have deeper drafts in order to enable berthing of such vessels. When asked what steps were being taken by the Ministry to make berthing of such vessels feasible at Madras Port, it was stated that at present Madras Port could cater to ships of 1,30,000 DWT. However, in view of the need expressed by iron ore importing countries to further deepen the port the Government of India is considering proposals to deepen the Bharathi Dock for catering to 1,70,000 DWT vessels.

6.15 Asked about the quantum of dredging involved and the resultant drafts, it was stated that the volume of dredging involved would be 5 m.cum. in the basin and approach channels and as a result depth available in Bharathi Dock II (for handling iron ore) will be increased from 17.4 to 19.00 mts.

6.16 About the perspective planning being done in this regard it has been stated that the project is not included in the Seventh Five Year Plan. However, a Detailed Project Report has been prepared by Dutch Consultants and is under consideration.

6.17 The Committee note that Madras Port is one of the deepest ports in the country and compares favourably with ports of advanced countries. The Committee also note that the port hitherto was self-sufficient in so far as maintenance dredging requirements of the port were concerned. But with

the two dredgers cauvery and Wenlock, having been condemned and the replacement Grab Dredger 'Pride' still to become operational, the Port in order to supplement the efforts of its lone remaining dredger, Coleroon, had to utilise the services of dredging Corporation of India. In fact for the period from April, 1988 to September, 1988 the quantum of dredging done by the port dredger was about m. cum. and that by DCI dredgers about 5.5 m. cum.

The Committee, therefore, desire that the Ministry of Surface Transport should take immediate steps to make the new dredger, Pride, operational so that the Port is able to take care of about 75% of its maintenance dredging requirements.

6.18 The Committee also note that there is a gap of 15,00,000 cum. in the dredging performance and actual programme at Madras Port for the decade, 1978-79 to 1987-88. The Ministry's contention that there is no backlog of dredging requirement at Madras Port cannot thus be accepted. The Committee are of the opinion that maintenance dredging operations should be carried out after proper planning so that there are no substantial variations in the quantity of dredging as programmed and as actually completed.

6.19 The deepening of Bharathi Dock to enable it to cater to 1,70,000 DWT vessels, is imperative to maintain India's present position as a leading ore exporter. It is understood that Australia, the main competitor in this regard, has ports which can handle large ore vessels of the capacity of 2,00,000 D.W.T. each. The Committee desire that expeditious steps should be initiated for the deepening of Bharathi Dock so that not only the transportation costs of ore importers are reduced but also the country's position as a leading importer of ore is maintained.

6.20 The Committee welcome the decision of the Government to deepen the Bharati Docks in the Madras Port with Dutch assistance during the Eighth Plan and hope that the project would finally be included in Eighth Plan and implemented at the earliest. They would like to be apprised of further developments in this regard.

CHAPTER VII

MORMUGAO PORT

7.1 Mormugao Port is situated on the West Coast of India in the following latitude and longitude.

Latitude .	15°	25′	North
Longitude	75°	47′	East

7.2 The Committee have been informed that a study of siltation in Mormugao Harbour was undertaken by CW&PRS, Pune. It was indicated therein that the siltation at the Port is mainly due to three factors (i) the silt carried by the river Zuari; (ii) materal transported from the sea; and (iii) due to the adjustment of the side slopes of dredged channel.

7.3 About the quantum of siltation it has been stated that it is in the order of 2.5 to 3 million cu.m. This silt accumulates soon after the monsoon season and is dredged by engaging the services of DCI dredgers within a period of 2 to 2½ months thereafter.

7.4 The draft level available at the port during fair season at various berths is as follows :

(i)	General Cargo . .	8·5 mtrs.
(ii)	New Berth . .	10·0 mtrs.
(iii)	Tankers . . .	12·0 mtrs.
(iv)	Iron-Ore Handling Berth .	12·8 mtrs.

7.5 The Ministry has stated that during monsoons the depth in navigable channel and turning basin is gradually reduced by 1½ Mtrs. Similarly, the depth at the General Cargo berths gets reduced to 8.25 mtrs; at new berth, to 9 mtrs; at tanker berth, to 11 mtrs; and at the Iron Ore berth, to 12 mtrs.

Capital Dredging

7.6 The Ministry has stated that prior to commencement of the Mechanical Ore Handling Plant (MOHP); the Port had no dredged channel for deep drafted vessels.

Capital dredging was carried out for handling vessels upto 12.8 mtrs. draft in conjunction with high water in the IV Five Year Plan and completed in V Five Year Plan in the year 1978. The financial outlay for the full project of MOHP and the actual utilisation there against, as furnished by the Ministry, are given in the following table.

Five Year Plan	Outlay (Rs. in lakhs)	Actual (Rs.in lakhs)
IVth 5 Year Plan	600	713·74
Vth 5 Year Plan	1055·27	821·35
VIth 5 Year Plan	460	476·83

The amount indicated above includes all Civil, Mechanical, Electrical works, and capital dredging for the full project work of MOHP.

7.7 Asked about the reasons for shortfall during the 5 Year Plan, the Ministry has stated that the contract was originally awarded on in-situ measurement basis. Originally, the rate for reclamation work using the material was Rs. 4.5 per Cu.m. and for the excess material dumped in the open sea was Rs. 4.70 per Cu.m. However, the contractor stopped the work alleging that they were encountering harder strata than the actual information specified in the tender.

7.8 The Ministry in order to resolve the dispute, appointed a Committee headed by a Joint Secretary and subsequently, the rate was revised to Rs. 22 per Cu.m. It was also clarified that out of the actual expenditure of Rs. 476.83 lakhs during the VIth 5 Year Plan, Rs. 229.28 lakhs was spil-over expenditure from the Vth Five Year Plan. Plan and actual expenditure against the outlay of VIth 5 Year Plan is Rs. 247.55 lakhs. The reduction in the VIth 5 Year Plan was due to reduction in the dredging quantity as a result of realignment of approach channel to reduce the expenditure.

7.9 The Ministry has further stated that the second capital dredging was carried out from 27 January, 1984 to 14 October, 1984 for construction of new cargo berth and the expenditure towards it was borne by the port from its own resources.

7.10 The details of the agencies involved, terms of contract, periodicity of contract, volume of work estimated, etc. with regard to the two

above-mentioned capital dredging operations are given in following two tables:

TABLE-I

Capital Dredging carried out in Mormugao Port for MOHP, 1970-79.

Sr.	Name of Agency	Country	Period	Type of work	Name & type of Dredger	Qty. in m^3	Total amount paid including arbitration award Rs.
1.	Ivan Milutinovic PIM	Yugoslavia	1970 to 1978	Capital	1. Cutter suction dredger VLASINA 2. Cutter suction hopper dredger TARA 3. Bucket dredger foremost PRINCE BOR) 4. Cutter suction dredger SINDJELIC	9·52 million m^3	Rs. 15,12,13,707·33
2.	MPT		1976 to 1979	Capital	Trailor suction hopper dredger MANDOVI-II owned by MPT.	2·21 million m^3	Rs. 2,26,71,218·66 (expenditure incurred)

TABLE-II

Capital Dredging carrieel out in MPT for general Cargo Berth during the Year 1984

Name of Agency	Period allotted for completion of work	Period actually taken	Volume of work entrusted	Volume of work actually executed	Value of contract	Actual value of work executed
Dredging Corpn. of India.	5 mths. Nov.'83 to March'84	9 mths. 24-1-84 to 24-10-84	9 lakh M^3	8·34 lakh M^3	Rs. 234 lakhs plus escalation	Rs. 247·55 lakhs inclusive of escalation

From Table II it is evident that though the dredging agency was given a contract for Rs. 234 lakhs for dredging 9 lakh m^3 of work in 5 months, the contract commenced about 3 months behind schedule and was completed in 9 months at a cost of Rs. 247.55 lakhs though the quantity dredged was 8.34 lakh m^3.

7.12 When asked to give reasons for this delay in starting the project and its execution, the Ministry has stated that the reason for delay in commencing the work as per the contract was due to late arrival of dredger and the delay in completing the work as per the Scheduled time was due to all the All India Port Strike and the monsoon.

7.13 The Ministry was asked to state the reasons for late arrival of dredger and if the fault lay with the contractor what measures were taken to make the dredging agency accountable for escalation in cost and delay in execution of the project. In reply the Ministry has stated that the dredger of the DCI was expected to commence dredging in November, 1983 as per the original time schedule. The dredger reached Goa in the first week of December, 1983. The dredger was deployed immediately for dredging in an area opposite the iron ore berth to accommodate bigger iron ore vessel for 24 days. The material dredged in this area being hard caused damages to the dredger which needed repairs. The capital dredging, therefore, actually commenced from the 25th January, 1984.

The delay in the execution of the project was due to several factors which were beyond the control of the DCI. The main reasons were stoppage of dredging work due to the Major Ports strike, in March-April 1984, the disruption of progress of work by local trawlers/launch owners when the matter of vacating for the reclamation of the area came up, the delay in completion of reclamation bund as well as adverse weather conditions.

The reasons for the delay were gone into by the port and extension of time given for completing the work. As the fault for delay does not lie with the contractor, the DCI was not penalised.

7.14 When asked to explain the reasons for not deploying the dredgers for the work for which its services were requisitioned and whether port resorted to such ad-hoc decisions thereby causing delays in execution and escalation in cost of projects of critical nature, the Ministry has informed the Committee that because of the urgent requirement to restore the depths at Iron Ore Berth, Mormugao Port Trust requested for the deployment of the dredger at this berth and as the dredging at ore berth took only 24 days it did not affect the cost of the project. The delay in completion of the work was due to the strike of employees of all Major Ports from 16-3-1984 to 8-4-1984.

Maintenance Dredging

7.15 The Ministry has stated that the quantity of annual maintenance dredging that has to be carried out in order to maintain the designed depths at this port is from 2.5m.Cu.m. to 3 m.Cu.m. The maintenance dredging was earlier carried out departmentally and through contractors.

7.16 Initially, port was in possession of 3 dredgers viz. (i) Dredger Mandovi-II, having a hopper capacity of 2,500 cu.m., (ii) Dredger Zuari, having a hopper capacity of 1,500 cu.m., single drag head, trailor suction, year of manufacture 1965; and (iii) Dredger Sal, having a hopper capacity of 250 cu.m. grab dredger, year of manufacture 1976.

Since the capacity of dredgers available with the port was found surplus, a decision was taken by the Ministry to hand over dredger Mandovi-II to DCI on bareboat charter in the year 1982 and dredger Zuari has been handed over to the Bombay Port Trust on book value in June, 1988. At present, the work of carrying out maintenance dredging at this port is entrusted to DCI and following is the broad outline of terms and conditions of the contract.

7.17 DCI dredgers Dredge IX or Dredge XI having a hopper capacity of 4,500 cu.m. is deployed at this port at a daily hire rate of Rs. 3.5 lakhs. In addition mobilisation/demobilisation charges are also charged to the port while engaged in the dredging work. Besides, there is an escalation clause for any increase in the wages of the staff, fuel etc. which is to be borne by the port.

7.18 The figures relating to financial outlay actual expenditure and quantity dredged at the port during the last nine years, as furnished by the Ministry, are given below :

Year	Financial outlay (Rs. in lakhs)	Actual Expenditure. (Rs. in lakhs)	Quantity Dredged (in M^3)
1979-80	200	189·28	2025000
1980-81	240	233·57	3113829
1981-82 . .	250	256·76	3239904
1982-83 . .	260	260·76	3310050
1983-84	130	127·07	1490420
1984-85 .	250	224·00	2372741
1985-86 .	326	222·50	2440960
1986-87 . .	280	235·80	3035230
1987-88	244	218·65	2573904

7.19 During the visit of the Study Group of the Committee to Mormugao Port, they were informed that though the DCI dredgers were equipped with latest electronic gadgets to carry out dredging operations there were seldom utilised, thereby always leaving scope for over or under dredging. Explaining the position, in this regard, the Ministry has stated that only two dredgers of the DCI i.e. dredger No. IX and dredger No. XI, have specialised electronic gadgets to carry out the dredging operations. These gadgets are basically position fixing gadgets. Initially there were some technical problems pertaining to repairs, maintenance and operations of these gadgets but otherwise these gadgets are working continuously. Training programmes have been arranged for the survey, technical and operational staff of these dredgers for this purpose.

Disposal of dredged material

7.20 About the procedure adopted for disposal of dredged material, the Ministry has stated that the CW&PRS, Pune, had carried out a study in 1970 on the movement of the dredged material when disposed off West of Break-water and selected a spoilt ground about 3 nautical miles, approximately 5 km., North West from the breakwater for dumping the dredged material. This area is indicated on the Admirality Chart so that the material is dumped in that location only. The required notice to this effect was also sent to the Mariners in the year 1970.

7.21 Asked if the material could be utilised for reclamation purpose, it has been stated that the dredged material consists of silt and fine sand and the same cannot be used for beach nourishing as the material will not get stabilised and due to the existing terrain the material will get washed back into the sea during the monsoon season.

7.22 The Committee are dismayed to note that both the capital dredging operations undertaken at Mormugao Port have been done without a systematic study. In the first stage due to the wrong assessment of material to be dredged the rates quoted in the tender had to be revised to almost five times from Rs. 4.50 per cu. m. to Rs. 22/- per cu. m.

7.23 In the second stage, the project envisage to be completed in 5 months took 9 months to complete, while only 834 lakhs M³ out of 9 lakh M³ of material was dredged the cost of project escalated from Rs. 234 lakhs to Rs. 247.55 lakhs. The Committee are not convinced by the reasons advanced by the Ministry that the strike of employees of Major Ports from 16-3-84 to 8-4-84 resulted in delay of the execution of the Project. In fact if the work had started as per schedule in November, 1983 it would have been completed to a large extent by middle of March, 1984. The Committee are of the view that to ensure the completion of projects in time and to avoid time and cost over-runs the Ministry should set up a monitoring cell

to monitor dredging operations at Major Ports so that all slippages are rectified with due promptitude.

7.24 The Committee regret to note that like capital dredging the financial planning for maintenance dredging operations has also been unsatisfactory. During the last four years i.e. 1984-85, 85-86, 86-87 and 87-88 against outlays of Rs. 250 lakhs, Rs. 326 lakhs, Rs. 280 lakhs and Rs. 244 lakhs respectively, the actual expenditure have been Rs. 244 lakhs, Rs. 222.50 lakhs, Rs. 235.80 lakhs Rs. 218.65 lakhs respectively.

7.25 This situation is indicative of non-utilisation of allocated resources and calls for immediate remedial measures so that the sanctioned outlays are fully utilised and the work is completed according to schedule.

The Committee commend that training programme for the survey, technical and operational staff has been arranged and hope that such training programmes would continue in future also to help the staff perform better in the discharge of duties assigned to them.

CHAPTER VIII

NEW MANGALORE PORT

8.1 The New Mangalore Port is located mid-way between Mormugao and Cochin on the West Coast of India in the following latitude and longitude :

Latitude	13°	53′	North
Longitude	74°	20′	East

8.2 It is situated in an area receiving very heavy rainfall, during the South-West monsoon. As far as siltation in New Mangalore Port is concerned the Committee have been informed that the littoral drift along the coast line and the density currents do not contribute very significantly to the siltation. The major contributing factor, however, is the movement of sediments both suspended as well as bed load due to the action of the wave induced currents coupled with tidal flow.

8.3 The major portion of the siltation, about 80%, occurs during the South West monsoon season from June to September and the balance 20 per cent during rest of the year. The siltation is maximum at the baseline of the channel and progressively reduces on either sides, in the lagoon and the outer approach channel. The mechanical analysis of the soil indicate that the siltation material mainly consists of silt and clay with a small percentage of sand, similar to the bed material on either side of the channel. The echo-sounder trace indicates two distinct layers the top reflector representing the original dredged sea bed.

8.4 The Ministry has stated that the capital dredging at New Mangalore Port was undertaken in two stages. The first stage development of the port was completed during 1975 with a draught of 9.15 metres. The port was planned so as to handle ships of about 30,000 DWT for cargoes comprising of POL, fertilisers, coffee, ores (manual) etc. However, over the years the draught for POL products and general cargo have been gradually increased from 9.15 metres to 10.10 metres respectively. The second stage development of the port took place in 1980 when an exclusive iron ore berth for handling mechanised iron ore from Kudremukh region with a draft of 12.5 metres and a ship size of 60,000 DWT ore carriers was implemented. The same is being maintained till now. The works contemplated have been completed as scheduled and there have been no shortfall in the achievement etc. Thus, the maximum draft available in

the port at the end of the VI plan was 12.5 metres and the same is being maintained during VII plan also.

8.5 About the financial outlay earmarked and actual utilisation there against to improve draft conditions in the port plan-wise, the position as given by the Ministry is as under :

Plan	Outlay (Rs. in crores)	Expenditure (Rs. in crores)
IV	15·20	14·93
V	27·95	28·58
VI	0·90	0·90
VII	1·51	---

8.6 The designed drafts and actual maintained drafts of New Mangalore Port are given in the following statement :

Location	Designed Draft in Metres	Actual Maintained Draft in Metres
1. Channel and Lagoon	12·5	12·5
2. Oil Jetty	9·75	9·75
3. Berth No. 1	9·45	9·45
4. Berth No. 2	9·45	9·45
5. Berth No. 3	9·45	9·45
6. Shallow Berth	6·50	6·50
7. Additional Berth	9·15	9·15
8. Iron Ore Berth	12·50	12·50 (Not less than 1·0 Metre rise of tide taken for sailing ore carriers.)

8.7 The total maintenance dredging required annually is of the order of 4.7 m.cu.m. and like other West Coast Ports the dredging requirement is restricted to post monsoon months viz., October-January every year. Asked if it will be feasible to conduct dredging operations during the monsoons itself it has been stated that the siltation material is in a fluid state and will not have sufficient density for economical dredging during the monsoon season, and our experience of dredging in the lagoon during 1977 to 1980 has indicated that if the dredging is carried out during the monsoon, the dredged area again silts up. Hence, dredging becomes more effective, if we allow the material to consolidate for some time. Thus the ideal period for dredging is from Mid-October to January.

8.8 Regarding systematic release of berths for effective dredging, it has been stated that regular planning is being done to release the berths as and when required for effective maintenance dredging, inspite of very high berth occupancy of about 90% for the general cargo berths.

8.9 Asked if it would be worthwhile for the port to have its own dredgers, it has been stated that due to requirement of maintenance dredging of the port being restricted only to post-monsoon months, the dredger, if owned by the port, will have to remain idle during most of the year and hence will not be economical during long run. Keeping this in view, the Government of India have decided that the maintenance dredging requirement of New Mangalore Port will be carried out by the DCI on a long-term basis.

8.10 Asked if the maintenance dredging requirements of New Mangalore Port are being met fully by DCI, it has been stated that though these requirements are being met fully by the DCI some difficulty is experienced, at times, regarding deployment of the dredger at appropriate time because maintenance dredging requirements of the West Coast Ports viz., Mormugao, Mangalore and Cochin almost coincide at the same time i.e., the post-south west monsoon season.

8.11 About the futuristic trends it has been stated that the position is going to aggravate further in the coming years as the maintenance dredging requirements of Nhava Sheva Port will also have to be catered to by the DCI.

8.12 During the visit of the Study Group of the Committee to New Mangalore Port is was brought to their notice that their is a proposal for establishment of a three million tonne per annum grass-root refinery at Mangalore which will require additional port facilities. Under these circumstances the DCI will not be able to cope up with the additional maintenance dredging requirements. It was also suggested that in view of this situation either the DCI should procure additional dredgers to cope up with the demand or alternatively the Government should consider entrusting of maintenance dredging work on contract basis through 'global tendering'.

8.13 The Ministry, when asked to explain the measures being taken to meet the simultaneous needs of various port has stated in its reply that the West Coast ports like Cochin, New Mangalore and Goa require post monsoon dredging immediately after the monsoon period after September. It will not be economically viable to augment the capacity of the DCI by acquiring dredgers just for this purpose as the requirement of Mormugao Port and New Mangalore Port is only for a period of 2 to 3 months in a year the dredgers may remain idle for major portion of the year.

8.14 During the visit of the Study Group of the Estimates Committee the Port authorities informed the Study Group that the payment for the work done by DCI for the maintenance dredging at present was regulated on a daily rate basis. In order to have a proper control over the costs, it would be necessary that DCI quote its rates on cubic metre basis.

8.15 About the backlog of dredging, it was stated that due to restricted width and depth of dredging being carried out now, there is a backlog of about 1 million cu.m.

The estimated quantity of maintenance dredging required to be done annually to maintain the prescribed level of draft and actual quantity of maintenance dredging done during the last ten years at New Mangalore Port are given below :

Year	Estimated qty. of maintenance dredging (in million cu. mtr.)	Actual quantity of maintenance dredging carried out (in million cu. mtr.)
1977-78	2·50	1·138
1978-79	2·50	1·766
1979-80	2·50	0·540
1980-81	4·70	4·550
1981-82	4·70	1·687
1982-83	4·70	3·113
1983-84	4·70	1·851
1984-85	4·70	3·297
1985-86	4·70	1·966
1986-87	4·70	3 092
	40·40 m. cu. m.	22·900 m. cu. m.

8.16 Asked about the reasons for the huge disparities in the estimated quantities of maintenance dredging and actual quantities dredged it has been clarified that this is mainly due to financial constraints and lack of sufficient exports of iron ore from Kudremukh region. It has, however, been added that inspite of continued backlog in dredging the designed draft of 12.5 metres has been maintained all these years by making use of 1.0 metre or more of tide for sailing of loaded ore carriers.

8.17 The financial outlay and actual expenditure on maintenance dredging operations during the last five years are given below :

Year	Financial Outlay (Rs. in lakhs)	Actual Expenditure (Rs. in lakhs)
1983-84	250 08	195·57
1984-85	256·13	240·14
1985-86	344·87	299·54
1986-87	365·14	364·38
1987-88	519·02	432·01

8.18 The physical and financial terms of maintenance dredging carried out during the last ten years, as furnished by the Ministry, are given below :

Year	Maintenance Dredging quantity (in million cu.m.)	Cost of maintenance dredging (Rs. in crores)
1977-78	1·138	0·913
1978-79	1·766	1·011
1979-80	0·540	0·334
1980-81	4·550	3·820
1981-82	1·687	1·346
1982-83	3·113	2·315 (231·5 lakhs)
1983-84	1·851	2·466 (246·6 lakhs)
1984-85	3·297	3·025
grab dredging	+ 0·042	+ 0·338 (336.3 lakhs)
1985-86	1·960	3·83
grab dredging	+ 0·015	+ 0·112 (394 ·2 lakhs)
1986-87	3·093	3·660 (366·0 lakhs)

8.19 As far as, disposal of dredged material is concerned the Ministry has stated that during the first stage, out of a total quantity of 13.386 million cubic metres, a quantity of 5.84 million cubic metres consisting of mainly, sand and sandy material has been used for reclaiming an area of 150 hectares within a distance of about 1.5 kilometres around the lagoon. During the second stage development most of the material was dumped in the offshore dumping area located at a distance of 5.25 kilometres southwest of the area of intersection of the central line of the outer approach channel with (—) 15 mtrs. contour. The location of this dumping ground was selected based on studies conducted by CW&PRS, Pune by way of radio-active fluorescent tracer carried out during monsoon of 1964, and fair weather season of 1967-68.

It has been further stated that the same dumping ground is being used even today for dumping the maintenance dredging material without any adverse effect.

8.20 Asked if the dredged material could also be utilised for reclamation purpose, the Committee have been informed that as these materials were found to contain mostly silt and clay, they were not found suitable for reclamation.

8.21 Regarding perspective plans it has been stated that a perspective plan for handling bigger size ships up to the year 2000 A.D. has since been formulated through a Master Plan prepared by Indian Ports Authority. Future development proposals include capital dredging requirements for—

— dredging in front of the additional berth under construction.

— dredging for the proposed port facilities in connection with the establishment of oil refinery at Mangalore.

— dredging in connection with proposed port facilities for handling coal for the thermal plant near Mangalore.

8.22 The Committee are surprised that the Government plans to set up a grass-root refinery at New Mangalore. This will definitely need augmentation of port facilities and also capital dredging. The Committee urge the Ministry to initiate necessary action regarding deepening of Port and augmentation of port facilities well in time so that whenever the refinery becomes operational, no difficulty is faced by the berthing vessels. Necessary exercise in this regard should be initiated right now so that there is no difficulty when the refinery becomes functional.

8.23 The Committee note that the payment done by ports for work done by DCI is on daily rate basis. They are of the opinion that in order to have a proper control over the costs it is imperative that rates should be quoted on cubic metre basis. Necessary action in this regard should be initiated.

8.24 The Committee note with concern that a huge backlog has accumulated with regard to dredging at New Mangalore Port. While the Ministry claims that it is to the tune of about 10 lakhs cu. m. the data furnished by them indicates that during the last ten years out of an estimated quantity of 40.5 lakhs cu. m. only about 23.0 lakhs cu. m. has been actually dredged, leaving a backlog of more than 17 lakhs cu. m.

8.25 The Committee would like the Ministry to reconcile the discrepancy and to find out the quantity of dredging required to be undertaken. They are also of the view that it is imperative to have a trained and efficient machinery for conducting surveys so that estimates are made on a realistic and scientific basis.

8.26 The Ministry's plea that dredging shortfalls have resulted due to financial constraints, do not seem to be tenable on account of the that during the last five years, the outlays provided for maintenance dredging could not be fully utilised. This is indicative of lack of planning and lack of will to achieve the targets.

8.27 It is also disquietening to note that no rational link exists between the quantity dredged and the cost incurred for the same. While in 1982-83 a sum of Rs. 231.5 lakhs was spent for dredging about 30 lakhs cu. m. in 1983-84 a lesser quantity i.e. 18.5 lakhs cu. m. was dredged at a higher cost of Rs. 246.6 lakhs. Similarly in 1984-85 a sum of Rs. 336.3 lakhs was incurred in dredging about 33 lakhs cu. m. and in 1985-86, 20 lakhs cu. m. were dredged at the cost of Rs. 394 lakhs. In 1986-87, 31 lakhs cu. m. were dredged for Rs. 366 lakhs. Such variations in cost per cu. m. dredged do not indicate a satisfactory state of affairs and there is an urgent need to analyse critically the reasons for such large variations. A scientific study in this regard is considered imperative so that it is possible to keep proper control over the expenditure incurred on maintenance dredging.

CHAPTER IX

TUTICORIN PORT

9.1 The Port of Tuticorin is located on the South-eastern coast of India near Indian ocean in the following latitude and longitude.

Latitude .	10°	7′	North
Longitude	78°	4′	East

9.2 The Port is fairly protected from rough weather due to presence of Sri Lanka Island on the East and a stretch of main land (Rameshwaram-Dhanuskodi) on the north and is thus operational round the year.

9.3 Asked whether any study had been conducted to study the problem of siltation at Tuticorin Port it has been stated that the matter of any possibility of siltation was studied in the Port Master Plan covering the period from 1985—2000 A.D. The silt charge of the sea water in and around the port is low and hence the suspended load will not contribute to any siltation in the Harbour area. The sea bed material mainly consists of silt and fine to medium sand with rocky out crops. The currents near the sea bed are also very feeble and hence bed load will not significantly contribute to the siltation in the harbour area. However, it has also been stated that a comparison of the hydrographic survey carried out by the Minor Ports Survey and Dredging Organisation during 1962-63 and the suvey carried out by the Tuticorin Port in 1973 reveal that the sea bed contours both to the north of north breakwater and south of south breakwater recede offshore marginally indicating a slight accretion in the area. The survey of the basin area also reveals that there is a slight accretion. The extra siltation observed along the harbour side of the south breakwater is possibly due to the suction effect of the waves on the sand used for the reclamation of the approach arm. However, the port is not experiencing any siltation problems at present.

Capital Dredging

9.4 It has been stated by the Ministry that Tuticorin Port was declared as a Major Port in the year 1974 and commissioned with a mooring berth. Two alongside berths were completed in December, 1975 and other two berths in December, 1976. Permanent oil jetty was constructed and commissioned during April, 1980 replacing the mooring berth. Coal jetty was commissioned during March, 1983. Two additional general cargo berths were completed in December, 1983. At present, the Port is operating with eight deep water berths and one shallow water berth (Passenger Terminal).

9.5 Asked about the mode adopted for carrying out capital dredging at the port the Ministry has stated that the capital dredging, mainly along the approach channel, to achieve the planned draught of 9.14 m (30 ft.) is being carried out through contracts. The term of contracts is generally on quantity basis subject to reaching the specified levels. The dredged quantities are computed on the basis of soundings taken before and after the dredging operations. The following table gives the details of dredging works carried out through contracts during the last ten years.

Sl. No.	Name of the contractor	Qty. of work entrusted	Qty. of work done (with tolerance)
		(cum)	(cum)
1.	M/s. Andhra Civil Construction Company (contract entered into in 1979-80) Dredging in approach channel in the reaches from LS 00 to 525 m and LS 1050 m to 1450m.		
	Dredging in Rock	36,060 (as per agt.)	54,077
2.	M/s DCI Limited (contract entered into in 1979-80) Dredging in Approach Channel in the reach from LS 525 m to 1050m.		
	Dredging in Rock . . .	42,230 (as per joint survey)	20,730

The expenditure incurred on capital dredging during the last ten years is Rs. 397.73 lakhs.

9.6 Asked if the designed depths has been achieved at the Port, it has been stated that the first stage development of Tuticorin Port was planned to provide accommodation for 9.14m (30 ft.) draught ships at all times. Pending completion of balance capital dredging at approach channel, the permissible draught is 8.24m (27 ft.). This draught could be improved to 9.14m (30 ft.) on completion of the balance capital dredging. About the reasons for non-achievements of desired drafts, the Ministry has stated that it was due to (i) The sea-bed profile existing along the alignment of approach channel comprises of a peculier type of rocky strata not responding to the dredging equipments available indigenously, and (ii) The dredging work has to be carried out in the working approach channel leaving sufficient time for the movement of cargo ships. The actual working hours available for dredging are, therefore, limited.

9.7 Asked to state the specific reasons for non-completion of the Capital dredging at the Port, the Ministry has stated that in the middle reach of approach channel, after the dredging operations by M/s. DCI Ltd., the dredge level of 10.20m has been reached as against the requirement of 10.98m level for creating the draught of 9.14m (30 ft.). As M/s. DCI found it difficult to complete the work upto 10.98 m level with the equipments available with them, it was decided to execute the balance dredging work in the middle reach of approach channel by the port through other agencies. The fresh tenders received by the port in Feb., 1984 could not be awarded due to continuous court litigations. On advice from Ministry these tenders were rejected in January, 1988, to facilitate call for fresh tenders. Because of three writ petitions pending in the Madras High Court, the port could not proceed further, on this issue.

9.8 The Ministry when asked about the project schedule and earmarked financial outlay for first stage development of Tuticorin Port, has stated that the first stage development started in 1969 and was expected to be completed in 5 years. The original outlay for the project was Rs. 21.76 crores, the revised outlay was Rs. 46.95 crores and the expenditure incurred on the works of the first stage till 31-3-85 was Rs. 46.46 crores.

9.9 Regarding the non-completion of projected drafts, the Ministry were asked to state as to when DCI discontinued the dredging operations and what action was taken against them for not, fulfilling their contractual obligation. In reply, the Ministry has stated that the DCI discontinued dredging operations from April, 1983. Though there was a clause in the contract providing for levy of liquidated damages in the agreement with DCI, no penalty was imposed on it as it was found that Tuticorin Port Trust itself had imposed restrictions for drilling and blasting during the period of shipping movement which was not envisaged at the time of entering into contract.

9.10 The Ministry has further stated that once DCI discontinued work fresh tenders were floated in December, 1983. The Port sent its proposal to Government after getting its tender examined by tender Committee. However, on receipt of certain complaints, the Ministry advised the Port Trust not to award the contract till further orders. Asked to enumerate on the complaints received, the Ministry has stated that following complaints were received against the private party :

(1) The Chairman had misguided the Board/Trustees in not accepting the recommendations of the Tender Committee that a foreign dredging consortium should be approached to complete the dredging.

(2) The past achievement of the private firm was not satisfactory.

(3) Payments had been made to the private firm for the dredging which was not based on the actual surveys done.

(4) The firm had always claimed escalations on the basis of arbitrations and in a case payment was made even before the arbitration was over.

(5) The private firm does not have adequate equipment of its own.

(6) The dissent notes of the Trustees against award of contract to the private firm have been suppressed.

9.11 The Committee have also been informed that subsequently the Port Trust was advised to take decision on the merits of the case.

9.12 When asked to explain the logic behind this decision the Ministry has stated that the Port had invited fresh tenders and decided to award the work to M/s. ACC Company. This however was not done as in the Meantime certain complaints were received against the award of work to M/s. ACC Company. The Port were, therefore, advised that the work orders should not be issued to this firm. In the meanwhile the CBI had filed an FIR against some employees of the Madras Port Trust and Partners of M/s. ACC. It was also found that this firm had employed one of the employees of Tuticorin Port Trust who was on leave at that time for their unit at Madras. The matter was discussed and a conoscious decision was taken to inform the Port Trust about the complaints against M/s. ACC and allow the Port Trust to decide the matter on merits.

9.13 Interestingly, the Ministry which had asked the Port Trust in 1986 to take decision in accordance with the merits of the case in 1988 advised the Port Trust to discharge the tenders received in 1983 and invite fresh tenders. When asked to explain this incongruity, the Ministry has stated that this was done because awarding the contract in 1988 based on 1983 tenders and rates would be against all the normal principles of tenders.

9.14 When asked if the contractors who had filed tenders were consulted about their intention to work at 1983 rates the Ministry has stated that since it was decided to discharge all the existing tenders on the ground that it would be against normal principles of project formulation and management to award a contract in 1988 based upon 1983 tenders and rates, there was no question of consulting the other tenderers about their intention to work at 1983 rates in 1988.

9.15 However, this action of the Port Trust has been challenged by the contractor on the grounds that as the Port had decided to award the work to his firm, the Government had no right to direct the discharging of all the

tenders and that the C.B.I. enquiry has absolved his company of any malfeasance.

Due to these writ petitions any further action by the Port has been stalled.

9.16 The Ministry, when asked whether in view of the continued litigations the Port was not functioning to its full capacity for the last 14 years, has stated that based on the existing facilities the assessed capacity of the Port is 5.45 million tonnes per annum. The traffic handled during the last four years was between 4.0 to 4.3 million tonnes annually and the port has been handling the traffic offered.

9.17 The Committee express their disapproval of the tardy manner in the execution of the first stage development of Tuticorin Port. A project which was to have been completed within five Years of its inception in 1969 has still not been completed even after twenty years. The progress of the work has been held up after 31-3-85. During the first stage the dredge level of 10.98 m. was required for creating the draft of 9.14 m, M/s. DCI could not proceed further than 10.20 m. as it found it difficult to complete the work with the equipment available with them. To execute the balance dredging, tenders were floated by the Port authorities in December, 1983. The port on the basis of tenders decided to award the contract to a party. However, the Ministry on receipt of some complaints of malfeasance against the said party restrained the port from doing so. Subsequently, in 1986 the Ministry advised the port to take decision on the merits of the case. Again in 1988 the Ministry advised the port to discharge the tenders received in 1983 and invite fresh tenders. The party who was awarded the contract on the basis of 1983 tenders was in the meantime absolved of all the charges by a CBI enquiry and it filed a writ petition in the court thereby stalling any further action in regard to port porject.

9.18 The original outlay of the project was Rs. 21.76 crores and the revised outlay was Rs. 46.95 crores against which expenditure of Rs. 46.46 crores was incurred up to 31-3-1985. The residual work has not been completed because of rocky material being encountered and subsequent court litigations.

9.19 The Committee deprecate that the execution of the above project has been underaken without proper planning and decisive will to resolve the outstanding issues. There have been time and cost overruns in the execution of the project. While in 1983 the global tenders were floated the Ministry advised the Port Trust not to award the contract to a party. It took another 2 years for the Ministry to advise the Port in 1986 to take a decision on the merits of the case. Disappointingly, after another 2 years in 1988 the Port was advised to discharge the earlier tenders received

in 1983; and to invite fresh tenders. This is clearly indicative of the total failure on the part of the Ministry to watch the financial interest of the Port. The advice which was given in 1988 could have been tendered 2 years earlier as there was no perceptible change in the situation during all this period. The Committee cannot help remarking that there was total lack of perception, judgement and objectivity in deciding this case which has seriously jeopardised the financial interests of the Port. They also expect the Ministry to draw a lesson from this bad plannnig and lack of sound judgement and strengthen their planning, implementation and monitoring machinery to properly serve the financial interests of the Government. The Ministry should also take appropriate steps to finally clinch the issue so that the residuary work which is held up since 31-3-85 is completed and the first stage development of the port is completed. They would like to be apprised of further progress in this direction.

CHAPTER X

PARADIP PORT

10.1 Paradip Port is situated on the East Coast of India midway through between Calcutta and Visakhapatnam Ports in following latitude and longitude :

Latitude	20°	15′	55·44″	North
Longitude	86°	40′	34·62″	East

10.2 Siltation as per the note submitted by the Ministry is mainly due to littoral drift affecting the coast. The drift is from south to north during south-west monsoon and north to south during north-east monsoon. Because of the longer duration of south-west monsoon (April to November) and the turbulent seas associated with it the drift from south to north is quite substantial. The drift causes siltation of approach channel necessitating regular annual maintenance dredging during south-east monsoon. It has been further stated that the pattern of siltation of Paradip was studied by model studies at C.W.P.R.S., Pune, prior to the construction of the Port. Factual observation after construction of harbour has confirmed the result of model studies

10.3 The minimum draft levels to be maintained at all times at the Port are given below :

(i)	Outter Approach Channel	11·9 mtrs.
(ii)	Ore Berth	11·9 Mtrs.
(iii)	General Cargo Berth	11·0 mtrs.

10.4 The entire amount of Capital dredging to achieve the 11.9 mtrs. draft condition was done at the time of creation of the harbour at a total financial cost of Rs. 5.00 crores. Regarding the mode of contract with DCI for Capital dredging the Ministry has stated that the contract is on the basis of *in situ* quantity jointly surveyed and computed by DCI and Port Surveyors

10.5 Asked if only DCI was involved for dredging operations at Paradip Port the Ministry has stated that besides DCI some foreign agencies have also carried out dredging, the details of which, as furnished by the Ministry, are given below :

Name of the Agency	Country	Period	Type of work	Name of the Dredger	Quantity (in M^3)
1	2	3	4	5	6
IVAN MILU TINOVIC	Yugoslavia	1963 to Sept. 65	Initial dredging	VLASINA	68,00,000
Do.	Do.	Feb. & March 66	Do.	Do.	1,20,708

1	2	3	4	5	6
PENTAOCEAN	Japan	69-70	To create Sand Trap	HODAKA	19,91,000
Dependable Dredger	India	83-84	Wet Basin, Slipway, GCB		10,065
Dutch Dredger	Netherland	2/85 to 3/85	Sand Trap, Mini Sand Trap & I.A. Channel	Slied Recht-31	6,20,000
Do.	Do.	4/85 to 6/85	Channel & Fertiliser Berth	Slied Recht-31	20,70,000
Do.	Do.	12/85 to 3/86	Modified Sand Trap & A. Channel	POSEIDON	10,00,640

10.6 When asked as to why foreign dredging Companies were being given dredging assignments in Indian Ports when the Ministry itself had its own dredging agency, the Secretary, Ministry of Surface Transport clarified during the evidence :—

> "I hope I have not given that gloomy picture. In the last ten years, there were only three cases. In fact DCI is fully patronised by Port Trust. They work under them. They are capable of handling any work concerning dredging. Therefore, there need not be any apprehension that DCI interests are not taken care of."

10.7 In the light of the above statement the Ministry were asked as to what was the justification for alloting the contract to a foreign company when DCI was considered in the first instance as eligible for tendering the Secretary, clarified during the evidence :—

> "The contract was awarded only on the basis of tenders. Here the DCI was at least qualified. There was no condition that it should get into collaboration with any firm. They were free to do it. Paradip was facing a serious problem because one of the dredgers was sunk and it became absolutely a sand trap. The sand which as drifted will have to be trapped and this work has to be done within a four month period of fair weather season. The DCI said that they could do the work only to a limited extent, while the total quantity of work was about 1.5 m.cu.m."

10.8 Asked why no global tenders were floated, the Secretary, stated during the evidence :

> "Global tender is not an option in all the cases because free exchange

is required and you must be ready to have free foreign exchange then and there without any question of deferred payment and concession quality."

The witness further elaborated :

"The general policy when foreign exchange outcome is concerned, is to first see whether there can be any aid programme. This is a very accepted policy and we have cases after cases in many Ministries. If we want to buy a ship we first explore whether there is any aid from any country. This is the process we are following because of severe constraint on the foreign exchange. If DCI is capable of executing the work we could have straight way handed over the work to them."

The witness added :

"Even in future programmes the first option would be whether it can be accommodated in an aid programme. If it is not possible, then only we can see whether it can go for global tenders."

10.9 In the light of the above facts the Ministry was asked as to why it did not go for self-sufficiency, in so far as dredging is concerned instead of looking around for aids and donations.

The Secretary of the Ministry replied during evidence :

"As a representative of the Ministry I would entirely and wholeheartedly agree with the Hon'ble Member. Unfortunately as Hon'ble Members are aware when finally the plan is formulated we get only 50 to 60 per cent of what we ask for. The Working Group of the Seventh Plan for the Port Sector has strongly recommended that DCI must buy at least 5 dredgers during the Seventh Plan. Unfortunately while the Working Group has proposed an outlay of Rs. 1700 crores, it would go down to Rs. 1150 crores and instead of five only three dredgers were provided for the DCI."

10.11 The extent of maintenance dredging required to be done annually to maintain the prescribed level of draft is around 3 million cubic metres.

10.12 Figures for maintenance dredging during last 10 years, as furnished by the Ministry, are given below :

Year	Reported quantity dredged (in cubic metres)
1	2
1978-79	36,25,979
1979-80	18,43,536
1980-81	27,26,657

1	2
1981-82	20,90,951
1982-83	27,19,614
1983-84	25,82,103
1984-85	38,17,232
1985-86	28,83,692
1986-87	44,23,607
1987-88	29,39,631

10.13 On being asked about the variations in the requirement and performance in regard to dredging, the Ministry has stated that the variation of the actual dredged quantity from the estimated quantity of 3 million cubic metres a year, in some years is attributable to—

(i) Back-log/excess dredging during the previous years,

(ii) Variation in prevailing sea swell and sediment discharge from the rivers which governs the littoral drift affecting the coast.

10.14 The quantum of financial outlay, provided for maintenance dredging and the quantum of actual utilization during last 5 years may be seen from the following :

Year	Outlay (Rs. in lakhs)	Expenditure (Rs. in lakhs)
1983-84	333·00	269·09
1984-85	700·00	745·69
1985-86	600·00	799·11
1986-87	630·00	574·41
1987-88	640·00	545·50

10.15 About the methods adopted by Paradip Port for maintenance dredging, it has been stated that the maintenance dredging was done by both methods i.e., departmentally and through contracts till 1980. Presently the dredging operation, both maintenance and capital are conducted through dredging contractors only. The only agency catering to the dredging requirements of the Port is Dredging Corporation of India. Normally trailer suction dredgers are deployed for maintenance dredging and cutter suction dredgers are deployed for capital dredging.

10.16 Asked to indicate the terms and conditions of the contract for maintenance dredging, the Ministry has stated that the broad outline of the contract for maintenance dredging is as under :

A. (i) Daily charter basis-DCI offers its daily ate of hire charge for a particular dredger which is settled after negotiation with Port Trust,

(ii) Hire charges is for a day of 24 hours of dredging.

(iii) Besides hire charges, the contract provides for mobilisation & demobilisation charges and idle charges (for dredger remaining idle on Port account).

(iv) The contract provides escallation clause for price rise in P.O.L.

B. Foreign contractors offered rate per cubic metre of dredging measured by survey for *insitu* measurement.

10.17 Subsequently the Committee in order to get an idea of the comparative costs of the dredging done by Foreign agencies and that by the agency of the Ministry, asked the Ministry to furnish the data regarding quantity dredged and expenditure incurred as a result of deployment of dredgers of DCI at Paradip Port during 1987-88 and the rates per cubic metre offered by Foreign contractors. In response to this, Ministry has stated that the daily dredging charges of the DCI's Dredge IX and DCI Dredge XI which were deployed by the DCI to meet the dredging requirements of Paradip during 1987-88 was Rs. 3,40,000 per day.

The average quantity dredged by Dredge IX was 27,990 cubic metres and by Dredge XI was 24,797 cubic metres per day.

The total quantity dredged by Dredge IX was 19,44,346 cubic metres in 69.5 working days and the total quantity dredged by Dredge XI was 10,16,668 cubic metres in 41 working days.

10.18 As regards the rates offered by foreign contractors, the Ministry has merely stated that since no foreign dredger was engaged during 1987-88 no comparison could be made. However, in a subsequent note it has given the rates during 1985-86 of a Dutch Company as under :

Work	Rate in Rs. per cubic metre
Fertiliser Berth	20·33
Sand Trap	21·19

10.19 As regards to disposal of dredged material at Paradip Port the Committee has been informed that the dredged spoils of maintenance dredging is dumped in dumping ground earmarked for the purpose in deep sea. The location was finalised in consultation with C.W.P.R.S., who conducted model studies for the Port before the construction of the harbour. The location selected for sea-dumping leaves no scope for the materials to drift back to the dredged areas. Besides it helps to certain extent nourishment of the northern coast of the harbour. Capital dredging spoils are generally used for reclamation. Sometimes part of the maintenance dredging as well as capital dredging spoils have been utilised for beach nourishment. Manner of disposal of dredged spoils is decided in consultation with C.W.P.R.S., Pune as and when required.

10.20 About future development, the Committee have been informed that the Government proposes to deepen Paradip Port so that it is able to cater to berthing requirements of 1,70,000 DWT ships from its present facility for only 60,000 DWT vessels. It has also come to the notice of the Committee that M/s. Hyundai Corporation of South Korea who are preparing a Detailed Project Report (DPR) in this regard have evinced interest in financing the project as well.

10.21 The Committee note that for the award of contract of capital dredging at Paradip Port DCI was earlier in reckoning, but ultimately could not secure the Rs. 8.75 crore contract due to inadequate machinery at its disposal.

The Committee find it disquieting that a public sector undertaking has been deprived of a contract due to lack of adequate machinery, thereby also resulting in the loss of precious foreign exchange resources. This has happened due to lack of advance planning and monitoring regarding overall dredging operations in the country. This is clearly, indicative of want of a comprehensive monitoring system under one umbrella and systematic and comprehensive planning in regard to dredging requirement in the country. Procurement of dredgers is a capital intensive scheme but considering the fact that lack of dredgers with DCI is leading to more and more projects being awarded to foreign dredging contractors, the Committee consider it imperative that expeditious steps are taken to augment the capacity of DCI. In this connection the Committee would also like the Ministry to explore the possibility of seeking assistance, if necessary, from foreign sources so that future dependence on outside contractors is reduced to barest minimum and loss of precious foreign exchange is minimised.

CHAPTER XI

VISAKHAPATNAM PORT

11.1 The Port of Visakhapatnam is the deepest port of India, situated on the East Coast in following latitude and longitude :

Latitude	:	17.41° North
Longitude	:	83.18° East

11.2 The Port is subjected to the phenomenon of littoral drift which is the main cause of siltation of the Port.

11.3 The details of draft improvements planned and executed plan-wise from 1st to 7th Plan and the financial outlay earmarked for capital dredging during 5th to 6th and 7th Plans, as furnished by the Ministry, are given below :

Details of Draft Improvements Planned & Executed Plan-wise

	Draft at commence-ment.	Draft at compln.	Remarks
Inner Herbour			
1st Plan 1951-52 to 1955-56	28′·6″	28′·6″	No Plan for increase of draft.
2nd Plan 1956-57 to 1960-61	28′·6f″	32′·00″	As Planned.
3rd Plan 1961-62 to 1965-66	32′·0″	33′·0″	As Planned.
Annual Plans 1966-67 to 1968-69.			No plan for increase in draft.'
4th Plan 1969-70 to 1973-74			Do.
Outer Harbour :			
5th Plan 1974-75 to 1977-78	Outer Harbour Commissioned on 8-12-1976 with draft of 15.3 metres at OB-1/OB-2.		
Annual Plans 1978-79 to 1979-80	Fishing Harbour commissioned with draft on 4·5 metres on 8-4-1978.		
6th Plan 1980-81 to 1984-85	October, 1982 —New Oil Mooring commissioned with 14·3 metres draft.		
7th Plan 1985-86 to 1989-90	General Cargo Berth commissioned on 23rd March 1985 with 13.2 metre draft. OSTT commissioned on 30-12-85 with draft of 17·0 metre.		

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Financial Outlay earmarked for Improvement of Draft Conditions at Visakhapatnam Port for Capital Dredging during Plan Period

Plan Period	Name of the Berth.	Draft in metres	Quantity dredged capital in lakh cu. mtrs.	Outlay earmarked (Rs. in lakhs)	Expenditure(Rs. in lakhs)	Agency
V Plan 1974—78	Outer Harbour and berths OB-I and II.	15·3	79·9	364·5	1,396·00	MOT/SCT as GOI/ Manager
	Fishing Harbour	4·5	1·00	34·89	34·89	VPT
VI Plan and VII Plan	New Oil Mooring	14·3	2·80	51·00	51·00	DCI
	Oil Berth (a)	17·00	10·0	898·00	683·00	DCI
	(b)	17·00	1·40	132·43	132·43	AFCONS
	G.C.B.	13·10	2·00	70·00	67·54	VPT.

11.4 The Ministry, when asked to state the reasons for steep variations in the outlay earmarked and expenditure incurred in respect of dredging work carried out at outer Harbour and berths OB-I and II, New Oil Mooring and Oil Berth, has given the following explanations :

(1) *Outer Harbour*

(i) As per the sanctioned estimate quantity to be dredged was 5.8 million cubic mtrs. Actually, the dredging quantity carried out was 7.99 million cu.mtrs. which was due to change in alignment. The increase in cost due to this was Rs. 150 lakhs.

(ii) In the sanctioned estimate, the rate adopted was Rs. 4.75 per cu.mtrs. which was increased to Rs. 15.6 per cu.mtrs. by the Government for the work carried out by MOT dredgers. The increase due to this was Rs. 881.39 lakhs.

Thus the total increase works out to Rs. 1031.39 lakhs.

(2) *New Oil Mooring*

The main reason for increase in the expenditure *vis-a-vis* the original estimate was that the original estimate was prepared based on 1978 prices while the work was executed in 1981-82. In addition to this, the dredged material was harder than what was envisaged in the original estimate.

The above two reasons led to increase in the expenditure.

(3) *Oil Berth*

In the beginning, it was visualised that the dredging work will be carried out by the DCI dredgers. Since the DCI could not provide suitable dred-

gers, a part of the critical dredging work (1.2 lakhs cu. mtrs.) had to be carried out by the Port dredgers and 1.4 lakhs cu.mtrs by the private dredgers (M/s. AFCONS) so that the foundation for cribs of the Oil Berth could be prepared in time. The balance work was carried out by the DCI on lump-sum basis.

11.5 The actual details of the dredging work carried out by the above said parties are as follows :—

	Outlay	Quantity	Expenditure
	(Rs. in lakhs)	(in lakhs cu. mrst.)	(Rs. in lakhs)
(a) M/s AFCONS .	158·60	1·4	132·43
(b) VPT	142·50	1·2	137·64
(c) DCI	442·40	10·0	412·80
(d) Provision for tolerance.	42·60	—	—
(e) Hard strata	111·00	—	—
Total . . .	897·10	12·6	682·87

This shows in fact, there was a reduction from the original estimate. The reasons for this are that the original estimate included provision for tolerance, siltation and hard strata etc. This amount was not spent. Also as against a provision of Rs. 442.40 lakhs for DCI, the lump-sum contract amount finally came to Rs. 412.80 lakhs only.

11.6 About the Port's performance in the field of maintenance dredging, the Ministry has in a note stated that to maintain depths for shipping operations in the port it is required to undertake maintenance dredging of about 12.5 lakhs M^3 annually which includes sand-by-passing quantity of about 3.5/4.2 lakhs M^3. The quantity of maintenance dredging requirement and its disposal were arrived at by model studies conducted by C.W.&P.R.S. in the year 1970. The requirement is bound to increase once the facilities are created to handle 1,70,000 D.W.T. Iron ore carriers.

11.7 The expected and actual performance of the maintenance dredging carried out by the Port's dredgers from 1978-79 to 1987-88 and details of expenditure on dredging and marine survey from 1982-83 to 1987-88 are given in following two tables :—

TABLE I

Expected and Actual Performance of Dredging during the last Ten Years

(In '000 cu. mts.)

Year	M.D. Varaha		S.D. Visakha		GHD Durga		G.D. Mudlark		Total	
	Target	Actual	Target	Actual	Target	Actual	Target	Actual	Target	Actual
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1978-79	658	575	724	404	88	89	9	5	1479	1073
1979-80	665	392	867	791	88	90	9	5	1479	1278
1980-81	658	1131	724	340	88	106	9	5	1479	1582
1981-82	658	586	724	414	88	58	9	1	1479	1059
1982-83	924	1049	627	863	88	103	9	5	1648	2020
1983-84	924	1068	627	1123	88	89	9	4	1648	2284
1984-85	924	799	627	933	88	124	9	3	1648	1856
1985-86	924	927	627	917	88	84	9	2	1648	1930
1986-87	924	791	627	265	88	97	9	4	1648	1157
1987-88	924	900	627	699	88	42	9	4	1648	1645

TABLE II

Statement showing the details of expenditure on dredging and marine survey (Actual and B.E.) from (1982-83) *to* 1986-87

Actuals						B.E. (Outlays provided)					
1982-83	1983-84	1984-85	1985-86	1986-87	1987-88 (Provisional)	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88
372·29	381·18	385·14	412·78	367·31	400·77	267·33	314·49	425·78	503·42	518·00	420·43

A peculiar feature of the Visakhapatnam Port is that the maintenance dredging is carried out by the Port itself.

Dredging Fleet at the Port

11.8 The dredging fleet of Visakhapatnam Port at present comprises the following four dredgers :

1. Trailor suction dredger 'VARAHA' acquired in 1977.
2. Suction hopper dredger 'VISAKHA' acquired in 1958.
3. Grab hopper dredger 'DURGA' acquired in 1973.
4. Grab dredger 'MUDLARK' acquired in 1948.

11.9 The total dredging capacity of these four dredgers is 16.48 lakh cubic metres. It has, however, been brought to the notice of the Committee that the suction hopper dredger 'VISAKHA' which is 30 years old is no more effective and requires urgent replacement. This is the only dredger most suitable for carrying out dredging in NST and for sand-by-passing/beach nourishment.

11.10 Grab dredger 'MUDLARK' which is used for shallow water dredging is now 40 years old and badly in need of replacement.

11.11 Asked to substantiate the press-reports about dredging operations in almost all the major ports not being carried out regularly and effectively the Port authorities informed the Study Group of the Committee during their visit to the Port that as far as the Port of Visakhapatanam was concerned dredging operations were being carried out regularly and effectively, in the shipping channels and at berths without imposing draft restrictions for in and out movements or berthing of the vessels in the Port for want of depths.

11.12 Asked if the requisite facilities are lacking in the Port, the Port authorities have stated that though facilities are not lacking at this port, updating of facilities is necessary. For carrying out efficient and effective dredging at any Port, availability of suitable dredgers in good working condition is considered necessary.

11.13 Asked if the Port authorities have laid down some clear cut guidelines for systematic release of berths so that dredging could be carried out regularly and effectively the Port authorities have stated that there are no specific guidelines laid down for the release of berths at this port. Whenever berths are vacant, the dredging operations are taken up effectively and desired depths are maintained at all berths. However, it has been stated that though the maintenance dredging is attained beyond the targets of 12.5 lakhs M^3, there is shortfall in the sand-by-passing requirement affecting beach nourishment due to ageing of our dredger S.D. "VISAKHA" which

requires immediate replacement. This requirement is being processed through the Government.

11.14 The Port authorities, when asked to state the backlog position *vis-a-vis* maintenance dredging operations in critical areas, have furnished the following data :

Back log 1987-88

Sand By-pass 215,632 M^3 of the 420,000 M^3 New Sand Trap Gap 10,242 M^3 out of 15,000 M^3 South of South Break Water 50,882 M^3 out of 60,000 M^3.

11.15 Asked about the time required for clearing this backlog, the Port Authorities have stated that it may not be possible to clear the backlog of 1987-88, during this year with their dredgers and to clear it, outside help from a dredging contractor may be necessary. It has also been stated that the Ministry of Surface Transport has suggested that Visakhapatanam Port Trust may examine if the sand by-pass operations could be handed over to DCI from 1990 onwards, when they are likely to get a new dredger, the Port authorities have stated that their suction hopper dredger 'Visakha' which was built in 1958, will last till the end of 1989.

11.16 In regard to the proposal of the Port authorities for replacement of dredgers, 'Mudlark' and 'Visakha' the Ministry in a subsequent note has stated that the replacement of S. D. Visakha and Mudlark is not in approved schemes for the VIIth Five year Plan. Their replacement would be considered in the VIIIth Five year Plan.

11.17 During the evidence when the representative of the Ministry was asked that keeping in view the economy in handling cargo as even ships with more than 1,50,000 D.W.T. could also come to Visakhapatnam Port, was there any proposal from the Government to strengthen that Port by allowing them further dredging and was the proposal for replacement of dredgers agreed to, the Secretary stated :—

> "In the approved budget of the Port, there is only a provision for spill-over scheme for the dredger, it has materialised only in the Seventh Plan. There was no proposal for acquisition of new dredger in the Seventh Plan."

11.18 Asked further about the amount of loan demanded by the Port authorities, the witness stated :—

> "They have asked for Rs. 12 crores for purchase of a second hand dredger. Since it is not an approved plan scheme, that could not be considered. Annual Plan discussions are taking place. We tried to include it in the next year plan but the Planning Commission was not in favour of it."

11.19 Technical studies were conducted by the C.W. & PRS during the year 1970 and procedures were laid down for disposal of dredged material into sea at the stipulated dredging area indicated in the charts.

11.20 Regarding perspective planning, it has been reported that the Port is one of the four Major Ports which will be further deepened to cater to 1,70,000 D.W.T. ore carriers. A detailed project report is being prepared by the MON group, the consortium of Japanese companies, Mitsubishi, Okura and Nippon Steels and the Japanese side has evinced interest in funding the project.

11.21 The Committee find huge disparities in the outlay earmarked and expenditure incurred by the Visakhapatanam Port Authorities, while executing projects relating to deepening of Outer Harbour, New Oil Mooring and Oil Birth. The Ministry has stated that for work at Outer Harbour, the sanctioned estimated quantity to be dredged was revised from 5.8 m.cu.m. to 7.99 m.cu.m. which caused an increase of Rs. 150 lakhs. Further, the rates which were revised from Rs. 4.75 per cu.m. to Rs. 15.6 per cu.m. for the work carried out by MOT dredgers accounted for an increase of Rs. 881.39 lakhs. Thus, a project which was estimated at Rs. 364.5 lakhs was completed at a cost of about Rs. 1,396 lakhs.

11.22 The Committee will definitely like to be apprised of the reasons which prompted the Ministry to revise its rates by almost 400%. Prima facie the increase in the cost does not appear to justified.

11.23 The Committee also note that for work at Oil Berth three different agencies have been involved viz. Port's own dredgers, DCI and a private contractor. The Committee find significant variations in the costs of dredging conducted by these agencies. The Committee, therefore, desire that a study be carried out by the Ministry to see the propriety of dredging operations by different agencies to enable it to chalk out future strategy for awarding dredging contracts.

11.24 The Committee find that most of the deficiency in maintenance dredging in this Port is due to obsolescence of its dredgers. The Committee feel that it is high time that a plan to modernise the dredging fleet is chalked out by the Ministry. The Committee are of the opinion that as a centralised agency is more suitable for carrying out dredging operations at Major Ports, the Ministry may evolve a policy whereby grab dredgers for alongside dredging should be allocated to various Port Trusts while suction dredgers which are suitable for performing channel dredging should in future be procured by DCI in place of the Port Trusts.

11.25 It is understood that for further deepening of Visakhapatnam Port so as to cater to 1,70,000 D.W.T. Ore carriers the Ministry has appoint-

ed consortium of Japanese companies to prepare a detailed project report. The same group has also evinced interest to fund the project as well. Considering the present resource position of the Government and the urgent need of further deepening the Ports, the Committee feel that the Ministry should make earnest efforts to arrive at an understanding with the foreign agency in this regard. The Committee would like to be apprised of the progress made in this direction.

CHAPTER XII

KANDLA PORT

12.1 Kandla Port is situated along west bank of Kandla creek taking off from the Gulf of Kachchh in the following latitude and longitude :

Latitude	23°	00′	North
Longitude	70°	13′	East

12.2 The Port due to its special geographical location suffers from area specific problems in so far as siltation is concerned; in fact being a tidal estuary, at the entrance to the port there is a "bar", a relatively shallow area between the deep waters of the creek and the waters of the Gulf of Kachchh. The minimum depth of the bar is the controlling factor for the permissible draft for the ships that can enter or leave Kandla Port taking advantage of height of high water of a particular day. The geographical location and the minimum depth on the bar has been varying from time to time due to the natural morphological changes. The regime at the mouth of Kandla Creek is unstable. There is considerable bed material in circulation resulting in formation of shoals and changes take place in location of the shoals resulting in shifting of Navigational Channel.

Details of various Navigational Channels used for entering the harbour are as under :—

Channel Used	Period		Minimum depth available (in Metres)
	from	to	
(1) Bar Channel	Upto Oct.	1955	4·3 to 2·7
(2) New Channel	Nop. 55	Feb·58	3·7 to 3·0
(3) Intermediate Bar Channel	Mar' 58	July 58	2·7 metres.
(4) Mid Channel	Aug. 58	Aug. 60	3·4 to 2·0
(5) Breach Channel	Sep. 60	Feb. 84	4·3 to 3·4
(6) Sogal Channel	Mar. 84	onwards	3·7 to 4·3

12.3 The Ministry, when asked whether the existence of 'bar' was considered during the planning of Kandla Port and what steps were being taken to remedy the situation has stated that the West Coast Major Port Development Committee had taken into account the presence of a 'Bar' at the mouth of the entrance to Kandla Creek while recommending for the deve-

lopment of Kandla as a Major Port on the West Coast. In order to stabilise the channel, a proposal for construction of a groyne on the eastern side of the channel is under study of the CW&PRS, Pune. Construction of the groyne is expected to divert the ebb flow in the direction of the channel and ensure a stable channel with reduction in maintenance dredging.

12.4 About the economics of the port, the Ministry has stated that Kandla Port became a Major Port in 1956 and investment have been made from time to time. It is difficult to work out the economic internal rate of return and the financial internal rate of return of Kandhla Port at present. Return on capital employed for Kandla Port for the year 1987-88 worked out to 12.91%.

Capital Dredging

12.5 The Ministry has stated that the port was commissioned in the year 1955. The draft availability at the cargo berths and the oil jetty was 9.75 m. The oil jetties constructed subsequently in 1975 and 1984 have the draft of 10.66 m. The sixth cargo berth constructed in 1984 has been dredged for a draft of 9.75 m. However, the berth structure has been designed for providing draft of 10.66 m. in future. No capital dredging has been carried out in any Plan for improvement of draft conditions at the berths and jetties. However, capital dredging to the extent of Rs. 163 lakhs, was carried out in the portion of entrance to the port in the year 1983-84 for opening a new channel.

Maintenance dredging

12.6 It has been stated by the Ministry that the amount of maintenance dredging required at the berths and oil jetties is insignificant. The details of maintenance dredging carried out in the approach channel during the last ten years are given below :

TABLE—I

Year	Assessed rate of siltation (in Million cu. m.)	Qty. dredged (million cu. m.)	Optimum depth required	Min. depth maintained in the channel
1	2	3	4	5
1978-79	1.80	1.599	4.3 m	4.00 m.
1979-80	—	1.393	,,	3.70
1980-81	—	1.714	,,	3.40
1981-82	—	4.970	,,	3.70
1982-83		2.989	,,	3.40

1	2	3	4	5
1983-84 . . .	—	3.119	4.3 m	3.40 m
1984-85	—	*1.788 *(Capital Dredging)	,,	3.70 (The new channel 'Sogal' Channel, commissioned from 29th Feb., 1985)
1984-85 . .	0.730	1.405	4.3 mtr.	4.3 mtr.
1985-86 .	—	1.105	,,	,,
1986-87	—	1.789	,,	,,
1987-88 . . .	3.420	3.553	,,	,,

TABLE—II

Details of financial outlay provided for maintenance dredging in each of the last five years and actually utilised have been furnished by the Ministry as under :

Year	Provision	(Rs. in lakhs) Actual Expenditure
1983-84	430.68	406.50
1984-85	425.17	451.15
1985-86	255.60	213.50
1986-87	201.01	269.97
1987-88 . . .	292.00	292.00 (Estimated)

12.7 The Ministry has further stated that maintenance dredging is generally carried out with the departmental dredgers. However, sometimes due to uncertain rate of siltation and considerable loss of time when the dredgers cannot operate in the channel due to insufficient water, it became necessary to hire dredgers from DCI or other ports. These dredgers are taken on hire on per day basis and cannot be linked up with the productivity. Particulars of maintenance dredging carried out with the dredgers taken on hire are as under :—

Year	Quantity dredged (lakh cu. m.)	Expenditure incurred (Rs. lakhs)
1981-82 . . .	28.74	250.07
1982-83 . .	21.58	344.69
1983-84 .	7.79	159.01

12.8 The performance of the Port dredgers during the last five years is given in the following table :—

Year	SD. Kandla		M. D. Kutch Vallah	
	Expected annual output	Actual output	Exp. ann. output	Act Output
	(Quantities in lakh cubic mtrs.)			
1982-83	5.1	6.69	25.0	23.20
1983-84	5.1	3.93	25.0	23.58
1984-85	5.1	4.76	25.0	13.59*
1985-86	5.1	3.63	25.0	13.33*
1986-87	Laid up		25.0	18.30**
1987-88	—	—	25.0	26.88

*Dredger sent to other ports, Hence less output at Kandla.

**Dry docking extended over a longer period.

12.9 The Committee have been informed that the manning, management and operation of dredger Kutch Vallabh has been entrusted to the Dredging Corporation of India on contract, at actuals plus ten percent basis as approved by the Ministry. When asked about the reasons for this contract the Chairman, Kandla Port Trust stated during the evidence :—

> "The dreger was handed over to DCI for manning and operation, because of shortage of staff and also because proper certified and skilled officers were not available."

12.10 When asked to explain this mode of contract it has been stated by the Ministry that the contract for manning, managing and operation has been awarded to the DCI. Under this contract, the DCI have to man the dredger with suitable staff for working of the dredger round-the-clock. They have also to carry out necessary repairs for the dredgers and plan its repairs, dry docking, etc. They also have to plan for the spares required for the dredgers. The DCI have also established a Project Office at Kandla to look after the day-to-day needs of the dredger and the staff.

(b) As per the contract, the Kandla Port Trust has to reimburse to the DCI all expediture for the above establishment on the dredger and of the Project Office at Kandla. This will include the pay and allowances and other benefits payable to the officers, the crew and the cadets on the dredger as well as the Project Office at Kandla.

(c) The Kandla Port Trust will also have to reimburse to the DCI all costs of the repairs and expenditure on procurement of stores and spares required for the maintenance of dredger Kutch Vallabh.

(d) Overhead charges equivalent to 10 per cent of the cost as mentioned above is to be paid as office overhead, supervision and coordination.

(e) In addition to the above, a remuneration of an amount of Rs. 1,00,000/- (Rupees one lakh only) per annum shall be payable in advance.

(f) A sum of ten paise per cubic metre of material dredged as per the Master's dredging report on the basis of open measurement shall be payable.

12.11 During the evidence the Secretary of the Ministry further informed the Committee :—

> "It is a commercial decision taken by the two parties. Kandla Port found that it was much better for them to give it on a management contract to DCI which manages the entire operations of the vessel, and which looks after operation and maintenance..... It is an advantageous arrangement for the management of both DCI and the Kandla Port."

12.12 The witness further added :—

> "The Kandla Port Trust has done an analysis of what it would have cost them if they had done it themselves, i.e. by keeping the dredger and arranging to do the work. It would have cost Rs. 22.34 per cubic metre and whereas by hiring it out to DCI and allowing DCI to manage it, their actual cost comes to Rs. 16.93."

12.13 The disposal of dredged material at Kandla Port is carried out in the following manner.

The exact position where the dredged material may be disposed off is decided after carrying out the model studies at the Central Water and Power Research Station (CW&PRS), Pune. Such area, is marked by distinguishing floating lighted buoy, so that the exact position is known during day and night. The buoy is painted and light displayed as per international regulations. The suitability of the present position was indicated by the CW&PRS in October, 1983.

12.14 The Master Plan for Kandla Port upto 2005 AD is under preparation.

12.15 The Committee have noted the peculiar position obtaining at Kandla Port. They find that presence of a 'bar' at the entrance to the Kandla creek, is a big drawback in so far as, its minimum depth is the controlling factor for the permissible draft for the ships that can enter or leave Kandla Port. They also find that the regine at the mouth of the Kandla creek is unstable. There is considerable bed material in circulation resulting information of shoals and consequent shifting of Navigational Channel.

12.16 The Committee are unhappy to note that this has resulted in change of navigational channel on no less than 6 occasions since 1955. They are of the opinion that while planning establishment and development of projects which require huge capital expenditure, the overall financial returns should also be taken into account. In the instant case the Committee do not find that the Ministry had adhered to this principle while taking decision to further develop the port. The Committee also do not find any justification in the Ministry's plea that they are finding it difficult to work out economic internal rate of return and financial internal rate of return of Kandla Port. The Committee feel that the knowledge of returns on any investment is a basic rule of corporate finance and are surprised to find that the Ministry has not taken this in account, particularly when dealing with such a high capital intensive project. The Committee, therefore, desire that the information be compiled so that it is possible to assess the justification or oherwise for further development of the Port.

12.17 The Committee note that a surplus dredger of Kandla Port has been handed over to DCI on bare-boat charter and the arrangement is working satisfactorily. The Committee desire that the Ministry should find out if other ports too are having surplus dredging capacity so that similar arrangements are made to further augment the capacity of DCI and to judiciously utilise existing machinery.

CHAPTER XIII

CALCUTTA PORT

13.1 Calcutta Haldia Dock Complex is situated on the East Coast of India on the river Hooghly.

13.2 The Port at Calcutta being a riverine Port, its channel meander from bank to bank. Thus, the length of vessels which can come upto Calcutta area is severely restricted. The Ministry has stated that the Haldia Dock Complex was conceived in early sixties to cater to the demand of shipping with a maximum draft level of 31 feet due to excessive and progressive reduction in draft levels for Calcutta as also the trend in world shipping was shifting to increasingly larger vessels.

13.3 The Committee have been informed that being a riverine port the problem of siltation has been acute. Between Calcutta and Haldia—a distance of over 100 kms. the navigational channel has 15 bars including Balari Bar. The 125 kms. long channel between Haldia and sandheads crosses 4 bars, namely, Jellingham, Auckland, Middleton and Gasper. The problem faced over these bars is because of their seasonal fall in depth and shifting tracks.

Capital Dredging

13.4 The Ministry has stated that besides undertaking capital dredging operations river training is also carried out to reach requisite depths. A systematic effort to improve the depths in navigational channels of Calcutta and Haldia commenced in 1968 and 1972 onwards respectively. These works comprised of river training projects for Calcutta to function in association with the upland discharge from Farakka and river training works and capital dredging for Haldia.

A number of experts national/international have been continuously examining the problem of siltation in the navigational channels leading to Haldia/Calcutta over the past several decades.

Now the channel is under development after specific recommendations from Hydraulic and mathematical tests conducted at Calcutta Port Trust, Calcutta; C.W.P.R.S., Pune and Hamburg, West Germany. These have been duly examined and supported by international expects. The works are under implementation since 1982. The Government's constituted Technical Advisory Committee meets regularly and monitors the progress of works and recommends mid-terms connections. These works are esti-

mated to cost approximately 40 crores of rupees in its first phase of implementation.

The comprehensive project in association with the Farakka Barrage Project is designed to ensure 7.9 M draft for the Port of Calcutta for at least 300 days in a year.

13.5 The Ministry has further stated that with the introduction of a refinery at Haldia, a river side jetty was conceived for POL to accommodate World Bank Tankers. This required the draft objectives in the Approach Channel to Haldia to be revised to 12.2 m. in the final stages by 1977-78 approximately. However, as this could not be achieved efforts have been made to achieve a draft of 10.67 m. in the first instance.

13.6 When asked about the expenditure in each of the plan periods, the designed and realised objectives, the Ministry furnished the following information :—

Plan Period	Financial Outlay (in crores of rupees)		Designed draft		Realised draft		Reasons for the short fall.
	River training for Calcutta/ Haldia	Capital training for shipping Channel leading to Haldia	Cal.	Haldia	Cal.	Haldia	
1	2	3	4	5	6	7	8
1st . . .	×	×	7.9	10.67	7.30	Not applicable	Adverse morphological changes in the river which required design of additional river training works and also due to shortfall in
2nd . . .	@	×	7.9	10.67	6.57	Not applicable	
3rd . .	0.30		7.9	10.67	6.49	Not applicable	
4th . . .	4.17	2.26	7.9	10.67	6.64	9.1	
5th . . 1978-79	12.50	34.63	7.9	10.67	6.62	Progressive reduction from	

1	2	3	4	5	6	7	8
(Annual) 1979-80	1.74	6.19	7.9	10.67	7.10	9-14 to 8.0 M.	dedging whioh was required.
(Annual)	2.26	6.07	7.9	10.67	6.98		
6th Plan	13.44	×	7.9	10.67	6.29		
7th Plan	11.88	×	7.9	10.67	6.06* 6.97**	8.5 WEF 1988	
	46.29	49.15					

Note: (1) River training works are designed to benefit the overall estuary and should not be separated for Haldia and Calcutta.

(2) The drafts at Calcutta are those available for at least 300 days in a year.

* Average for pre-Rangafalla period upto April '87.

** Post Rangafalla period w.e.f. May '87 to April '88.

13.7 During the visit of the Study Group of the Committee to Calcutta Port they were informed that to undertake recession at Jiggerkhali Flat at Balari Bar, Dutch financial aid and technical assistance had been obtained through a limited tender and the work was to be undertaken by DCI and Dutch Contractor in December, 1988.

13.8 When the Ministry was asked to state reasons for not letting DCI go alone for this contract it has stated that there was a proposal to undertake this work through DCI. However as the estimated quantity of the project is 8 to 10 m. cu.m. and it is to be completed within one working season i.e. 4 to 6 months, DCI is not capable of doing so with its present fleet of dredgers and other committments.

It was, therefore, though desirable that DCI should execute the work jointly with the Dutch contractors.

13.9 Asked about the role of the partners in the project, it has been stated that it is yet to be finalised. About the progress of work it has been stated that as the tender offers are still under consideration, work has not commenced on the project.

Maintenance Dredging

13.10 The Ministry has stated that dredging operations in the Port of Calcutta are conducted departmentally by the Director, Marine Department through the Superintendent, Dredger & Despatch Service and also through contract dredging methods, the contractor being Messrs, Dredging Corporation of India Ltd.

13.11 Asked if systematic planning was done in respect of release of berths for maintenance dredging, it has been stated that these operations are carried out with definite guidelines as per designed safety depths. The list of Dock berths to be dredged is intimated to Traffic Depattment with a request to release the same for dredging as and when possible.

The Ministry has stated that as per the Hydraulic Study Department the requirement of maintenance dredging in the Port of Calcutta/Haldia is as under :—

(i) Estuary (excluding Balari Bar)	16 M Cu M
(ii) Balari Bar	3 M Cu M
(iii) Upper Reaches between Calcutta and Diamond Harbour	1 M Cu M
	20 M Cu M

13.12 About he financial outlay provided and actually utilised during each of the last five years, the information as furnished, is given in the following table.

Financial year	Budget provision (Rupees of lakhs)	Actual (Rupees in lakhs)
1983-84	2710.86	2920.68
1984-85	3143.38	3087.83
1985-86	3297.20	3578.90
1986-87	3575.02	3637.01
1987-88	4750.22	4025.33

13.13 The cost of maintenance dredging undertaken by Port's dredgers and dredgers of DCI, during the last ten years as furnished by the Ministry, are indicated below :—

(Rupees in lakhs)

Year	Cost of CPT dredgers	Cost of contract dredgers (DCI)	Total
1978-79 . . .	142.33	—	1142.33
1979-80 . . .	1187.43	—	1187.43
1980-81 . . .	2131.48	351.08	2482.56
1981-82 . . .	2196.96	462.81	2659.77
1982-83 . . .	1865.46	374.74	2240.20
1983-84 . . .	2238.17	314.02	2552.19
1984-85 . . .	2181.12	477.94	2659.06
1985-86 . . .	2582.39	552.19	3134.58
1986-87 . . .	2405.13	752.33	3157.46
1987-88 . . .	2340.66	1203.36	3544.02
	19271.13	4488.47	

13.14 The physical performance of the Port in the field of maintenance dredging from 1977-78 to 1986-87 has been furnished by the Ministry as under :—

Sl. No.	Year (F.Y.)	Dredged quantity in 10^6 M^3	Assessed quantity in 10^6 M^3
1.	1977-78	17.32	Qty. under assessment by experts, national/ international
2.	1978-79	15.38	
3.	1979-80	11.73	
4.	1980-81	8.69	
5.	1981-82	14.38	15 MM^3 per annum as per Allersma report plus 3/4 MM^3 per annum over Balari as assessed by CPT experts.
6.	1982-83	12.84	
7.	1983-84	13.20	
8.	1984-85	13.88	
9.	1985-86	11.99	
10.	1986-87	9.24	

13.15 The assessed annual capacities and actual performance of Port's dredgers as well as hired dredgers during each of the last ten years are given below :—

Years	Assessed Annual Capacity			Actual performance		
	CPT dredgers	Hired dredgers	Total	CPT dredgres	Hired dredgers	Total
1978-79	12.48	5.25	17.73	7.82	9.03	16.85
1979-80	14.48	3.00	17.48	7.73	5.36	13.09
1980-81	14.48	3.61	18.09	6.30	4.31	10.61
1981-82	13.36	3.00	16.36	10.81	4.5	15.31
1982-83	11.34	3.00	14.34	10.48	3.0	13.51
1983-84	11.34	3.00	14.34	10.29	3.68	13.97
1984-85	11.34	3.00	14.3	10.87	3.64	14.51
1985-86	11.34	3.50	14.84	6.67	5.87	12.54
1986-87	11.34	4.50	15.84	5.8	6.28	12.08
1987-88	8.93	6.32	15.25	1.80	7.48	9.28
Total	120.43	38.18	158.61	78.57	53.18	131.75

13.16 When asked to explain the reasons for shortfall in maintenance dredging requirement, the Ministry has stated that the Dredging requirements of the Calcutta Port Trust are in the region of 19 million cubic metres in the estuary. Dredging in the River Hooghly requires shallow drafted

dredgers. Two dredgers of the DCI which can work in the River Hooghly i.e. Dredger V and Dredger VI are deployed. They have a capacity of dredging 7 million cubic metres annually. The two dredgers of the Calcutta Port Trust, i.e. S.D. Mahaganga and S.D. Mohana which are also deployed here can do about 4 million cubic metres. Therefore, there is shortfall in meeting the dredging requirements. This requirement will be partly met by the purchase of the new dredgers by the DCI.

13.17 About requisitioning the services of other DCI dredgers, the Ministry has stated that the other dredgers available with the DCI are not suitable for working in the River Hooghly because of their loaded draft being more than what can operate in the river. The Secretary of the Ministry elaborated on this aspect during the evidence :—

> "The estimate of 19 million cubic metres of material to be removed every year was made in 1981. It is an estimate made that in order to maintain a draught of 26' for Calcutta for a minimum of 200 days in a year, there is a shortfall in capacity, because we do not have the dredger to move this quantity of silt. At present, CPT and DCI have 12 million cubic metres capacity. DCI has two other dredgers with 7 million cubic metres capacity. But it has to look after other ports also. We do not know for what period these two additional dredgers can be set apart for Calcutta."

13.18 Asked as to what effect the lack of designed depths had on Port's activity, the Ministry has stated that due to this, deep drafted vessels could not enter the Port.

13.19 The Ministry when asked as to how it is going to augment the dredger requirement of Calcutta Port, has stated that the replacement of S.D. Mohana will be done by purchase of a new dredger which has been ordered by the DCI. As far as replacement of S.D. Churni is concerned it is not a part of the VIIth Five Year Plan. Calcutta Port Trust proposes to replace it in the VIIIth Five Year Plan.

During the evidence the Secretary stated on this aspect as follows :

> "We had proposed that we should have two additional dredgers during the Seventh Plan. If that proposal had been approved, then it would have been possible to deploy those two dredgers in this area. But because of the ceiling on the investment that we are allowed to make, we are not able to procure these dredgers. The other point which I would like to bring to the notice of the Committee is that dredging is not the only solution and in Calcutta, dredging is certainly not the only solution. The other solution is to try to clean the river because there

is a limited supply of water, especially during summer month. So, we have sanctioned a scheme at the cost of Rs. 40 crores in 1982 to clean the river. This includes construction of a wall on the bed of the river. I think about 2,800 metres of this wall have been constructed also. We are constantly in touch with the experts, both in India as well as abroad as to how to modify the scheme. The river is such a 'difficult river' that its behaviour can never be predicted".

13.20 About disposal of dredged spoil, the Ministry has stated that the technique which has been adopted for a long time in the Hooghly for disposal of spoil from maintenance dredging is free dumping in the river. For this, the disposal spots are selected in the river from the consideration of minimum turn around time of the dredger and less chances of return of the spoil to the dredged channel.

In this regard, it may be mentioned that the technique of disposal ashore was also adopted in Hooghly estuary. At Jellingham, 10 km. downstream of Haldia, a terminal was set up in December 1977 adopting indigenous coupling system. This terminal was operated for shore disposal till the end of 1983. The disposal ground became generally saturated. No site for a new terminal suitable to the bar under dredge could be located.

13.21 About perspective planning for Calcutta/Haldia Port the Secretary of the Ministry stated during evidence :

"As far as traffic in Calcutta is concerned, it is coming down. The traffic is remaining more than static, i.e. round about three million tonnes. On the other hand traffic in Haldia has been showing a constant increase. If you ask me to give a full scenerio, I would put it that the traffic in Calcutta Port would not have much possibility of increase. As far as traffic in Calcutta Port is concerned, it will remain more or less at the present level whereas Haldia has much greater potential and so we are building a new oil terminal there. The proposals regarding container handling facility, general cargo are there. The coal traffic from Haldia Port has picked up very considerably during the last two or three years. Haldia will be the focal point for future development, rather than Calcutta. It is because, if even by some magic, we are able to provide a draught of 30 feet instead of 26 felt, Calcutta cannot take ships larger than about 15,000 DWT to 20,000 DWT. The reason being, there are certain bends in that".

13.22 When asked, whether, besides the problem of dredging did they have any other problem in the Calcutta Port and whether modernisation of the Port was required to be done. It was also enquired if sufficient money was allotted to Calcutta Port what was the chance of Calcutta Port being, improved, the representative of the Ministry stated as under :—

> "As far as Calcutta Port is concerned, there is no doubt that modernisation is definitely required because the international trade is going to be containerised. The need for a container terminal is felt very badly. The scheme has already been approved. Once this scheme is completed, then we will be able to handle container traffic in a more significant manner. Luckily draught required by these feeder vessels would be such that present restrictions on the draught to the vessel will not pose a very serious hindrance. As far as dredging is concerned, we have submitted our proposal to the Ministry. In the overall context of budgetary availability, we will have to decide whether it will be possible for us to acquire a dredger if the fund constraint is there. But much greater priority should be given to cargo handling modernisation and the modernisation of other infrastructure in Calcutta".

13.23 The Committee observe that being a riverine port the port of Calcutta/Haldia has its own specific problems in so far as siltation and its consequent dredging is concerned. They find that the Ministry, besides making efforts to tackle the situation by dredging, has also launched river training programmes and is constructing a wall on the bed of the river to control siltation to some extent. The Committee agree with the Ministry's contention that as the Port is based on a 'difficult river', they have yet to evolve effective control measures to arrest the huge amount of siltation taking place at the Port.

13.24 The Committee, however, feel that the Port's performance in regard to capital and maintenance dredging is dismal. At Haldia, while the draft objectives in the approach channel were revised to 12.2 mtrs. in the final stages and were to be achieved by 1977-78, the target has been drastically scaled down to 10.67 mtrs. Lamentably, the actual performance, what has been achieved in this regard is a mere 8.5 mtrs. At Calcutta the picture is still gloomier and the realised drafts after conducting dreadging operations have never touched the designed draft requirements in all the Seven Plans.

13.25 The Committee feel that capital dredging operations at Calcutta/Haldia Port have been handled with extreme casualness and without adequate monitoring of projects. The Port's physical and financial performances have gone haywire in this particular field which is of immease importance for

the business of the Port. The Committee desire that intensive efforts should be made to tone-up the overall machinery and strict watch should be maintained in future for timely and effective implementation of projects of critical natures, more so in the light of the fact that business at Calcutta Port has become more or less static and is in-fact on a down-ward trend.

13.26 The Committee note that 90% of dredging expenditure of Calcutta/Haldia Port is met from Central exchequer. The Committee feel this is all the more reason for the Ministry to have a strict vigil over the financial management of dredging operations at the Port.

13.27 In the field of maintenance dredging the track record of Calcutta/Haldia Port is still worse. The Committee are baffled to observes huge disparities in the costs involved in the dredging works undertaken by Calcutta Port itself and that done by DCI dredgers. During the period of last ten years while DCI dredgers with a total assessed capacity of 38.18 m. cum. dredged 53.18 m. cum. at a cost of Rs. 44.88 crores, the Port's dredgers performed dismally and against their assessed capacity of 120.43 m.cu.m. dredged only 78.57 m.cu.m. at a huge cost of Rs. 192.27 crores. The explanation given for this utterly poor performance of the Port's dredgers has not been considered to be satisfactory by the Committee. In the projects of large financial value it is imperative to strengthen planning, implementing and monitoring machinery so that it is possible to achieve desired objectives within the estimated cost. In view of the huge financial value of work involved in maintenance dredging in Calcutta and Haldia it is imperative to have comprehensive review of the expenditure incurred during the last 3 years so as to ascertain whether these were executed efficiently and economically and there was maximisation of resources. The Committee would like the Ministry to ensure close intensive monitoring of such projects by indepth periodical review of progress of projects, close coordination with equipment suppliers, contractors, consultants and other agencies to minimise delays. It is also essential to strengthen research activities in such projects so as to keep abreast with latest technological developments all over the world.

13.28 The Committee are also of the view that as far as Calcutta Port is concerned it is imperative to go in for modernisation plan to boost international trade which is going to be containerised. The Committee therefore, urge that high priority should be given to cargo handling and modernisation of Calcutta Port while finalising the proposals for the 8th Plan. They would like to be apprised of further developments in this regard.

CHAPTER XIV

BOMBAY PORT

14.1 The Port of Bombay is situated almost centrally along the West Coast of India in the following latitude and longitude :

Latitude.	18°	54′	North
Longitude .	72°	49,′	East.

14.2 The Port has one of the finest natural deep water harbours of about 121 sq. kms. in extent, protected by the mainland of Konkan on the East and Island of Bombay on the West which forms a natural breakwater protecting the harbour from the violence of the South West Monsoon. All the Port installations with the exception of the Marine Oil Terminal are situated on the west side of the harbour where these are partly sheltered from the direct wave action from the sea.

14.3 About the siltation in Port the Committee have been informed that unlike the East Coast of India, there is no major problem of littoral drift along West coast. The siltation at any part of the harbour depends on the speed and depth of tidal flow, fresh water influx during monsoon, nature of the bed-turbulance caused by wave action and density currents due to salinity variations. At Bombay Harbour, thick layers of alluvium have settled between the outcrop. The alluvium consists mostly of silt and clay which settles rapidly and once settled, remains soft for long periods. When the silt is disturbed, it easily goes into suspension and is transported by the current.

14.4 The depth at the main approach to the port is maintained by the action of tidal currents and the main channel did not hitherto require substantial maintenance dredging. With the deepening of the main harbour channel for admitting deep drafted vessels to Butcher Island Oil berths and berths of Nhava Sheva, a certain amount of siltation has been observed in this channel requiring maintenance dredging. The approach channels to the docks which are aligned across the direction of the flood and ebb currents, silt fairly rapidly.

14.5 The rate of local siltation is very high whenever the depths have been increased greatly above the natural depths or whenever the pattern of currents has been altered. Thus, heavy siltation occurs in the approach to the Prince's and Victoria Docks which is aligned across the main currents and has a bed level deeper than the surrounding natural bed level. High siltation also occurs at the Indira Dock entrance channel and alongside Ballard Pier which is affected during the flood tide by a slow

moving eddy induced by the Pier. The anchorages in the harbour have not silted very much. Siltation is quite heavy along the Indira Dock and Prince's and Victoria Docks harbour walls, in the Pir Pau channel and berths, and at the bunders.

Capital Dredging

14.6 The Committee have been informed that capital dredging at Bombay Port in the past has been associated with new project and expansion and was mostly carried out by contract. The financial performance of the Port for improvement of draft conditions by capital dredging in each of the Plans, as furnished by the Ministry, is given in the following table :—

Plan period	Item	Approved outlay (Rs. in lakhs)	Expenditure (Rs. in lakhs)
Third Plan, 1961-66	Dredging Main Harbour Channel.	Not available	178·57
Annual Plan, 1966-67	Do.	12·29	22·97
Annual Plan, 1967-68	Do.	10·02	10·17
Annual Plan, 1968-69	Do.	23·64	18·51
Fourth Plan 1969-74	Do.	Not available	13·06
Sixth Plan, 1980-85	Deepening of Main Harbour Channel in connection with the Fourth Oil berth.	Part of scheme of Construction of Fourth Oil Berth.	841·65

14.7 The Ministry, when asked about the designed draft levels at various berths of the Port, has stated that the depth maintained in the main channel is 10.8 m to 11 m. below Chart Datum. From the main channel approach channel leads to the enclosed docks and to the open berths. There are three wet docks, Indira Dock, Victoria Dock and Prince's Dock. The Indira Dock is an all weather dock. The depth to be maintained inside is 9.2 mtrs. and the basin can be further impounded to provide additional depth upto 10.36 mtrs. Both Victoria and Prince's Docks are semitidal docks. The depth to be maintained inside these docks is 6.7 mtrs. and 6.2 mtrs. respectively. The two deep-water open berths outside the docks are to be maintained at 9.7 mtrs. and 9.1 metrs. below the Chart Datum. The Marine Oil Terminal of the Port is situated at Butcher Island in the northern portion of the harbour and provides 4 deep water berths. Three of these berths are maintained at 11.00 mtrs. and the fourth one at 14.00 metrs. below the Chart Datum. A berth is also provided for handling liquid chemicals,

petroleum products etc. at Pir Pau, where depth to be maintained is 8.8 metrs. below the Chart Datum.

14.8 During its visit to Bombay Port, the Study Group of the Committee asked that if the requirement of depth, to be maintained at Pir Pau chemical terminal was 8.8 mtrs. below Chart Datum, what were the reasons for its reduction to about 5 mtrs. the Port authorities stated that due to less demand in initial stages, the dredging requirements of Pir Pau Chemical Terminal were given less importance and it was only now with increased traffic that the adverse effects of reduction in draft levels were being felt. Asked further if some study had been conducted by the Port authorities to assess the percentage of delays in berthing of ships due to dredging operations, it was stated that nothing in this regard has been done.

14.9 About perspective planning to further deepen the Port, it has been stated that there was no proposal for further deepening of Port in the 8th Plan Period.

Maintenance Dredging

14.10 The Study Group of the Committee were informed during their visit to Bombay Port that the quantity of annual maintenance dredging required to be carried out at the Port had been assessed at between 43 to 50 lakhs cu.m. hopper measure. The quantum was not uniformly distributed either spatially or timewise. Certain areas in the harbour were subject to a much higher rate of siltation than others. Also, the average silt contents were generally much greater during the monsoon than during fair weather tides.

14.11 When asked if this silt could be utilised for reclamation purposes, it was stated that the material was a marine clay which was finer than silt and was not suitable for reclamation.

14.12 About the arrangements in the Port for maintenance dredging it was stated that the Port of Bombay operated its own fleet of suction and grab dredgers for maintenance dredging in the channels at berths and other navigational areas. Since the Ports own dredgers were unsuitable for Main Harbour Channel dredging. Bombay Port Trust hired DCI's dredgers to maintain depth at the main harbour channel which was about 13 km. in length. DCI's dredger was also hired sometimes in approach and entrance channels, if required to augment shortfall in port's own dredging capacity. The Port maintained 2 Nos. Trailing Suction Dredgers, 2 Nos. Motor Hopper Grab Dredgers, 3 Nos. Pontoon Grab Dredgers and 1 No. Pontoon Backhoe Dredger. The Port had 10 Nos. hopper barges and 4 tugs as allied unit of Pontoon Dredgers.

14.13 The physical and financial achievements of the Port in the field of maintenance dredging during the last 10 years, as furnished by the Ministry, are given in the following table :—

Year	Output in cubic metres	Expenditure Rs.
1978-79	34,88,911	1,84,24,089
1979-80 .	22,07,292	2,09,05,850
1980-81 .	37,67,076	2,51,77,900
1981-82 .	22,55,659	3,02,22,088
1982-83	25,45,495	3,07,79,486
1983-84 .	27,53,373	3,54,68,430
1984-85 .	38,72,182	3,80,81,421
1985-86 .	32,52,373	4,33,57,175
1986-87 .	31,88,977	4,46,97,928
1987-88 .	26,58,543 + 10,53,000 (by DCL)	8,11,37,633

14.14 On viewing the above performance in the context of annual requirement of maintenance dredging of 4.6 m.cu.m. the Ministry was asked to indicate the reasons for shortfall the Ministry has stated that in the Bombay Port, the dredging fleet is operated round the clock on all the week days. However, the actual output in dredging falls short of the total requirement of 46 lakhs cu.m. by about 16 lakhs cu.m. (comprising approximately 10 lakh cu.m. suction and 6 lakh cu.m. grab). This is due to several reasons given below :—

(i) Most of the major dredging equipment is quite old. The downtime of such equipment is quite high and their efficiency even during operation is below the desired level.

(ii) For optimisation of the dredging effort, it is essential that the dredgers be deployed at spots where dredging is needed and for the period they should work here for accomplishing the desired depth. This pre-supposes the release of berths, anchorages etc. according to the pre-determined programme.

Unfortunately, the berth occupancy in the Port is very high and hence berths are not released for dredging resulting in delay in normal dredging schedules. This position is partially acceptable as ships visiting the docks do not always come with their maximum drafts. The bunders have not been substantially dredged for long periods, being not released for dredging due to traffic.

(iii) The conventional self-propelled grab dredgers and non-propelled pontoon dredgers with the Port require laying of wires for anchoring before commencing dredging and break and relay same with the turn of tide when working at harbour wall, quayside berths and in the basins during docking movements in the area. This involves delay in dredging operations. The Port has acquired a back-hoe type of dredger, which can be moved by the dredger's spuds, thus eliminating the need for rope anchors, etc. Further in tidal dock basins considerable time is lost of the grab dredgers for moving in and out of the docks for dredging and dumping of dredged spoil due to restricted periods for opening of the dock gates depending on suitable tides. The movements of dredgers are also affected by heavy traffic at the Port.

(iv) Building of dredgers is a very specialised technology, Holland and few other countries have developed the technology due to their long experience, and research and development carried out by them over the years. The know-how to build efficient dredgers is still to be acquired by developing countries. The experience with the use of general purpose components modified for installation of on dredging equipment has not been very satisfactory. For instance, the performance of general purpose cranes modefied and fitted on grab dredgers is well below that of specialised dredging cranes.

(v) There is need for training skilled personnel specially motivated for operation and maintenance of dredging at the costly equipment is efficient utilised and even for minor repairs.

14.15 The Ministry, when asked to elaborate on the financial performance of the Port with regard to maintenance dredging operations in the Port, has furnished the following statement

Year	Financial Outlay provided.	Actual expenditure (Rs. in lakhs)
1983-84	366·64	354·68
1984-85	402·71	380·81
1985-86	425·16	433·57
1986-87	397·13	446·98
1987-88	1190·71	811·38* (including work awarded to DCI for dredging main harbour channel and at Pir Pau.)

*Shortfall in expenditure is due to non execution of the quantum of dredging envisaged to be done in 1987-88 under the contracts awarded to them. The expenditure has spilled over to 1988-89.

14.16 When asked to indicate the reasons for non-execution of the proposed dredging during 1987-88, the Ministry has stated that out of the total financial outlay on dredging of Rs. 1190 lakhs for the year 1987-88, estimated cost of the dredging to be done by the DCI was Rs. 650 lakhs and the balance Rs. 540 lakhs was the provision for estimated cost on departmental dredging. Out of this, the actual expenditure on account of departmental dredging during the year was Rs. 500 lakhs. The actual amount paid to DCI up to 31-3-1988 for the dredging work was Rs. 312 lakhs. The period of the completion for the contract for the Pir Pau dredging by the DCI was 120 days and the contracted time for the dredging in the Bombay Harbour main channel was 180 days. However, the contracts for the works could be given only on 10 January, 1988 and 19th January, 1988 respectively. Therefore, there was a shortfall in the planned outlays.

14.17 Asked further as to what is the effect of the quantity of silt left undredged on the Port activity, the Ministry has stated that without the requisite amount of dredging the tankers arriving in Bombay Port had to wait marginally for suitable rise in side.

14.18 During the visit of the Study Group of the Committee, the Port authorities when asked about the comparative cost analysis of dredging operation conducted by Port's dredgers and that done by dredgers of DCI, have stated that no such data existed. However, the cost of dredging by Port's dredgers was very much less than that of dredging done by DCI. The Committee were further informed that the comparative cost was Rs. 26/- per cu.m. for port's own dredging and Rs. 38/- per cu.m. for dredging by DCI. Asked about the reasons for this substantial difference, it was stated that this was mainly due to the difference in initial capital inputs. The port dredgers were procured about three decades back while the DCI dredgers were all new acquisitions.

14.19 The Committee note that the rate of local siltation at Bombay Port becomes very high whenever the depths have increased greatly above the natural depths. The Committee would like the Ministry to conduct technical study to find out the scientific basis of this phenomenon so that further deepening of the Port, as and when undertaken, takes due cognizance of the results of this study.

14.20 The Committee deprecate the manner in which financial details regarding capital dredging at Bombay Port have been furnished by the Ministry. The Ministry has stated that information relating to approved outlays during Third, Fourth and Sixth Plans are not available The Committee desire that in future the Ministry should be more careful in furnishing information to the Parliamentary Committees.

14.21 The Committee find that in actual performance also the Bombay Port authorities have acquitted themselves poorly. Draft levels at Pir Pau

Chemical Terminal are presently around 5.5, mtrs. as against the required depth of 8.8 mtrs. The Committee are unable to accept the Ministry's explanation that due to less demand in initial stages dredging at the said area was neglected.

14.22 The Ministry has not conducted a study to assess the percentage of delays in berthing of ships due to dredging operations. The Committee think that it is desirable to conduct a study to discuss the problems involved with a view to chalk out strategy to avoid delays in berthing which cause considerable loss of revenue to the exchequer.

14.23 The Port's maintenance dredging requirement is to the tune of 46 lakhs cu.m. while the actual dredging carried out annually is about 30 lakhs cu.m. This leaves a backlog of 16 lakhs cu.m. every year. The Committee feel that this is an alarming situation and warrants urgent action. The Committee have observed that due to the quantity remaining undredged the tankers arriving at the Port have to wait marginally for suitable rise in tide. The Committee are of the opinion that as similar situations regarding backlog in dredging are obtaining at almost all Major Ports, a study should be conducted by the Ministry to find out extended waiting time imposed on berthing vessels, the financial implications involved and quantity of business lost due to ships not preferring to berth at all, at these Ports due to absence of required depths. The Committee would like to be apprised of the findings of such study.

14.24 The Committee have been informed that costs of dredging operations conducted by Ports own dredgers and that done by DCI dredgers are at considerable variance, being Rs. 26/- per cu.m. for the former and Rs. 38/- per cu.m. in the case of latter. The Committee desire that as DCI is to conduct a major chunk of dredging operations at Ports in future, a critical study should be made to find out the reasons for the higher costs of the dredging carried out by DCI. They would like to be apprised of the results of such an exercise.

CHAPTER XV

COCHIN PORT

15.1 Cochin Port is an estuarian port situated in the West Coast of India in following latitude and longitude :—

Latitude 10° 23′ North

Longitude 77° 2′ East

15.2 According to the Ministry studies conducted by the Port in conjunction with CW&PRS indicate the annual siltation presently at 6.5 m.cu.m. per annum. The silt is brought through the system of backwaters and rivers and from the sea due to tidal action. The sea bed mainly consisting of soft mud is disturbed by wave action and the loose mud finds its way into the Port channels. Thus the Port waters are prone to heavy siltation.

Capital Dredging

15.3 The draft at the commencement of the first plan was 9.14 metres. In the Sixth Plan, it was improved to 10.7 metres at the cost of Rs. 26.917 crores.

During the 6th and 7th Plan periods capital dredging for Cochin Oil Terminal and fertiliser berth as envisaged in the Ports integrated development scheme was executed by the DCI to the designed draft of 10.7 metres.

Maintenance Dredging

15.4 The draft maintained in the outer channel is 10.7 metres and in the inner channels at 9.14 metres. The information regarding maintenance dredging required and actually done annually during the last ten years, as furnished by the Ministry, is given in the following statement :—

Year	Requirement in million Cu m.	Dredging done in million Cu. m.
1978-79	4.3	3.5
1979-80	5.0	4.8
1980-81	5·0	3.9
1981-82	6.5	6.1
1982-83	6.5	5.4
1983-84	6.5	4.9
1984-85	6·5	6.2
1985-86	6.5	6.1
1986-87	6.5	6.3
1987-88	6·5	5.6

15.5 As regards variations in requirement and actual dredging in some of the years, the Ministry has stated that even though a slight variation is seen between requirement and actual dredging carried out, drafts were maintained at the required level, as all berths were not required simultaneously at prescribed draft. Capital dredging commenced in 1980 and thus the annual requirement of maintenance dredging also considerably increased.

15.6 The budgeted amount and amount actually utilised for maintenance dredging during the last five years has been given below :—

(in Rupees lakhs)

Year	Budgeted amount	Actual amount utilised
1983-84	730	342
1984-85	733	799
1985-86	687	1050
1986-87	1116	959
1987-88	966	911 (Approx.)

15.7 About the steep variation in outlay and expenditure, the Ministry has stated that in 1985-86 amount utilised is far in excess of budgeted figure as pending bills of D.C.I. for the year 1983-84 were settled that year.

15.8 The Committee have been further informed that dredging operations at Cochin Port are conducted both by Ports dredgers as well as by D.C.I. dredgers. The total dredging capacity of the Port was 1.7 m.cu.m. per year. However, with sinking of H.S.D. 'Mattan cherry' in May, 1988 the capacity has been drastically reduced to 0.4 m.cu.m. As the total maintenance dredging requirements of the Port have been of the order of 6.5 m.cu.m. reduction in Port's own capacity has led to its more and more dependence on D.C.I. for meeting a major portion of its requirements. This can be well understood from the comparative figures of dredging done by departmental dredgers and D.C.I. dredgers, as given below :—

Year	Assessed need	Total dredging done		Performance of Port's Dredger fleet	
		D.C.I.	Port	Capacity	Actual Dredging done
1	2	3	4	5	6
1978-79	4·0	2·1	1·4	1·6	1·4
1979-80	5·0	3·2	1·6	1·8	1·6
1980-81	5·0	2·1	1·8	1·8	1·8

1	2	3	4	5	6
1981-82 .	6·5	3·8	2·3	2·1	2·3
1982-83	6·5	3·6	1·8	2·1	1·8
1983-84 .	6·5	2·8	2·1	2·1	
1984-85	6·5	4·6	1·6	1·9	1·6
1985-86	6·5	4·8	1·3	1·9	1·3
1986-87	6·5	4·8	1·5	1 9	1·5
1987-88	6·5	4·3	1·3	1·7	1·3

15.9 During the visit of the Study Group of the Estimates Committee to Cochin Port, they were informed that as far as the Cochin Port was concerned the designed draft of 10.7 metres was available throughout the year. However, during a short period from 18th August, 1988, this draft of 10.7 metres got reduced to 9.75 metres. This was due to the fact that the only suction dredger of the Port had sunk and normally D.C.I. dredgers which were available till end of May every year had due to various reasons been withdrawn in March itself.

15.10 In view of the above the Ministry were asked to state the reasons for withdrawal of dredgers in middle of dredging operations, systematic planning done to avoid these situations and about the adequacy of the Ministry's dredging agency. The Ministry has in a subsequent note stated that it was not correct to say that the dredger was withdrawn in the middle of the dredging operations. The dredger had to report back to Cochin Port in October, 1987 but could not do so due to the pressinng assignment and therefore it reported back after some delay.

The D.C.I. dredgers are deployed in a systematic pattern after mutual consultations between the Port and the DCI. Whenever here are conflicting claims, the Ministry plays a mediating role and decides on the deployment of the dredgers as per the pressing demands of the Ports.

So far as maintenance dredging requirements are concerned except for the requirement of Calcutta Port and occasional post-monsoon peak demands of the Ports in the Western Coast, the DCI can meet the requirements of the Major Ports.

15.11 During the visit of the Study Group of the Estimates Committee to Cochin Port, it was brought to their notice that the cos of dredging undertaken by DCI was cheaper as compared to operational cost Port's own dredgers.

When confronted with this fact the Ministry has stated that the DCI is a specialised agency in dredging and has built up an expertise in dredging over the years. The DCI is having modern efficient dredgers whereas the

Port Trust dredgers are old and of lower capacity requiring more maintenance. These are the main reasons for variation in the operational costs.

15.12 In a subsequent note submitted by the Cochin Port Trust authorities it has been stated that though the Cochin Oil Terminal could receive fully loaded tankers of 1,15,000 D.W.T., due to present depth restrictions dead freighting of ships to carry 60,000 tonnes of cargo was being resorted to. This resulted in an estimated loss of Rs. 12 crores per annum, in terms of freight to oil industry. In order to minimise this loss the consultants to the Port, M/s. Engineers India Ltd., have suggested a programme to deepen the channel. This would entail an expenditure of Rs. 18 crores for capital dredging and Rs. 3 crores for maintenance dredging. According to the Ministry, in view of the loss now being incurred, this additional expenditure on dredging appears to be fully justified.

15.13 When the Ministry were asked to clarify their stand on the above proposal it has been stated that as per the Integrated Development Project of the Cochin Port Trust in which the Cochin Oil Trrminal was developed, a draft of 352 has been provided at the first stage. There is no proposal in the Seventh Five Year Plan to deepen the Port further. A final view on the proposal of dredging of Cochin Port can be taken only after examining the overall financial viability of the project and the resources made available in the 8th Five Year Plan.

15.14 The Committee note that Cochin Port authorities have during the last ten years carried out maintenance dredging to the extent of 538 lakhs cu. m. against a requirement of 595 lakhs cu. m. Due to depth restrictions, Cochin Oil Terminal which can otherwise receive fully loaded tankers of 1,15,000 D.W.T. is resorting to dead freighting of ships to carry 60,000 tonnes of cargo. This is resulting in an estimated loss of Rs. 12 crores per annum, in terms of freight to oil industry. The Port consultants have suggested a programme to deepen the channel. This would entail an expenditure of Rs. 18 crores for capital dredging and Rs. 3 crores year for maintenance dredging.

15.16 The Committee desire that immediate attention should be paid to assess this project, as in the opinion of the Committee, this additional expenditure on dredging appears to be fully justified considering the financial savings in terms of freight to oil industry, which will start accruing once the deepening of the Port is carried out. In fact after an initial investment of Rs. 18 crores and thereafter of Rs. 3 crores annually, a net savings of Rs. 9 crores (Rs. 12 crores—Rs. 3 crores) will start accuring in terms of freight to oil industry.

15.17 The Committee have been informed that operations carried out by DCI dredgers are cheaper than those conducted by Port's own dredgers. The position in Bombay Port depicts an altogether different picture.. It

is worthwhile to conduct a horizontal study regarding maintenance dredging operations at all Major Ports in order to bring about rationalisation in the economics of dredging done by various agencies.

15.18 The Committee will also like to draw the attention of the Ministry to maintenance dredging being undertaken at Cochin Port. While in 1984-85 a sum of Rs. 799 lakhs was spent on dredging 62 lakhs cu. m., in 1986-87 and 1987-88 sum of Rs. 959 lakhs and Rs. 911 lakhs had been spent to dredge 63 lakhs cu. m. and 56 lakhs cu. m. respectively. In the opinion of the Committee even if standard escalations are taken into account such drastic increase cannot take place within a period of 1 to 2 years. They would like the Ministry to conduct detailed investigations into this increase in cost with a view to taking appropriate remedial measures with promptitude.

CHAPTER XVI

NHAVA SHEVA PORT

16.1 Nhava Sheva Port is situated along the eastern shore of Bombay Harbour, opposite the Elephenta Island. The Port is under construction and is envisaged as high technology port providing modern facilities for handling containers and dry bulk traffic. The port is mainly designed to be a satellite port of Bombay port in order to ease out congestion at the latter.

16.2 As the project is under construction, the dredging operations are confined to capital dredging only.

16.3 The Ministry has stated that the work of capital dredging for Nhava Sheva Port Trust involved dredging of about 8.6 m. cu.m. of soil and about 0.46 m. cu. m. of rock at the cost of Rs. 40.4 cu. m.

16.4 Asked about the source of funds for capital dredging works, it has been stated that the capital dredging was done under Dutch assistance programme.

16.5 The Study Group of the Committee have been informed during their visit to Nhava Sheva Port that the project cost had escalated from the original estimate of Rs. 506 crores to Rs. 906 crores. When asked about the reasons for this escalation and the effect of this escalation on dredging component, the Ministry has stated that the increase in costs are mainly due to variation in the foreign exchange component, increase in statutory levies and duties and escalation. About the dredging component it has been stated that it has increased from Rs. 34.02 crores to Rs. 54.57 crores.

16.6 Subsequently, when the Ministry were asked to furnish the total expenditure on capital dredging at Nhava Sheva Port and the exact component of it on account of expenditure on rock dredging, it has been stated that, the total actual expenditure incurred so far on the Capital dredging in Nhava Sheva Port has been Rs. 43,34,34,626. However, certain claims relating to escalation, contingencies etc. have been made by the contractor and the total estimated expenditure will be about Rs. 62.43 crores. The cost component of rock dredging carried out at Nhava Sheva Port is Rs. 10,87,51,958.

16.7 The Ministry were asked why DCI was not awarded this contract of high financial value. During the evidence, the Secretary of the Ministry clarified;

> "The Nhava Sheva Port Project is being financed by external agencies like World Bank, Saudi Development Fund as well as Dutch Government. The dredging component is financed from Dutch aid

as part of Dutch programme. Tenders will be confined to parties in India and Netherlands. There are no restrictions on the number of companies who can give tenders for the contract. They have also imposed a condition that the Indian party who also tenders for the contract should have a dutch party as one of the collaborators. The DCI is the only dredging company in India which has any equipment or experience in taking large scale dredging operation. DCI was the good contractor.

Tender documents were received from nine parties, DCI could not qualify because it could not offer condition that it should have a collaboration with Netherlands. Reason for this stipulation was that DCI did not have the capacity to do it on its own because there were various activities like rock dredging for which DCI was not having equipment. It was necessary for the DCI to get the assistance from a foreign company that can do all aspect of dredging work. And the contract went to the Dutch company."

16.8 When asked to elaborate further the witness stated,

"We were also fully aware of the capability of the DCI. DCI was free to quote along with the other Dutch companies. There was no bar on DCI quoting after getting the collaboration of a Dutch company. Actually DCI did not have the full capability because it involved a lot of rock cutting under the sea. Therefore DCI had to get the assistance or collaboration of another firm. DCI did compete among the various bidders. But it did not satisfy the condition that it should have a collaboration with a Dutch company. Actually they collaborated with some other company which was not a Dutch company. Therefore, the DCI price bid was not considered."

The witness further added,

"At the initial stage when we called for the tender nobody knew who was going to quote. There were ten or twelve Dutch companies having this kind of expertise. DCI could have gone to anyone of them and entered into a collaboration. So till the last moment nobody knew that DCI did not have the Dutch collaboration. So it is not correct to presume that everyone already knew about the DCI's position. In my humble submission it may not be correct to draw the conclusion that there was a pre-determined intention to exclude the DCI or to give the contract to the Dutch company which ultimately got it."

16.9 Asked if efforts were made to enquire into the whole episode, the witness stated,

"Dredging Corporation of India has mentioned that unfortunately they were under the wrong impression that the particular company which they had identified used to be a majority holding Dutch company. I agree that DCI should have taken greater care to know the exact status of this company but that was not properly done by them."

16.10 Asked further as to what action was taken by the Ministry in this regard, it has been stated that the party, with which the Dredging Corporation of India collaborated, was the only dredging company that was interested in entering into a joint venture arrangement with Dredging Corporation of India. Only later it was discovered that they did not satisfy the eligibility conditions. After ascertaining all the facts from Dredging Corporation of India it was not considered necessary to order a separate enquiry.

The Secretary of the Ministry stated during the evidence.

"We found that it was a genuine mistake made by DCI, so we did not take any further action."

16.11 The Committee note that the DCI did not care to verity the credentials of the foreign agencies with which they were trying to contact for collaboration regarding rock dredging at Nhava Sheva Port.

16.12 The Committee have been informed that Nhava Sheva Port Project was scrutinised by Environment and Forest Ministry from environmental and ecological point of views. It has been given a conditional clearance by the said Ministry. When asked to give details of conditions imposed with regard to dredging operations and disposal of dredged spoil the Ministry has stated that these two aspects will be governed by the given below :

"(v) Dredging will be limited for operation and maintenance only. Disposal of dredged material will be done in consultation with Environment Division of Nhava Sheva Port Trust. Such material must not be used for filling up any waterbody.

(vi) No large-scale dumping of wastes shall be undertaken by NSPT without clearance from environmental angle. This is to ensure that marine ecology of the area is not effected by dumping in the marshy lagon/low level areas."

16.13 The Committee note that Nhava Sheva Port is intended to be a state of the art port on Indian scenario. The Committee, however, are distressed to find that the project cost of Nhava Sheva Port Project has escalated from Rs. 506 crores to Rs. 906 crores due to variation in foreign exchange component, increase in levies, duties etc. The Committee are of the opinion that ports are highly capital-intensive projects. Therefore,

meticulous care and adequate vigilance should be exercised for implementation of these projects of huge financial value so that time and cost are overruns are avoided. The planning implementation and monitoring machinery of those projects should be adequately strengthened so that there are no slippages in the execution of the project. The total estimated expenditure on capital dredging at Nhava Sheva Port is about Rs. 62.43 crores and out of this the rock dredging component is Rs. 10.87 crores.

16.14 The D.C.I. also competed among the bidders but did not qualify as it did satisfy the condition that it should have a collaboration with a Dutch company. Due to the omission on the part of the DCI the contract was awarded to a Dutch firm resulting in an out-flow of foreign exchange worth Rs. 51 crores. The Ministry should ensure that instructions are issued to concerned agencies under its control to be very careful while bidding for tenders so that the financial interests of the country are properly secured

16.15 The Committee note that Nhava Sheva Port Project was sanctioned by Ministry of Environment and Forest on the condition that disposal of dredged material will be done in consultation with Environment Division of Nhava Sheva Port Trust (NSPT) and that no large scale dumping of wastes shall be undertaken by NSPT without clearance from environmental angle. They are appreciative of the fact that environmental angle has been duly taken into account before clearing the Nhava Sheva Port Project. In view of pollution hazards which are being faced by sea ports, the Committee consider it as a positive step and hope that the Ministry would give paramount consideration to Environmental angle while considering further expansion of Major Ports and also in undertaking capital and maintenance dredging operations.

NEW DELHI
April 20, 1989
Chaitra , 1911 (*S*)

ASUTOSH LAW,
Chairman,
Estimates Committee.

APPENDIX

Summary of Observations/Recommendations

Sl. No.	Para No.	Recommendations/Observations
1	2	3
1	2.7	The Committee note that capital dredging is undertaken whenever creation of new port facilities or further deepening of existing berths/channels is required and the responsibility to assess the capital dredging requirements rests with the concerned port. They are of the view that so far as capital dredging is concerned it would be desirable to create a specialised central agency equipped with latest survey equipment to assess the overall requirement of capital dredging in the ports in India. They are also dismayed to note that no overall assessment of future requirements of dredging at Major Ports has been done by the Ministry. As stated by the Secretary during the course of evidence, an exercise to assess the quantities of capital dredging is under way. The Committee are of the view that the necessary exercise should be completed expeditiously so that it is possible to have an integrated approach in undertaking capital dredging rather than leaving the problem to ports in isolation. Once the quantum of work to be done is assessed it would be expedient to draw a plan of action and to compute the cost involved in the entire operations. While working out the financial requirements for all the Major Ports for undertaking capital dredging, the employment potential in undertaking the job should also be worked out. They would like to be apprised of future developments in this regard.
2	3.16	The Committee find that siltation at Major Ports is an unavoidable phenomenon and that in order to keep the ports in fully operational state efficient and timely maintenance dredging is extremely essential. It has also come to their notice that normally maintenance dredging operations are carried out by the Port Trusts themselves. The Ports seek advice in this regard from Central Water and Power Research Station, Pune. In so far as facility for 'in house' research and development is concerned only Calcutta Port has its own hydraulic study department where they study their siltation problems.
3	3.17	The Committee consider that the problem of siltation is of huge magnitude and that a consolidated approach is imperative to tackle it effectively. While maintenance dredging is essential to maintain the requisite draft, it is also desirable to undertake adequate preventive measures like resorting to afforestation, plantation, etc. The Committee have been informed that Cochin University has conducted a

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study on the aspect of siltation and its prevention to some extent by plantation/afforestation. It is rather surprising that the Ministry though concurring with the Committee's view on consolidated efforts to tackle this problem has fallen short of initiating serious and meaningful interaction with specialised institutions in this regard. The Committee desire that the Ministry should initiate steps to have interaction with Universities and other such institutions where such studies are being conducted.

3.18 The Committee have noted that maintenance dredging at Major Ports is subject to a policy decision whereby the ports themselves carry out dredging by the side of the berth and in rest of the areas it is undertaken by DCI. The Committee are of the opinion that maintenance dredging should be undertaken by centralised agency after making comprehensive study of requirements of all the Major Ports.

3.19 The Committee regret to note that though the DCI has been in existence for the last more than ten years and has been conducting maintenance dredging operations at almost all the Major Ports yet the Ministry has not made any efforts to make comparative cost study of dredging operations carried out by Ports' dredgers and those by DCI. It is desirable to undertake the necessary study with a view to find out the ultimate solution as to whether the maintenance dredging should be done by the Ports or it should be entrusted to a central agency. The Ministry should conduct a comparative cost study to facilitate a rational solution to the problem.

3.20 The Committee note that expenses on maintenance dredging in all the Major Ports (except Calcutta Port) are met by the Port Trusts by levying port charges on berthing vessels. As opposed to this, in the Ports of certain countries like Belgium, Ireland, Greece, the entire cost of dredging is met by the National Governments.

3.21 The Committee have noted that an Inter Ministerial Group (IMG) has, *inter alia*, recommended financing of capital and maintenance dredging needs of all Major Ports by the central exchequer. The Committee are of the view that the Ministry should examine the recommendations of the IMG in greater depth and take a final decision as to whether the central exchequer should finance both capital and maintenance dredging operations of Major Ports in the country. *Prima facie*, they find no reason why the Government should not do so in view of the fact that the country has a vast coastline with very high stakes in developing international trade. The Committee would like to be apprised of a final decision in the matter.

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8	3.22	The Committee would in this connection pertinently refer to the observations of the late Prime Minister, Smt. Indira Gandhi that degradation and misutilisation of coast lines should be prevented and if the area is vulnerable to erosion, suitable trees and plants should be planted on the sands without marring the beauty of the environs. Pollution from industrial and town waste must also be avoided, as pointed out by her. The Committee desire that the Ministry should study the problem from environmental angle in consultation with the Ministries concerned and take positive steps to translate into action the above observations of the late Prime Minister. The Committee feel that high population growth, unrestrained development and inadequate infrastructure have resulted in decline in the environmental quality of the country's coastline and urgent preventive steps are considered essential to prevent further deterioration in this regard.
9	4.7	The Committee note that 26 out of 32 dredgers have been performing much below their assessed capacities. While agreeing with the Ministry's contention that this may be mainly due to old age of dredgers, requiring frequent repairs and longer maintenance periods, the Committee are of the view that the situation could have been avoided if the Ministry had done some advance planning in this regard in consultation with Major Ports and chalked out a comprehensive plan to phase out the old dredgers by introducing the concept of modernisation in this field of activity. The Committee desire that the needful may be done now and a suitable programme chalked out to replace the old dredgers. While effecting the programme of modernisation adequate care should be taken to standardise the equipments as dredgers also get non-functional due to non-availability of spare parts.
10	4.8	The Committee commend the proposal of Ministry to set up a Dredge Repair Complex at Calcutta which would go a long way in mitigating the problems due to lack of adequate repair facilities within the country. They therefore, desire that work on the proposed complex should be initiated with due promptitude.
11	4.9	The Committee have observed that time and again lack of adequate trained man-power has hampered the execution of dredging operations at Major Ports. This occurs at all stages right from the initial sounding operations, assessment of quantity to be dredged, the actual operations, etc. They feel that in view of the highly technical nature of work it is desirable that a training institute in dredging be established at the earliest. The Committee note that as a preliminary steps a project report is being prepared with Dutch assistance and desire that Ministry should ensure the inclusion of the proposal in the Eighth Plan period so that the modernisation

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		of dredging operation is affected smoothly and there is adequate man-power to handle such operations efficiently. They would like to be apprised of developments in this regard.
12	5.8	The Committee are distressed to observe that there are several cases regarding payment of dredging bills, which are under dispute between the concerned ports and Dredging Corporation of India for a long time.
13	5.9	In the opinion of the Committee the Ministry has not shown any decisive will to sort out the disputes. They see no reason as to why the Ministry under whose control both, the DCI and ports concerned function should not have been able to sort out the disputes and to end, unnecessary wranglings between the parties.
14	5.10	It is disquieting to find that no concrete steps have been taken by the Ministry to settle the long-standing disputes. Regarding Pradip Port where the amount disputed is Rs. 198.00 lakhs the Ministry is stated to be trying to sort out the issue after taking advice from the Ministry of Law. Regarding Visakhapatnam the matter is being referred to an Arbitrator. As for Cochin Port, the Ministry would come into the picture if requested, whereas in the case of Calcutta and Bombay Ports the Ministry's help has not been sought as yet. The Committee are of the opinion that the Ministry should take serious interest in the matter and make concerted efforts to sort out the disputes as all the concerned parties are under the Ministry. The Committee would like to be apprised of the progress in this regard.
15	6.17	The Committee note that Madras Ports is one of the deepest ports in the country and compares favourably with ports of advanced countries. The Committee also note that the port hitherto was self-sufficient in so far as maintenance dredging requirements of the port were concerned. But with the two dredgers Cauvery and Wenlock, having been condemned and the replacement Grab Dredger 'Pride' still to become operational, the Port in order to supplement the efforts of its lone remaining Dredger, Coleroon, had to utilise the services of Dredging Corporation of India. In fact for the period from April, 1988 to September, 1988 the quantum of dredging done by the port dredger was about 7 m. cum. and that by DCI dredgers about 5.5 m. cu.m. The Committee, therefore, desire that the Ministry of Surface Transport should take immediate steps to make the new dredger, Pride, operational so that the Port is able to take care of about 75% of its maintenance dredging requirements.

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16	6.18	The Committee also note that there is a gap of 15,00,000 cum. in the dredging performance and actual programme at Madras Port for the decade, 1978-79 to 1987-88. The Ministry's contention that there is no backlog of dredging requirement at Madras Port cannot thus be accepted. The Committee are of the opinion that maintenance dredging operations should be carried out after proper planning so that there are no substantial variations in the quantity of dredging as programmed and as actually completed.
17	6.19	The deepening of Bharathi Dock to enable it to cater to 1,70,000 D.W.T. vessels, is imperative to maintain India's present position as a leading ore exporter. It is understood that Australia, the main competitor in this regard, has ports which can handle large ore vessels of the capacity of 2,00,000 D.W.T. each. The Committee desire that expeditious steps should be initiated for the deepening of Bharathi Dock so that not only the transportation costs of ore importers are reduced but also the country's position as a leading importer of ore is maintained.
18	6.20	The Committee welcome the decision of the Government to deepen the Bharathi Docks in the Madras Port with Dutch assistance during the Eighth Plan and hope that the project would finally be included in Eighth Plan and implemented at the earliest. They would like to be apprised of further developments in this regard.
19	7.22	The Committee are dismayed to note that both the capital dredging operations undertaken at Mormugao Port have been done without a systematic study. In the first stage due to the wrong assessment of material to be dredged the rates quoted in the tender had to be revised to almost five times from Rs. 4.50 per cu.m. to Rs. 22/- per cu.m.
20	7.23	In the second stage, the project envisaged to be completed in 5 months took 9 months to complete, while only 8.34 lakh M^3 out of 9 lakh M^3 of material was dredged the cost of project escalated from Rs. 234 lakhs to Rs. 247.55 lakhs. The Committee are not convinced by the reasons advanced by the Ministry that the strike of employees of Major Ports from 16-3-84 to 8-4-84 resulted in delay of the execution of the Project. In fact if the work had started as per schedule in November, 1983 it would have been completed to a large extent by middle of March, 1984. The Committee are of the view that to ensure the completion of projects in time and to avoid time and cost over-runs the Ministry should set-up a monitoring cell to monitor dredging operations at Major Ports so that all slippages are rectified with due promptitude.

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21	7.24	The Committee regard to note that like capital dredging the financial planning for maintenance dredging operations has also been unsatisfactory. During the last four years i.e. 1984-85, 85-86, 86-87 and 87-88 against outlays of Rs. 250 lakhs, Rs. 326 lakhs, Rs. 280 lakhs and Rs. 244 lakhs respectively, the actual expenditure have been 244 lakhs, Rs. 222.50 lakhs, Rs. 235.80 lakhs, Rs. 218.65 lakhs respectively.
22	7.25	This situation is indicative of non-utilisation of allocated resources and calls for immediate remedial measures so that the sanctioned outlays are fully utilised and the work is completed according to schedule. The Committee commend that training programme for the survey, technical and operational staff has been arranged and hope that such training programmes would continue in future also to help the staff perform better in the discharge of duties assigned to them.
23	8.22	The Committee are surprised that the Government plans to set-up a grass-root refinery at New Mangalore. This will definitely need augmentation of port facilities and also capital dredging. The Committee urge the Ministry to initiate necessary action regarding deepening of Port and augmentation of port facilities well in time so that whenever the refinery becomes operational, no difficulty is faced by the berthing vessels. Necessary exercise in this regard should be initiated right now so that there is no difficulty when the refinery becomes functional.
24	8.23	The Committee note that the payment done by ports for work done by DCI is on daily rate basis. They are of the opinion that in order to have a proper control over the costs it is imperative that rates should be quoted on cubic metre basis. Necessary action in this regard should be initiated.
25	8.24	The Committee note with concern that a huge backlog has accumulated with regard to dredging at New Mengalore Port. While the Ministry claims that it is to the tune of about 10 lakhs cu.m. the data-furnished by them indicates that during the last ten years out of an estimated quantity of 40.5 lakhs cu.m. only about 23.0 lakhs cu.m. has been actually dredged, leaving a backlog of more than 17 lakhs cu.m.
26	8.25	The Committee would like the Ministry to reconcile the discrepancy and to find out the quantity of dredging required to be undertaken. They are also of the view that it is imperative to have a trained and efficient machinery for conducting surveys so that estimates are made on a realistic and scientific basis.

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27	8.26	The Ministry's plea that dredging shortfalls have resulted due to financial contraints, do not seem to be tenable on account of the fact that during the last five years the outlays provided for maintenance dredging could not be fully utilised. This is indicative of lack of planning and lack of will to achieve the targets.
28	8.27	It is also disquietening to note that no rational link exists between the quantity dredged and the cost incurred for the same. While in 1982-83 a sum of Rs. 231.5 lakhs was spent for dredging about 30 lakhs cu.m. in 1983-84 a lesser quantity i.e. 18.5 lakhs cu.m. was dredged at a higher cost of Rs. 246.6 lakhs. Similarly in 1984-85 a sum of Rs. 336.3 lakhs was incurred in dredging about 33 lakhs cu.m. and in 1985-86, 20 lakhs cu.m. were dredged at the cost of Rs. 394 lakhs. In 1986-87, 31 lakhs cu.m. were dredged for Rs. 366 lakhs. Such variations in cost per cu.m. dredged do not indicate a satisfactory state of affairs and there is an urgent need to analyse critically the reasons for such large variations. A scientific study in this regard is considered imperative so that it is possible to keep proper control over the expenditure incurred on maintenance dredging.
29	9.17	The Committee express their disapproval of the tardy manner in the execution of the first stage development of Tuticorin Port. A project which was to have been completed within five years of its inception in 1969 has still not been completed even after twenty years. The progress of the work has been held up after 31-3-85. During the first stage the dredge level of 10.98 m. was required for creating the draft of 9.14 m. M/s. DCI could not proceed further than 10.20 m. as it found it difficult to complete the work with the equipment available with them. To execute the balance dredging, tenders were floated by the Port authorities in December, 1983. The port on the basis of tenders decided to award the contract to a party. However the Ministry on receipt of some complaints of malfeasance against the said party restrained the port from doing so. Subsequently, in 1986 the Ministry advised the port to take decision on the merits of the case. Again in 1988 the Ministry advised the port to discharge the tenders received in 1983 and invite fresh tenders. The party who was awarded the contract on the basis of 1983 tenders was in the meantime absolved of all the charges by a CBI enquiry and it filed a writ petition in the court thereby stalling any further action in regard to port project.
30	9.18	The original outlay of the project was Rs. 21.76 crores and the revised outlay was Rs. 46.95 crores against which expenditure of Rs. 46.46 crores was incurred upto 31-3-85. The residual work has not been completed because of rocky material being encountered and subsequent court litigations.

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31	9.19	The Committee deprecate that the execution of the above project has been undertaken without proper planning and decisive will to resolve the outstanding issues. There have been time and cost overruns in the execution of the project. While in 1983 the global tenders were floated the Ministry advised the Port Trust not to award the contract to a party. It took another 2 years for the Ministry to advise the Port in 1986 to take a decision on the merits of the case. Disappointingly, after another 2 years in 1988 the Port was advised to discharge the earlier tenders received in 1983; and to invite fresh tenders. This is clearly indicative of the total failure on the part of the Ministry to watch the financial interest of the Port. The advice which was given in 1988 could have been tendered 2 years earlier as there was not perceptible change in the situation during all this period. The Committee cannot help remarking that there was total lack of perception, judgement and objectivity in deciding this case which has seriously jeopardised the financial interests of the Port. They also expect the Ministry to draw a lesson from this bad planning and lack of sound judgement and strengthen their planning implementation and monitoring machinery to properly serve the financial interests of the Government. The Ministry should also take appropriate steps to finally clinch the issue so that the residuary work which is held up since 31-3-85 is completed and the first stage development of the port is completed. They would like to be apprised of further progress in this direction.
32	10.21	The Committee note that for the award of contract of capital dredging at Paradip Port DCI was earlier in reckoning, but ultimately could not secure the Rs. 8.75 crores contract due to inadequate machinery at its disposal. The Committee find it disquietening that a public sector undertaking has been deprived of a contract due to lack of adequate machinery, thereby also resulting in the loss of precious foreign exchange resources. This has happened due to lack of advance planning and monitoring regarding overall dredging operations in the country. This is clearly, indicative of want of a comprehensive monitoring system under one umbrella and systematic and comprehensive planning in regard to dredging requirement in the country. Procurement of dredgers is a capital intensive scheme but considering the fact that lack of dredgers with DCI is leading to more and more projects being awarded to foreign dredging contractors, the Committee consider it imperative that expeditious steps are taken to augment the capacity of DCI. In this connection the Committee would also like the Ministry to explore the possibility of seeking assistance, if necessary, from foreign sources so that future dependence

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		on outside contractors is reduced to barest minimum and loss of precious foreign exchange is minimised.
33	11.21	The Committee find huge disparities in the outlay earmarked and expenditure incurred by the Visakhapatnam Port Authorities, while executing projects relating to deepening of Outer Harbour, New Oil Mooring and Oil Berth. The Ministry has stated that for work at Outer Harbour, the sanctioned estimated quantity to be dredged was revised from 5.8 m. cu. m to 7.99 m. cu.m. which caused an increase of Rs. 150 lakhs. Further, the rates which were revised from Rs. 4.75 per cu.m. to Rs. 15.6 per cu.m. for the work carried out by MOT dredgers accounted for an increase of Rs. 881.39 lakhs. Thus, a project which was estimated at Rs. 364.5 lakhs was completed at a cost of about Rs. 1,396 lakhs.
34	11.22	The Committee will definitely like to be apprised of the reasons which prompted the Ministry to revise its rates by almost 400%. *Prima facie* the increase in the cost does not appear to be justified.
35	11.23	The Committee also note that for work at Oil Berth three different agencies have been involved *viz.* Port's own dredgers, DCI and a private contractor. The Committee find significant variations in the costs of dredging conducted by these agencies. The Committee, therefore, desire that a study be carried out by the Ministry to see the propriety of dredging operations by different agencies to enable it to chalk out future strategy for awarding dredging contracts.
36	11.24	The Committee find that most of the deficiency in maintenance dredging in this Port is due to obsolescence of its dredgers. The Committee feel that it is high time that a plan to modernise the dredging fleet is chalked out by the Ministry. The Committee are of the opinion that as a centralised agency is more suitable for carrying out dredging operations at Major Ports, the Ministry may evolve a policy whereby grab dredgers for alongside dredging should be allocated to various Port Trusts while suction dredgers which are suitable for performing channel dredging should in future be procured by DCI in place of the Port Trusts.
37	11.25	It is understood that for further deepening of Visakhapatnam Port so as to cater to 1,70,000 D.W.T. are carriers, the Ministry has appointed consortium of Japanese companies to prepare a detailed project report. The same group has also evinced interest to fund the project as well. Considering the present resource position of the Government and the urgent need of further deepening the Ports, the Committee feel that the Ministry should make earnest efforts to arrive at an understanding with the foreign agency in this regard. The Committee would like to be apprised of the progress made in this direction.

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38	12.15	The Committee have noted the peculiar position obtaining at Kandla Port. They find that presence of a 'bar' at the entrance to the Kandla creek, is a big drawback in so far as its minimum depth is the controlling factor for the permissible draft for the ships that can enter or leave Kandla Port. They also find that the regime at the mouth of the Kandla creek is unstable. There is considerable bed material in circulation resulting in formation of shoals and consequent shifting of Navigational Channel.
39	12.16	The Committee are unhappy to note that this has resulted in change of navigation channel on no less than 6 occasions since 1955. They are of the opinion that while planning establishment and development of projects which require huge capital expenditunre, the overall financial returns should also be taken into account. In the instant case the Committee do not find that the Ministry had adhered to this principle while taking decision to further develop the port. The Committee also do not find any justification in the Ministry's plea that they are finding it difficult to work out economic internal rate of return and financial internal rate of return of Kandla Port. The Committee feel that the knowledge of returns on any investment is a basic rule of corporate finance and are surprised to find that the Ministry has not taken this in account, particularly when dealing with such a high capital intensive project. The Committee, therefore, desire that the information be compiled so that it is possible to assess the justification or otherwise for further development of the Port.
40	12.17	The Committee note that a surplus dredger of Kandla Port has been handed over to DCI on bare-boat charter and the arrangement is working satisfactorily. The Committee desire that the Ministry should find out if other ports too are having surplus dredging capacity so that similar arrangements are made to further augment the capacity of DCI and to judiciously utilise existing machinery.
41	13.23	The Committee observe that being a riverine port the port of Calcutta/Haldia has its own specific problems in so far as siltation and its consequent dredging is concerned. They find that the Ministry, besides making efforts to tackle the situation by dredging, has also launched river training programmes and is constructing a wall on the bed of the river to control siltation to some extent. The Committee agree with the Ministry's contention that as the Port is based on a 'difficult river', they have yet to evolve effective control measures to arrest the huge amount of siltation taking place at the Port.

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42	13.24	The Committee, however, feel that the Port's performance in regard to capital and maintenance dredging is dismal. At Haldia, while the draft objectives in the approach channel were revised to 12.2 mtrs. in the final stages and were to be achieved by 1977-78, the target has been drastically scaled down to 10.67 mtrs. Lamentably, the actual performance what has been achieved in this regard is a mere 8.5 mtrs. At Calcutta the picture is still gloomier and the realised drafts after conducting dredging operations have never touched the designed draft requirements in all the Seven Plans.
43	13.25	The Committee feel that capital dredging operations at Calcutta/Haldia Port have been handled with extreme casualness and without adequate monitoring of projects. The Port's physical and financial performances have gone haywire in this particular field which is of immense importance for the business of the Port. The Committee desire that intensive efforts should be made to tone up the overall machinery and strict watch should be maintained in future for timely and effective implementation of projects of critical natures, more so in the light of the fact that business at Calcutta Port has become more or less static and is in fact on a downward trend.
44	13.26	The Committee note that 90% of dredging expenditure of Calcutta/Haldia Port is met from Central exchequer. The Committee feel this is all the more reason for the Ministry to have a strict vigil over the financial management of dredging operations at the Port.
45	13.27	In the field of maintenance dredging the track record of Calcutta/Haldia Port is still worse. The Committee are baffled to observe huge disparities in the costs involved in the dredging works undertaken by Calcutta Port itself and that done by DCI dredgers. During the period of last ten years while DCI dredgers with a total assessed capacity of 38.18 m. cu.m. dredged 53.18 m. cu.m. at a cost of Rs. 44.88 crores the Port's dredgers performed dismally and against their assessed capacity of 120.43 m. cu.m. dredged only 78.57 m. cu.m. at a huge cost of Rs. 192.27 crores. The explanation given for this utterly poor performance of the Port's dredgers has not been considered to be satisfactory by the Committee. In the projects of large financial value it is imperative to strengthen planning, implementing and monitoring machinery so that it is possible to achieve desired objectives within the estimated cost. In view of the huge financial value of work involved in maintenance dredging in Calcutta and Haldia it is imperative to have comprehensive review of the expenditure incurred during the last 3 years so as to ascertain whether these were executed efficiently and economically and there was maximisation of resources. The Committee would like the Ministry to ensure close intensive monitoring of such projects by in depth periodical review of

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		progress of projects, close coordination with equipment suppliers, contractors, consultants and other agencies to minimise delays. It is also essential to strengthen research activities in such projects so as to keep abreast with latest technological developments all over the world.
46	13.28	The Committee are also of the view that as far as Calcutta Port is concerned it is imperative to go in for modernisation plan to boost international trade which is going to be containerised. The Committee therefore, urge that high priority should be given to cargo handling and modernisation of Calcutta Port while finalising the proposals for the 8th Plan. They would like to be apprised of further developments in this regard.
47	14.19	The Committee note that the rate of local siltation at Bombay Port becomes very high whenever the depths have increased greatly above the natural depths. The Committee would like the Ministry to conduct technical study to find out the scientific basis of this phenomenon so that further deepening of the Port, as and when undertaken, takes due congnizance of the results of this study.
48	14.20	The Committee deprecate the manner in which financial details regarding capital dredging at Bombay Port have been furnished by the Ministry. The Ministry has stated that information relating to approved outlays during Third, Fourth and Sixth Plans are not available. The Committee desire that in future the Ministry should be more careful in furnishing information to the Parliamentary Committees.
49	14.21	The Committee find that in actual performance also the Bombay Port authorities have acquitted themselves poorly. Draft levels at Pir Pau Chemical Terminal are presently around 5.5 mtrs. as against the required depth of 8.8 mtrs. The Committee are unable to accept the Ministry's explanation that due to less demand in initial stages dredging at the said area was neglected.
50	14.22	The Ministry has not conducted a study to assess the percentage of delays in berthing of ships due to dredging operations. The Committee think that it is desirable to conduct a study to discuss the problems involved with a view to chalk out strategy to avoid delays in berthing which cause considerable loss of revenue to the exchequer.
51	14.23	The Port's maintenance dredging requirement is to the tune of 46 lakhs cu.m. while the actual dredging carried out annually is about 30 lakhs cu.m. This leaves a backlog of 16 lakhs cu.m. every year. The Committee feel that this is an alarming situation and warrants urgent action. The Committee have observed that due to the quantity remaining undredged the tankers arriving at the Port have to wait marginally for suitable rise in tide. The Committee are of the opinion that as similar situations regarding backlog in dredging are obtaining at almost all Major Ports, a study should

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		be conducted by the Ministry to find out extended waiting time imposed on berthing vessels, the financial implications involved and quantity of business lost due to ships not preferring to berth at all, at these Ports due to absence of required depths. The Committee would like to be apprised of the findings of such study.
52	14.24	The Committee have been informed that costs of dredging operations conducted by Ports own dredgers and that done by DCI dredgers are at considerable variance, being Rs. 26/- per cu.m. for the former and Rs. 38/- per cu.m. in the case of latter. The Committee desire that as DCI is to conduct a major chunk of dredging operations at Ports in future, a critical study should be made to find out the reasons for the higher costs of the dredging carried out by DCI. They would like to be apprised of the results of such an exercise.
53	15.14	The Committee note that Cochin Port authorities have during the last ten years carried out maintenance dredging to the extent of 538 lakhs cu.m. against a requirement of 595 lakhs cu.m. Due to depth restrictions, Cochin Oil Terminal which can otherwise receive fully loaded tankers of 1,15,000 D.W.T. is resorting to dead freighting of ships to carry 60,000 tonnes of cargo. This is resulting in an estimated loss of Rs. 12 crores per annum, in terms of freight to oil industry. The Port consultants have suggested a programme to deepen the channel. This would entail an expenditure of Rs. 18 crores for capital dredging and Rs. 3 crores every year for maintenance dredging.
54	15.16	The Committee desire that immediate attention should be paid to assess this project, as in the opinion of the Committee, this additional expenditure on dredging appears to be fully justified considering the financial savings in terms of freight to oil industry, which will start accruing once the deepening of the Port is carried out. In fact after an initial investment of Rs. 18 crores and thereafter of Rs. 3 crores annually, a net savings of Rs. 9 crores (Rs. 12 crores—Rs. 3 crores) will start accruing in terms of freight to oil industry.
55	15.17	The Committee have been informed that operations carried out by DCI dredgers are cheaper than those conducted by Port's own dredgers. The position in Bombay Port depicts an altogether different picture. It is worthwhile to conduct a horizontal study regarding maintenance dredging operations at all Major Ports in order to bring about rationalisation in the economics of dredging done by various agencies.
56	15.18	The Committee will also like to draw the attention of the Ministry to maintenance dredging being undertaken at Cochin Port. While in 1984-85 a sum of Rs. 799 lakhs was spent on dredging 62 lakhs cu.m., in 1986-87 and 1987-88 sum of Rs. 959 lakhs and Rs. 911 lakhs had been spent to dredge 63 lakhs cu.m. and 56 lakhs cu.m. respectively. In the opinion of the Committee even if standard escalations are taken into

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		account such drastic increase cannot take place within a period of 1 to 2 years. They would like the Ministry to conduct detailed investigations into this increase in cost with a view to taking appropriate remedial measures with promptitude.
57	16 13	The Committee note that Nhava Sheva Port is intended to be a state-of-the-art port on Indian scenario. The Committee however, are distressed to find that the project cost of Nhava Sheva Port Project has escalated from Rs. 506 crores to Rs. 906 crores due to variation in foreign exchange component, increase in levies, duties etc. The Committee are of the opinion that ports are highly capital-intensive projects. Therefore, meticulous care and adequate vigilance should be exercised for implementation of these projects of huge financial value so that time and cost overruns are avoided. The planning implementation and monitoring machinery of this project should be adequately strengthened so that there are no slippages in the execution of the project. The total estimated expenditure on capital dredging at Nhava Sheva Port is about Rs. 62.43 crores and out of this the rock dredging component is Rs. 10.87 crores.
58	16.14	The DCI also competed among the bidders but did not qualify as it did not satisfy the condition that it should have a collaboration with a Dutch company. Due to the omission on the part of the DCI the contract was awarded to a Dutch firm resulting in an outflow of foreign exchange worth Rs. 51 crores. The Ministry should ensure that instructions are issued to concerned agencies under its control to be very careful while bidding for tenders so that the financial interests of the country are properly secured.
59	16.15	The Committee note that Nhava Sheva Port Project was sanctioned by Ministry of Environment and Forest on the condition that disposal of dredged material will be done in consultation with Environment Division of Nhava Sheva Port Trust (NSPT) and that no large scale dumping of wastes shall be undertaken by NSPT without clearance from environmental angle. They are appreciative of the fact that environmental angle has been duly taken into account before clearing the Nhava Sheva Port Project. In view of pollution hazards which are being faced by sea ports, the Committee consider it as a positive step and hope that the Ministry would give a paramount consideration to Environmental angle while considering further expansion of Major Ports and also in undertaking capital and maintenance dredging operations.