6 Schemes undertaken

6.1 National Maritime Development Programme

Government of India had formulated the National Maritime Development Programme (NMDP) in 2006 to facilitate enhanced private investment, improve service quality and promote competitiveness amongst the ports. A total of 276 schemes and projects, involving investment of Rs 55804 crore[85] up to 2011-12 were identified under the NMDP to realise the stated objectives. The programme was the first national level Plan for the sector and sought to integrate all major schemes under implementation in the major ports as on 2005-06. It also underscored a policy shift for the business model to be followed by the ports from a 'service model' to a 'landlord model', as explained in Fig 6.1 below:

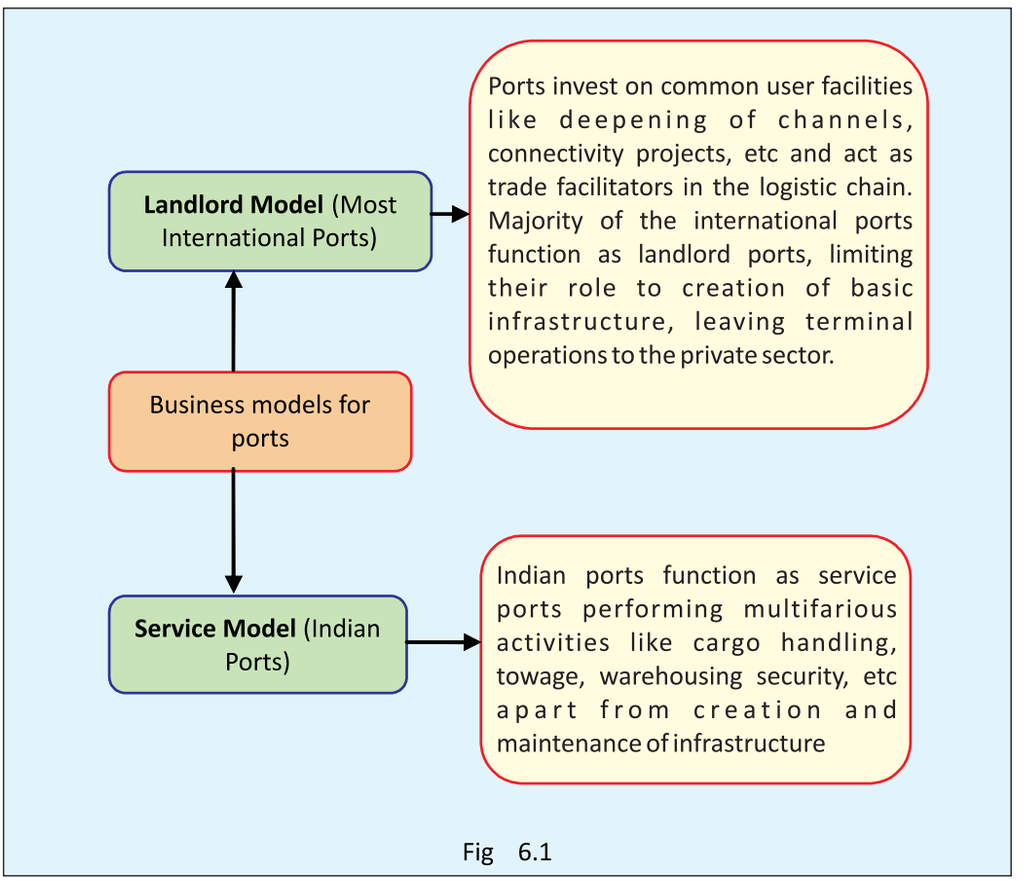


Fig 6.1

The term 'landlord model' had developed gradually in the literature on port development. The advantages cited for adoption of this model for ports included availability of customer-tailored

[85]This included 14 schemes of Ennore Port involving an investment of Rs 6466 crore.

services, inflow of expertise and technology, increased responsiveness to market demands and curbs on cross- subsidization and segmentation of tariff.

NMDP envisaged enhancement of the handling capacity of the major ports from 385 MT in 2004-05 to 755 MT by 2011- 2012, in two phases (2005-09 and 2007-12) as given in Table 6.1 below:

NMDP	No of schemes	Total investment (Rs in crore)	Private funding (Rs in crore)	Share of private funds (in % terms)	Expected capacity rise (in MT)
*Phase-I (05-09)	170	27075	14562	54	230.40
*Phase-II (07-12)	92	22263	14194	64	139.27
Total	262	49338	28756	58	369.67

**Excepting schemes planned for Ennore Port*

Table 6.1

The schemes under NMDP focus on the following major areas (Fig 6.2):

- Deepening of channels/ berths
- Berth construction
- Procurement of equipment,
- Connectivity projects,
- Others.

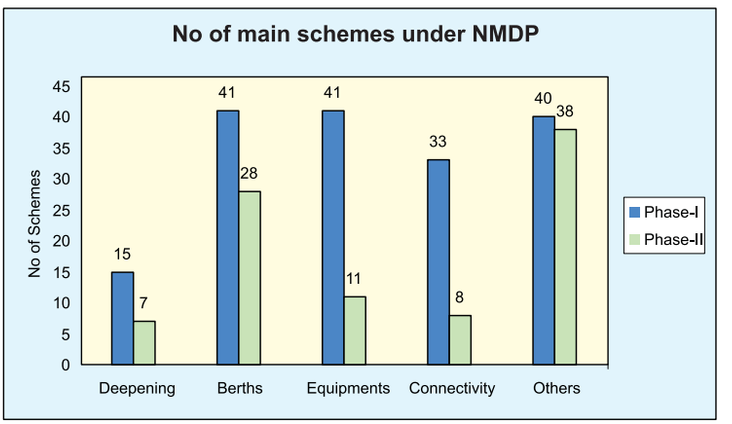


Fig 6.2

In line with the landlord model, the bulk of the public investment was planned to be made on development of common facilities through schemes on deepening and connectivity. Fifty four *per cent* of the investment was planned for construction, upgradation and reconstruction of berths, where private players were expected to play a dominant role under private-public partnership (PPP). It was expected that by the end of Phase-I i.e. by March 2009, an additional capacity of 230 MT would be created[86] to take the total handling capacity in major ports to 616 MT.

[86] Another 139.27 MT of capacity was expected to be added upon completion of Phase-II of NMDP by the end of Phase-II i.e March 2012.

6.2 Status of Implementation

It was observed that only 31 out of 170 schemes constituting only 18 *per cent* of the total schemes envisaged under Phase I of NMDP were completed (Fig 6.3) by March 2009. These were mostly schemes relating to replacement of equipment where the average value of investment was below Rs 50 crore and was within the sanctioning power of the port trust boards.

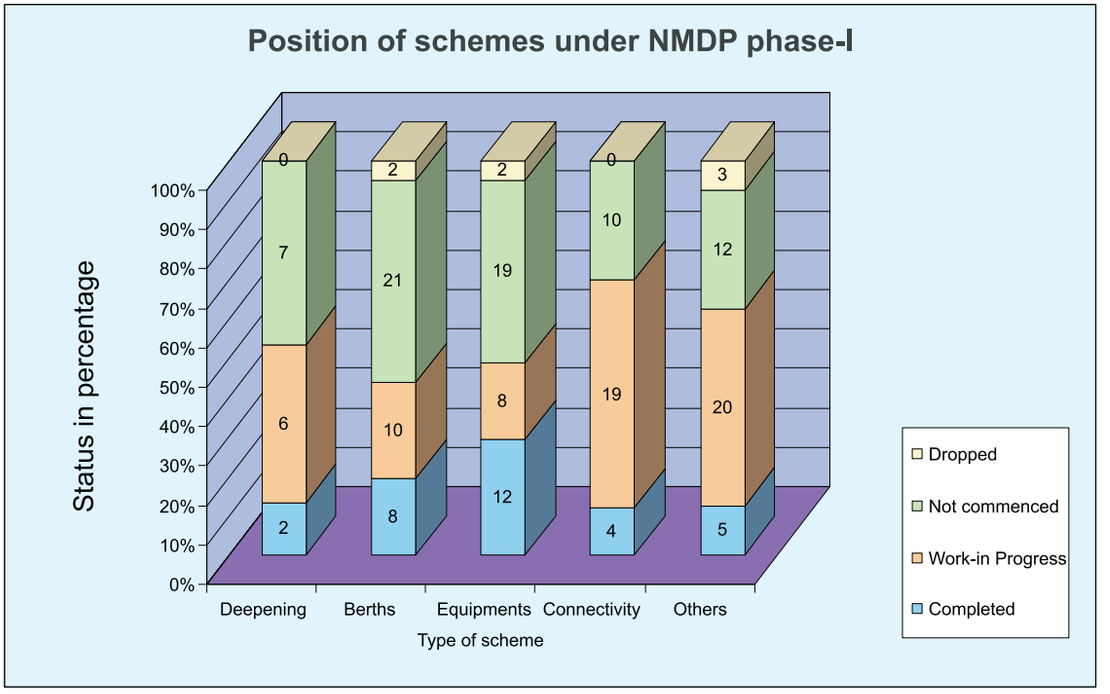


Fig 6.3

The progress of implementation of schemes relating to deepening of channels and construction of berths was dismal. In spite of this, the ports reported (March 2009) a handling capacity addition of 184.57 MT in four years from March 2005 to March 2009, which was 80 *per cent* of that targeted in Phase-I of NMDP.

6.2.1 Delays in execution

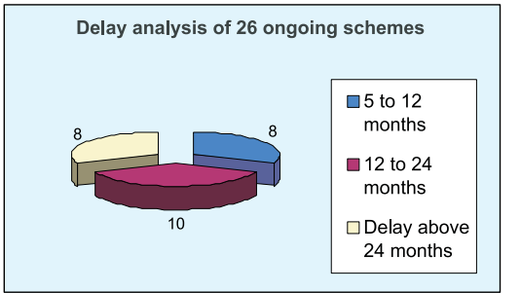


Fig 6.4

An analysis of 26 ongoing schemes (see Fig 6.4) indicated that these schemes were behind schedule during December 2008. Delays in completion of the projects were attributable to factors like delays in approvals of the Ministry, delays in clearances from the Ministry of Environment and Forests (MoEF) and State Pollution Control Boards and delays in tendering and contract procedures.

JNPT had planned 27 schemes (the highest among all ports) to be taken up by March 2009. Out of these, only 11 schemes had been taken up and only five could be completed.

At Mumbai, the NMDP schemes planned for development of berths (through PPP or public investment) could not take off due to reasons shown in the following box:

Berth construction/ upgradation schemes in Mumbai: Rs 1577 crore

i) "Construction of second berth for handling chemicals off Pir Pau pier" (Rs 90 crore with investment from port's and State Government's funds). The aim was to reduce high PBD at the existing chemical berth at New Pir Pau. The construction was still to commence even after 10 years from the original sanction date.

Project	Original sanction date for development by private funds	Cancellation of original tender	Sanction date for development by internal resources	Date of seeking Ministry's approval	Date of sanction by Ministry	Date of cancellation of new tender.	Date of re tendering	Status as of December 2008
Second-chemical berth	November 1999	September 2002	July 2005	April 2006	November 2007	March 2008	October 2008	Tenders pending finalisation
Delays	-	-	33 months	8 months	18 mths	-	6 months	

ii) "Construction of two offshore container terminals (Rs 1228 crore)" through PPP mode. Works were still to commence after 10 years since conception.

Project	Master Plan sanction date	Preparation of detailed feasi-bility report	Target date of commissioning	Delay in invitation and processing of Request for Qualification (RFQ)	Delay in grant of security clearance by Ministry for opening RFPs	Time taken for finalisation of draft licence agreement	Time taken by Ministry to grant approval to port's component of work (about 35%)	Status as of December 2008
Offshore container terminal	January 1999	December 2001	March 2005	36 months	20 months	30 months	15 months	Licence agreement signed in December 2007.

iii) "Reconstruction of quay wall to avoid damage to Hay Bunder": Although construction work was taken up, the contractor abandoned the job after physical progress of 4 *per cent.*

Project	Date of issue of three tenders that were cancelled	Date Cancel-lation of third tender	Final work award Through 4th ten-der	Target date of com-pletion	Date of abandon-ment of work by contractor	Date of approval -termina-tion of contract by port	Physical progress of work	Audit obser-vation
Quay wall	July 2001 July 2003 May 2005	July 2006	Sept 2006	Janu-ary2008	October 2007	October 2008	Four per cent	Inad-equate monitor-ing of the emergency job by the port.

Audit also observed the following deficiencies in other ports:

- Chennai port had planned a total investment of Rs 1597 crore on 10 schemes, targeting a 76 *per cent* addition to its existing capacity of handling 41.2 MT as on March 2005. It was found that none of the projects could be completed within the schedule and the capacity reported by the port at the end of 2007-08 was only 53.35 MT.

- For Mormugao, nine schemes with a total estimate of Rs 573 crore were included in NMDP for capacity addition of 13 MT. Out of these, as of October 2008, only one equipment replacement scheme, involving an expenditure of Rs 33 crore, had been completed. Three critical schemes planned with private investment of Rs 302 crore had not been initiated as of March 2009.

- New Mangalore port planned 14 projects for Phase-I with an investment of Rs 4240 crore including private funding of Rs 3145 crore on eight schemes. It was noticed that till March 2009, two projects involving Rs 190 crore from private funds were in progress and one scheme was dropped. However, five projects involving Rs 2830 crore of private funds were still to be taken up. Out of those, two schemes involving Rs 50 crore private investments were awaiting Government approval.

- The capacity increase envisaged for Tuticorin port during Phase-I of NMDP was 2.25 times of its existing capacity of 15.8 MT in March 2005. Towards this end, 17 schemes were planned for the port. It was noticed that due to delays and non-completion of most of the projects, the port's handling capacity stood at only 20.75 MT, registering a rise of only 25 *per cent* against the ambitious target.

- Visakhapatnam port targeted a capacity addition of 50 *per cent* against its existing capacity of 49.65 MT, with the implementation of 22 schemes under NMDP. Being a port which

handled significant volumes of dry bulk cargo, successful implementation of the schemes on modernization of handling equipment formed a critical prerequisite for its capacity augmentation. It was found that out of five schemes for procurement of equipment under Phase-I, only two could be completed. Out of five railway connectivity schemes envisaged at Visakhapatnam, none could be completed.

The status of schemes planned under Phase-I of NMDP is enclosed in the ***Annexure*** to the report.

6.2.2 Prioritisation among schemes

NMDP acknowledged the limitations of drafts at Indian ports. However, it was observed that only 11 *per cent* of the funds amounting to Rs 2878 crore were envisaged for 15 deepening projects planned in the first phase (Table 6.2).

Status of all major deepening schemes taken up under NMDP phase-I (Rs in crore)

Port (No of Schemes)	Investment planned	Budgetary support	Port's Internal resources	Progress	Remarks
Chennai (1)	143	48	47	68 *per cent* completed	Project cost to be met completely from internal resources.
Cochin (2)	412	189	223	One completed	One scheme of Rs 33 crore completed. 36 *per cent* of the other one completed till 31 March 2009. Government sanctioned Rs 83.93 crore loans for the scheme.
JNPT (1)	800	nil	800	No work	Ministry did not approve the tendered value (being 25% above estimates).
Kandla (1)	136	68	68	In progress	Work-in-progress as on March 2009.
KoPT (1)	385	385	nil	No work	Ministry directed to get the scheme revalidated. Due to delay the revised estimates have crossed Rs 900 crore.
MGPT (1)	65	32	33	No work	Not yet taken up.
NMPT (2)	20	nil	20	One completed	The other scheme is in progress.
Paradip (2)	194.84	143.23	51.61	work in progress	One scheme is in progress.
TPT (1)	450	225	225	No work	Tender under process.
Vizag (3)	273	103	135	One work in progress	Dredging in progress under one scheme. Second scheme at tender stage. Third is to be taken up.

Table 6.2

All the major deepening schemes except the one at JNPT were planned to be executed with budgetary support from the Government to the extent of 34-100 *per cent* as seen from Table 6.2.

Audit observed that none of the critical deepening schemes, planned at seven ports, could be completed during the Phase-I period of the NMDP. The problems were attributed either to decision delays at various stages or non-finalization of tenders. However, the fact that not even a single major scheme had been completed indicated that adequate priority had not been accorded to this category of projects. The situation was similar for connectivity projects[87] where one out of the 11 rail projects, and only three out of 22 road projects could be completed. Problems were attributed to delays in approvals and slow progress on behalf of partner agencies like Railways, NHAI, State governments, etc.

Since deepening schemes aimed at creation and upgradation of common user facilities which were the primary responsibility of ports under the landlord model, non-implementation of these indicated a lackadaisical approach towards the National Maritime Development Policy. The biggest challenge of draft adequacy was not addressed while other related schemes were taken up. For example, at Haldia, where draft availability was the biggest threat and inefficient lock gate operations restricted entry to only eight vessels on an average per day, schemes for addition of berths were taken up without addressing these vital issues. Lack of proper emphasis on deepening schemes resulted in shortfalls in achievement of targeted capacity[88].

The Ministry stated (August 2009) that an Apex committee and an operational committee with representatives of all concerned had been formed for better coordination in the case of connectivity projects.

6.2.3 Non-alignment with the National Plans

Since NMDP had been formulated by taking into account important parameters like vessel sizes, economic growth, national traffic demand and other national projections, taking up of schemes

[87]Implementation delays in connectivity projects and reasons have been discussed in the chapter on port connectivity (Chapter 4).

[88]Targeted capacity: In spite of slow progress on the schemes that were planned, the actual capacity of major ports reported by the Ministry at the end of 2008-09 was 570.07 MT. The reported capacity addition during Phase-I of NMDP was 184.57 MT against the target of 230.40 MT, indicating 80 *per cent* achievement of the target. However, as the actual capacity calculated by ports was based on actual handling that was done and not on any scientific basis depending on the types of berths, types of equipment support, sizes of vessels, etc the actual target achievement in capacity augmentation could have been much lower. The problems inherent in the capacity calculations made by the ports have been separately commented upon in the Chapter on 'Performance indicators'.

by ports other than those envisaged under NMDP, posed a risk of allocation of resources towards projects in a suboptimal manner, in deviation of the national Plan.

It was, however, noticed that the ports were implementing important schemes which were not covered under NMDP as shown in Table 6.3 below:

Ports	No of non-NMDP schemes	Important non-NMDP schemes
KPT	4	Capital dredging at B7-B10- Rs 6 cr Procurement of 3 MHCs-Rs 38.44 cr Improvement of facilities-Rs 20 cr Barge jetty at old Kandla-Rs 10 cr
MbPT	1	Replacement of 4 pilot launches- Rs 19.88 cr
TPT	5	Sethusamudram project-Rs 2233 cr Cargo berth construction-Rs 40 cr Procurement of 3 MVA Captive Power Plant-Rs10 cr
VPT	11	Replacement of dredger-Rs 30.90 cr Replacement of tug-Rs 18.80 cr Berth construction- Rs 34.04 cr Construction of berths on BOT basis Crane procurement-Rs 32.64 cr

Table 6.3

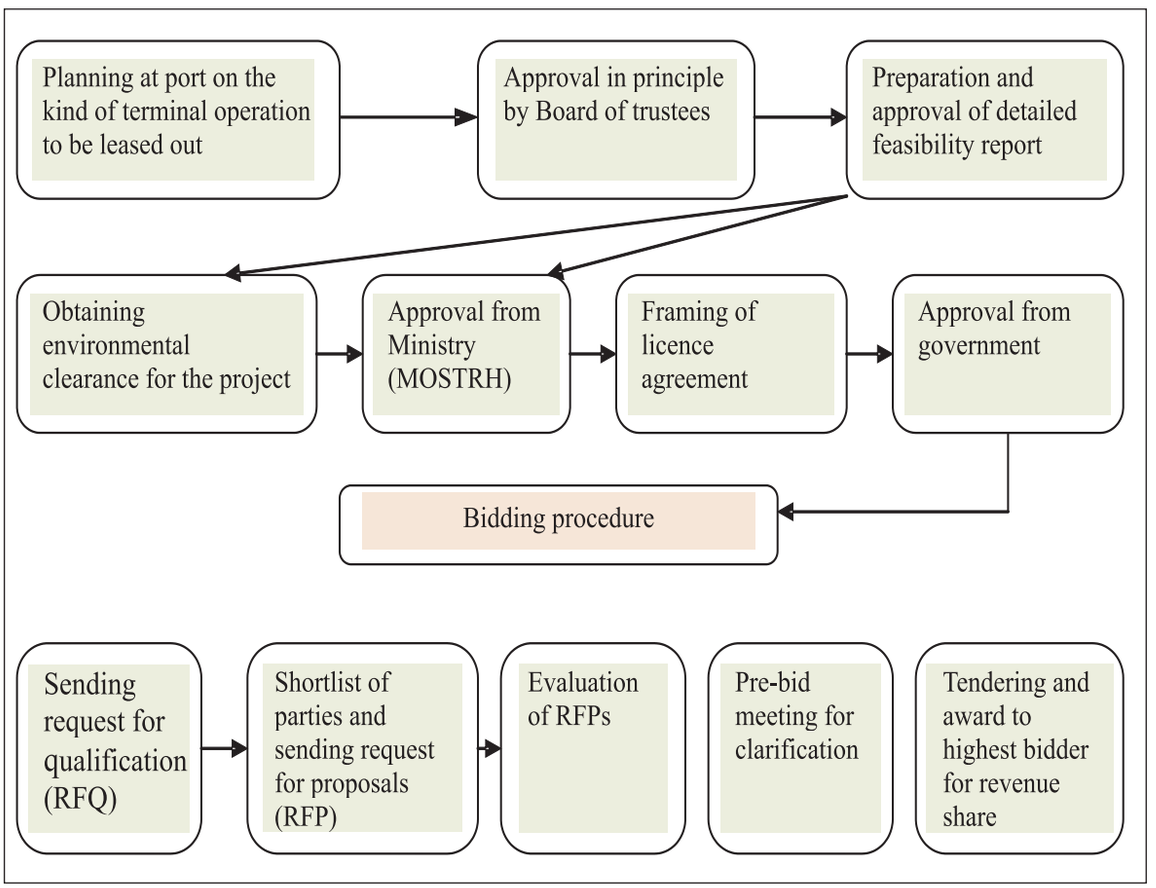
The projects taken up in Chennai under NMDP were based on a policy decision taken earlier (1999) that the port would be developed as a clean cargo port, primarily for handling containers. Dirtier cargo like coal and iron ore were planned to be gradually shifted to Ennore, the only corporatized major port in India located to the north of Chennai. Immediately following this decision, the handling of coal at Chennai showed a declining trend. The port also planned the development of a second container terminal under NMDP Phase-I and a third container terminal during Phase II by converting three existing coal handling berths and the coal stacking yard into a container storage yard. In spite of these development plans, coal handling again began to increase since 2005-06. In disregard of the plans of NMDP, the Chennai port signed (September 2007) a contract for installation of a semi-mechanised coal handling plant at a cost of Rs.42.83 crore and operation and maintenance of the same for five years at a cost of Rs.5 crore. The Management justified the investment stating that even though Ennore port was established in 2001, the entire thermal coal meant for power stations could not be handled there. Therefore, the coal handling at Chennai was on the rise. Thus, the vision of making Chennai port a clean port envisaged in 1999 and agreed to by the consultants, did not materialize. The investment made by the port was not along the lines of its stated long-term plans.

The Ministry stated (August 2009) that NMDP envisaged integration of all schemes for coordinated national development and efforts were being made for timely and coordinated implementation. The fact, however, remained that the schemes were being implemented haphazardly and there was no priority allocation among schemes as mentioned before.

6.3 Privatisation of Commercial Services

Even before the formulation of NMDP, the policy direction of the Government had been towards facilitating privatisation of commercial operations at ports. The Major Port Trust Act, 1963 was also amended in 2000 for the purpose, and the build-operate-transfer (BOT) option, was adopted for operation of terminals as shown below:

Planning of BOT projects at ports



Terminal leases at a glance		
No of terminals awarded to BOT operators	No of terminals in operation	Agreements without minimum guaranteed throughput[89] (MGT)
31	14#	3##
# Six container terminals-at Chennai, Cochin, JNPT, Tuticorin and VPT, two dry bulk berths- at Haldia and Visakhapatnam each and four liquid bulk berths at Chennai, JNPT and Kandla were in operation under lease. Liquid bulk berths were leased out only to PSU oil companies (except an SBM and oil jetty operated by M/s Essar Ltd at Kandla) ## No MGT in agreements for first and second container terminals in Cochin and cargo operation leases at berths EQ8 and EQ9 in Visakha-patnam		

Table 6.4

A number of private terminals were in operation on 30-year lease (except at Cochin and Mumbai) even before the commencement of NMDP. These included container terminals, liquid bulk berths and dry bulk berths. The terminal leases under operation are shown in Table 6.4.

Audit observed that a significant amount of traffic, viz. 70 *per cent* of total container traffic was being handled at the private terminals. During 2007-08, private terminals at Kandla handled more than 31 *per cent* of the liquid bulk handled at the port. Two out of three container terminals at JNPT were being operated on BOT basis, with the latest one, GTICT, commencing operations in 2006-07, as planned under NMDP Phase-I.

As mentioned earlier, the average daily output at private terminals of JNPT during the year 2007-08 was higher than the port-operated terminal by 11 *per cent*, indicating faster handling at the private terminals.

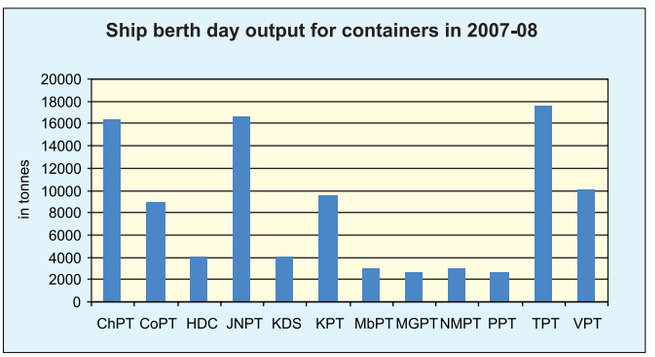


Fig 6.5

Similarly, it was noticed (Figure 6.5) that the output per ship berth day was significantly higher at Chennai JNPT and Tuticorin, where terminals were being operated by private operators. NMDP, in line with the landlord model, had targeted private investment of Rs 14562 crore amounting to 54 *per cent* of the total investment, during Phase-I of NMDP. The projects were in the

[89]The minimum volume of cargo that a BOT operator needs to handle per year at the terminal leased. For any shortfall in achievement of this target, penalty is to be paid by the operator to the port, at prescribed rates. The fixing of MGT is a critical exercise having a long term impact. At the optimum level, the port can ensure a significant revenue flow from the lease and the operator is incentivized to perform efficiently.

nature of leasing out of existing terminals, construction of new terminals on BOT basis, leasing of land for aggregation of cargo or other port related activities etc. Eighty five *per cent* of the private investment of Rs 14562 crore anticipated in Phase-I related to projects envisaged in four ports, viz. Cochin, JNPT, Kandla and New Mangalore.

Although the operation of private terminals had resulted in higher efficiency, only one BOT project among the ones planned in the first phase of NMDP, viz. the second BOT container terminal at JNPT, could be commissioned, although two years behind schedule. The status of other BOT projects is shown in Table 6.5 below

Port	Name of the project	Estimated cost (Rs in crore)	Private funds envisaged (Rs in crore)	Remarks
ChPT	Second container terminal	495	395	Completion delayed due to delay in handing over site by the port.
CoPT	International container trans-shipment terminal	2118	2118	In progress.
KPT	Container terminal at berths,11 and 12	271	155	Phase-I commissioned. Phase-II in progress.
MGPT	Cruise-cum- container terminal	185	82	Yet to be taken up.
MbPT	Offshore container terminal	1228	828	Project still to be completed. Security clearances took 20 months (March 2005 to November 2006). Components to be executed by MbPT yet to be completed.

Table 6.5

Among the BOT projects that were already in operation, Audit noted a number of issues as listed below:

6.3.1 Standards for minimum performance

The contract agreements with BOT operators provided for an MGT clause prescribing minimum expected levels of achievement. To ensure significant long-term revenue flow for the lessor and incentivise high volumes of handling by the lessee, it was imperative that the MGT was to be fixed at an optimal level.

It could not be ascertained in audit whether the actual MGT fixed in BOT agreements were based on accepted standards of performance or upon rough projections.

Port	MGT as per agreement	TEUs as per international benchmark	Actual handling	Achievement above global benchmark
ChPT	500000	880000	1128000	128%
NSICT	550000	660000	1508056	128%
GTICT	350000	783200	1290862	165%

Table 6.6

The BOT operators achieved outputs much higher than the MGT fixed by the ports (Table 6.6). This indicated that the ports had fixed very low targets.

In the case of a container terminal agreement signed by Chennai port in 2001-02, the port had recommended the UK benchmark for minimum throughput of 1500 TEUs per metre quay length for the operator, viz. Chennai Container Terminal Limited (CCTL). However, during finalization of the agreement, the minimum throughput fixed for the operator was fixed much below the benchmark at 1100 TEUs per metre quay length.

6.3.2 Shortcomings in BOT agreements

It was found that the concession agreements that the ports entered into varied widely, leaving scope for interpretation. An illustrative case study is given below:

Case study on standardization of clauses in BOT agreements:

Chennai port signed a BOT agreement for operation of a container terminal with M/s CCTL in 2001-02. Cochin port entered into a similar agreement with M/s Dubai Ports International in January 2005, following the commencement of NMDP. It was found that the agreements were very different and the Chennai agreement ensured much higher commitments from the operator than the Cochin agreement.

Chennai CCTL agreement	Cochin IGTPL agreement
Huge investment (US$50M) by the licensee, including state- of -the -art equipment.	**No such clause**
Clear performance parametres and MGT Develop Chennai as a hub port. Ensure calls from mainline vessels within 3 years. Minimum throughput to be contributed by non-transshipment traffic. Continuous failure for a period of 3 years to attract termination. Pay compensation for shortfall.	**No clear performance clause, MGT** Provide project facilities capable of handling mainline vessels. Endeavour to handle them from the second year of commercial operation. No minimum throughput. No compensation for shortfall.
No liability of port on account of power commitments In the event of disruption of power supply or breakdown in supply of power for any reasons whatsoever or for a planned maintenance shut down, no compensation whatsoever to be paid by licensor for any loss or damages.	**Power commitments underwritten by the port** Licensor to provide power supply. In the event of disruption of power/water supply for reasons attributable to the licensor only, the licensee to be compensated by the licensor for any direct loss or damage.

Clear Royalty payment clause – Licensee to pay the licensor 37.128 *per cent* of all revenue earned from operation, storage recovered/ charged from users. No deferment in payment of royalty. For delays interest @ 2 *per cent* month from the due date till the date of payment or realization, to be paid.	**Conservative clause for payment of royalty** Royalty per month to be equivalent of 33.30 *per cent* of the gross revenue. Gross revenue not to include income from interest, sale of assets, penalties or charges for delay not notified in the SOR, expenses incurred by licensee for providing services etc. Twenty five *per cent* of the royalty payable for each year to be deferred and to become payable in the start of the ninth year. Low interest on delayed payments.
Performance Security Licensee to provide the licensor with an irrevocable and unconditional performance security for an amount equal to the estimated revenue based on guaranteed traffic on the date of commercial operations and at the beginning of each succeeding year of operation.	**No Performance Security** Instead of performance security, a bank guarantee for Rs 10 crore for due performance of its obligations during the operations phase at RGCT and/or construction phase at ICTT and periodic renewal of the same to keep it valid until expiry of 3 months from the date of commercial operations.

As the performance incentives under the Cochin agreement were weaker, it was found that its efficiency in handling containers was also much lower compared to any other container terminals in India. Further, the vessels visiting the port faced high congestion due to delays in handling containers following frequent failures of cranes.

The number of container ships visiting Cochin's container terminal registered a decline as shown in Figure 6.6 below:

It was found that the operator had not installed any modern equipment to improve efficiency in cargo handling. The users of the port also reported that the existing equipment was insufficient to meet the present and future requirements. The business plan of Cochin port envisaged handling of containers in excess of three lakh TEU's per year. For meeting this target, the terminal area needed to be expanded along with addition of one more berth. Although the agreement provided for such initiatives to be undertaken by the operator, such actions were not undertaken. The MGT clause which could have driven the party to install better equipment and improve performance was not there in the agreement. Moreover, the licensee was also protected by the absence of penalty clauses.

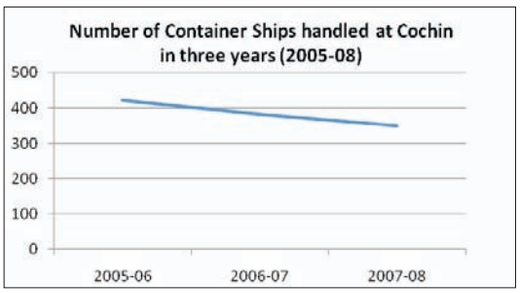


Fig 6.6

During the exit conference (June 2009), the Ministry agreed to the observation on shortcomings in BOT agreements, leaving scope for interpretation. It was pointed out that a model concession agreement (MCA) had been framed and circulated among ports and its effectiveness would have to be monitored.

Recommendations

- *The Ministry should formulate a clear time schedule for all stages of schemes and concerted efforts should be made to implement these schemes in a time-bound manner.*
- *Planning by individual ports should be aligned to NMDP, which is a national Plan document. Integration with other national Plans like that of the Railways and National Highways Authority of India should also be considered.*
- *While framing BOT agreements, performance benchmarks need to be fixed as per identified best practices. The Ministry should play an active role in identification of such best practices.*
- *Considering the number of high value schemes planned for the ports and their criticality to capacity augmentation, the delegation of financial powers at the level of port is low and needs to be reviewed, to enable faster implementation.*

(L.V. Sudhir Kumar)
Dated : 21 January, 2010 Principal Director of Audit (Central), Kolkata

Countersigned

New Delhi **(VINOD RAI)**
Dated : 25 January, 2010 Comptroller and Auditor General of India