

**MINISTRY OF SHIPPING ROAD TRANSPORT AND  
HIGHWAYS**

**CHAPTER VIII**

**Inland Waterways Authority of India**

**Working of the Authority**

**Highlights**

- Inland Waterways Authority of India (Authority) was not able to fully utilise the funds sanctioned by the Government for development of National waterways. It did not prepare a time bound and an integrated plan for development of each National waterway so that performance against targets could be monitored at each stage.

*(Paras 8.2.1, 8.2.2 and 8.2.3)*

- The Authority could not dredge the assessed quantities in the three National waterways which was crucial to the development of navigational channels. As a result the least available depth of two metre could not be consistently and contiguously maintained on all the stretches in the three National waterways. The dredgers procured by the Authority at a cost of Rs.44.02 crore were underutilised. The underutilisation ranged from 84 *per cent* to 99 *per cent* in respect of four cutter suction dredgers and 84 *per cent* to 94 *per cent* in the case two hydraulic surface dredgers during 2006-07.

*(Para 8.3.1.1)*

- The night navigational aids provided by the Authority at a cost of Rs.4.92 crore were unreliable. Moreover, there was no movement of vessels on the channels at night due to problem in providing contiguous channel of navigable depth thereby rendering the expenditure unfruitful.

*(Para 8.3.2)*

- The provision of infrastructural facilities on the three National waterways was not linked with the development of navigational channels, availability of cargo and movement of vessels. As a result, the benefits of terminals constructed/under construction at the cost of Rs.133.87 crore could not be availed of.

*(Para 8.4)*

- Mechanical handling equipment and hydraulic cranes costing Rs.13.34 crore procured in some cases before construction of terminals and development of navigational channel were lying unused since 2005-06.

*(Paras 8.4.1.2, 8.4.4.1 and 8.4.5.1)*

- The procurement of cargo vessels at a cost of Rs.19.79 crore was in contravention of the objectives of the Authority. The vessels procured were underutilised and there was under recovery of Rs.67.93 lakh (fuel and crew salary) during 2006-07 in addition to indirect and overhead costs.

*(Para 8.5.1)*

- The Authority failed to capitalise on the Government's directive reserving five *per cent* of annual cargo moved by public sector undertakings during 1998-99 and 1999-2000 for transportation by inland waterways as the Authority could not provide waterways for consistent and smooth vessel operations. NTPC Limited expressed interest in transporting the coal and furnace oil procured by it via the National waterways but did not formalise the arrangements as it doubted the Authority's ability to maintain sufficient water depth round the year.

*(Paras 8.5.2.2 and 8.5.2.3)*

- Despite the Inland Water Transport Policy of Government of India, the Authority failed to identify projects for public private participation in development of waterways, water based recreational facilities, or tourism related activities.

*(Para 8.6.1)*

- The Authority had not prepared works manual, manuals on accounting system and internal audit. The Authority had not established a robust Management Information System for monitoring and review purposes.

*(Para 8.7)*

### *Summary of Recommendations*

1. *The Authority should define staff accountabilities for appropriate and timely utilisation of funds allotted and received for development of waterways against a well formulated long and short term integrated plan for overall development of the waterways. It should rigorously conduct periodical review on the creation of infrastructure and its optimum usage. (If considered necessary an independent agency may be contracted to conduct survey on the potential and usage of facilities created/built by the Authority).*
2. *The Authority should formulate an annual and a rolling plan with benchmarks and milestones to ensure that permanent/semi permanent measures are adopted for river conservancy to reduce recurring annual expenditure on bandalling, channel marking, dredging, etc., and the plan should be reviewed and monitored at the highest level in the Authority. It should be ensured that capital dredging is achieved and maintained at the required dimension of the navigational channels. Modern, dependable and permanent night navigation systems are installed in a time bound phased manner.*
3. *The Authority should ensure that all the project activities are synchronised so that there is no idling of facilities created due to non-completion of related activities. Permanent jetties should be constructed only at terminals where it is systematically assessed that there is/would be in an estimated time span, sufficient cargo for optimum utilisation. In other places the option of floating jetties should be considered.*

4. *The Authority should identify and assess the potential for projects for private sector participation for development and utilisation of facilities on the National waterways for water based recreation activities. It should identify specific items or cargo which could be targeted for being transported through National waterways and establish procedures and facilities to operationalise the handling of the identified cargo/loads.*
5. *The Authority should ensure that the Internal Audit functions independently and reports its findings directly to the chief executive and Accounting /Auditing manual are prepared early and systems are established and staff accountabilities defined for a comprehensive Management Information System and monitoring of selected performance and status reports at appropriate management levels..*
6. *The Authority should ensure that mobilisation advance are interest bearing as per guidelines of Central Vigilance Commission and the obsolete inventories are reviewed and segregated for appropriate disposal.*

#### 8.1.1 Introduction

Inland Water Transport (IWT) is a cost effective, fuel-efficient and a more environment friendly mode of transport. The share of inland water transport in the total cargo split as per the 2007 data<sup>1</sup> was one billion ton km (btkm) constituting 0.28 per cent of the total cargo in India as compared to 15 per cent each in France, USA and 9 per cent in China. While the share of cargo transported by road increased ten fold from 58.5 btkm in 1966 to 567 btkm in 1991, and that by rail from 117 btkm to 250 btkm during the same period, the share of IWT remained almost stagnant at about one btkm. Since inception of the Five Year Plan commencing from 1951-56, the expenditure incurred on the IWT sector was as under:

**Table-8.1**

(Rs. in crore)

Five Year Plan	Outlay for Transport Sector	Outlay for IWT	Expenditure for IWT
1 <sup>st</sup> 1951-56	504	0	0
2 <sup>nd</sup> 1956-61	1,299	0	0
3 <sup>rd</sup> 1961-66	1,395	6	NA
4 <sup>th</sup> 1969-74	2,571	12	11
5 <sup>th</sup> 1974-79	5,420	32	16
6 <sup>th</sup> 1980-85	12,080	72	63
7 <sup>th</sup> 1985-90	22,644	226	188
8 <sup>th</sup> 1992-97	56,090	331	152
9 <sup>th</sup> 1997-02	1,24,188	308	147
10 <sup>th</sup> 2002-07	1,48,351	903	384 (IWAI only)

#### 8.1.2 Formation of the Authority

On the recommendation of the National Transport Policy Committee (NTPC) in 1980, the Inland Waterways Authority of India (Authority) was formed on 27 October 1986 under the IWAI Act, 1985 to regulate and develop the inland waterways in the country for shipping and navigation. The Authority took over assets and liabilities of the erstwhile

<sup>1</sup> Source: Report of the Working Group constituted by the Planning Commission on Inland Water Transport for 11<sup>th</sup> five year plan.

Inland Water Transport Directorate. It is working under the administrative control of the Ministry of Shipping, Road Transport and Highways.

Based on hydrographic surveys, techno-economic feasibility studies and the principles recommended by NTPC, the following three waterways were declared as National Waterways (NW).

**Table-8.2**

Sl. No.	NW	Name of the river	Date of declaration as NW	No. of stretches
1.	NW1	Ganga-Bhagirathi-Hooghly river between Sagar island and Allahabad - 1620 Km	October 1986	36
2.	NW2	River Brahmaputra between Dhubri and Sadiya - 891 Km	September 1988	33
3.	NW3	Kollam-Kottapuram stretch of West Coast Canal and Champakkara and Udyogmandal canals – 205 Km	February 1993	11

### **8.1.3 Functions of the Authority**

The main functions of the Authority are to:

- carry out surveys and investigations and prepare schemes for the development, maintenance and better utilisation of the National waterways and appurtenant land for shipping and navigation;
- provide or permit setting up of infrastructure facilities for National waterways;
- carry out conservancy measures and training works and do all other acts necessary for the safety and convenience of shipping, navigation and improvement of the National waterways;
- study the transport requirement with a view to co-ordinate inland water transport with other modes of transport;
- lay down standards for classification of inland waterways; and
- conduct research in matters relating to IWT and arrange training for IWT personnel.

### **8.1.4 Audit objectives**

The performance audit was carried out to assess:

- the adequacy of development and maintenance of inland waterways;
- the adequacy of infrastructure facilities provided in inland waterways;
- the utilisation of various assets procured by the Authority; and
- effectiveness of the internal control and accountability mechanisms in safeguarding the financial interests of the Authority.

### **8.1.5 Scope of Audit**

The performance audit of the Authority covered the period from 2002-03 to 2006-07. The records of the Authority were examined at Head Office and Regional offices at Kochi, Patna and Kolkata.

### 8.1.6 Audit criteria

The targets laid down in the respective Detailed Project Reports (DPRs), recommendations of the various working groups set up for the Five Year Plans, techno-economic studies and research papers were taken into account for evaluation of the performance and achievements of the Authority.

### 8.1.7 Audit methodology

The audit programme and objectives were discussed at the entry conference held with the Authority on 15 May 2007. Audit was conducted during the period from May 2007 to September 2007. The Authority's replies to the audit observations were received during October 2007 and November 2007. Exit conference was held on 11 January 2008.

### 8.1.8 Acknowledgement

The cooperation of the Authority in the course of audit and during the meeting is thankfully acknowledged.

## 8.2. Planning and utilisation of funds allotted

### 8.2.1 Planning for utilisation of grants

At present the Authority does not have its own source of revenue generation and is dependent on annual budgetary grants received from the Government of India.

The projections, allocations, budget estimates and utilisation of the funds during the last three Five Year Plans were as under:-

**Table-8.3**

(Rs. in crore)

Plan	Projections as per Working Group	Allocations approved by Planning Commission	Budget allotted by Government	Grants received by the Authority (Plan and non-Plan)	Actual expenditure by the Authority	Average expenditure per annum	Percentage of budget allotted to allocation by the Planning Commission	Percentage of Grants received by the Authority to budget allocation
8 <sup>th</sup> Plan (1992 - 1997)	492.69	139.35	53.80	38.47	34.69	7	39	71
9 <sup>th</sup> Plan (1997 - 2002)	1701.00	308.00	205.38	164.59	151.01	30	67	80
10 <sup>th</sup> Plan (2002-2007)	5447.70	626.73	559.14	390.67	383.54	77	89	70

The Authority was required to submit proposals to the Ministry for release of budget allotted by the Government. Audit observed that the Authority could draw only between

70 to 80 *per cent* of the grants budgeted by the Ministry during the 8<sup>th</sup>, 9<sup>th</sup> and 10<sup>th</sup> five year plans. The budgets allotted by the Ministry were always less than the allocations approved by the Planning Commission for the Authority. The gap between the allocations approved by the Planning Commission and the budget allotted by the Ministry increased from 39 *per cent* in the 8<sup>th</sup> five year plan to 89 *per cent* in the 10<sup>th</sup> plan.

### **8.2.2 Preparation of Detailed Project Reports (DPR)**

Preparation of DPRs is the primary requirement to ensure a time bound and systematic development of a project. It was observed in audit that there was no DPR prepared for the Ganga-Bhagirathi-Hooghly river system when it was declared as NW1 earlier by the Inland Water Transport Directorate or subsequently by the Authority. This omission should be viewed in the light of the fact that of the three National waterways, NW1 had the maximum potential as the waterway, is the longest, passes through highly populous and industrialised regions in the country, and there was greater connectivity of the waterway with rail and road networks. DPRs for NW2 and NW3 were prepared by the Authority in 1990 and 1992, respectively.

Audit observed that the Authority did not prepare an integrated plan for development of each National waterway incorporating all aspects with milestones and fitted into a target based time frame so that performance against the targets could be measured at each stage. It did not follow a logical sequence of development and instead formulated individual development projects for sanction of the Board of Directors and the Ministry. No review was conducted by the Ministry on the creation and usage of infrastructure and the performance of the Authority was measured by the utilisation of the grants which resulted in an unbalanced development of the waterways as discussed in the succeeding paragraphs.

### **8.2.3 Spending pattern**

Audit observed that in the first 10 years (from 1986-87 to 1995-96) there was no significant activity in development of waterways. Out of the total expenditure of Rs.67.61 crore incurred in the first 10 years of the Authority, Rs.45.81 crore was spent as revenue expenditure. Of Rs.21.80 crore spent on acquiring fixed assets, except for one dredger unit procured in 1988-89 for Rs.7.98 crore for NW1 at Patna, all other assets like vehicles, furniture and other office equipment were establishment related. There was no significant developmental activity on any National waterway during these 10 years.

Out of the total expenditure of Rs.615.95 crore incurred upto 31 March 2007, Rs.335.81 crore (54.52 *per cent*) was spent on acquisition of assets<sup>2</sup> and Rs.280.14 crore (45.48 *per cent*) on pay and allowances, administrative expenses and other recurring river conservancy works such as bandalling and dredging. The major components of capital expenditure were construction of terminals including cost of land (Rs.169.50 crore), vessels (Rs.31.25 crore), dredgers (Rs.48.63 crore), barges (Rs.17.54 crore), cranes (Rs.8.98 crore) and survey equipments (Rs.6.62 crore). Audit analysis revealed that except for a small amount of Rs.7.35 crore spent on bank protection in NW3, minimal capital works on bank protection, river training and reduction of silt carried by the water were undertaken for permanent development of navigational channels. Of Rs.169.50 crore spent on terminals, the benefit of terminals constructed/under construction at

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<sup>2</sup> includes Rs.84.56 crore for capital work-in-progress and Rs.78.38 crore as advances for capital works.

Rs.133.87 crore (excluding cost of land) could not be availed due to non-development of National waterways as discussed in para 8.4.

**Recommendation No. 8.1**

**The Authority should**

- (i) *define staff accountabilities for appropriate and timely utilisation of funds allotted and received for development of waterways against a well formulated long and short term integrated plan for overall development of the waterways; and*
- (ii) *rigorously conduct periodical review on the creation of infrastructure and its optimum usage. (If considered necessary an independent agency may be contracted to conduct survey on the potential and usage of facilities created/built by the Authority).*

**8.3 Development of waterways**

The basic requirements for development of waterways were to:

- (a) prepare fairway or navigational channel with desired width and depth; and
- (b) provide navigational aids for safe day and night navigation.

The minimum dimensions to be achieved for the three waterways were as under:-

**Table-8.4**

Sl No	Name of the waterway	Length (in km)	No. of stretches	Minimum Dimensions (in metres) <sup>3</sup>	
				Width	Depth
1.	NW 1	1620	36	45	2
2.	NW2	891	33		
3.	NW 3	205	11	32/38	2

**8.3.1 Development of navigational channels**

NW1 and 2 are typical alluvial rivers with characteristics of braiding, meandering and high barge level fluctuation (both horizontal and vertical) between summer and monsoon months. On these rivers, several shallow areas (shoals) come up during low water season and the Authority was undertaking river conservancy works every year without finding any permanent solution. NW3 on the other hand is a tidal canal with predictable and uniform tidal variation. On this waterway once the desired depth is provided by capital dredging it can be maintained for number of years by undertaking nominal maintenance dredging.

As against the assessments made by the Authority, Audit observed that the progress of work was either very slow or non-existent as discussed below:

**8.3.1.1 Achievement of dredging targets**

The Authority assessed (year 2000) that 15 lakh cubic metres and 14 lakh cubic metres had to be dredged in NW1 and NW2 waterways, respectively and as per DPR of NW3,

<sup>3</sup> Based on National Transport Policy Committee criteria.

37.30 lakh cubic metres was required to be dredged to make the three waterways operational, apart from periodic dredging required to maintain the desired depths. As against these targets, 1.56 lakh cubic metres, 0.54 lakh cubic metres and 22.20 lakh cubic metres were dredged in NW1, NW2 and NW3, respectively by March 2007.

Reasons for slow progress of dredging analysed in audit were as under:

**(i) *Delay in procurement of dredging equipment and under utilisation of available equipment***

The Authority was to undertake departmentally the dredging work on NW1 and NW2 as it received no suitable response to the tenders floated by it. For this purpose, the Authority assessed (2000) requirement for 20 Cutter Suction Dredgers (CSDs) and four Hydraulic Suction Dredgers (HSDs), in addition to four CSDs and two HSDs available with it for departmental dredging in NW1 and NW2. The Authority took six years to finalise the proposal (September 2006) for procurement of six CSDs (against a requirement of 20 CSDs) at a cost of Rs.113.44 crore for approval of Ministry. Between 2000 and 2006, the cost of the six dredgers increased by 56.08 *per cent*. The Ministry's approval was still awaited (October 2007). No proposal for procurement of HSDs was initiated by the Authority till date (October 2007). Consequently, the work of dredging could not be completed to any significant extent.

The capacity utilisation<sup>4</sup> of two HSDs available with the Authority, one each at Patna<sup>5</sup> and Guwahati<sup>6</sup> was 8.40 and 15.50 *per cent* and 1.51 and 5.62 *per cent* during 2005-06 and 2006-07, respectively. The capacity utilisation in respect of four CSDs ranged between 1.25 to 15.83 *per cent* in these two years. The Authority failed to fully utilise the dredgers on which it spent Rs.44.02 crore. As per the DPR (1990) for NW2, the first and second phase of fairway development were to be completed by May 1997, but the Authority did not carry out any work in this regard. No dredging was done during the period September 1988 to March 2000 due to non-availability of dredgers. Dredging in this waterway was started only in 2001-02 by diverting dredgers from NW1.

**(ii) *Delay in award of dredging contracts***

In the case of NW3, though the State Government had already completed the fairway development of Udyogmandal and Chamapakkara canals alongwith bank protection before its declaration as National waterway, Audit observed that the Authority did not initiate the procedure for award of contracts for dredging in time to meet the targets set in the DPR for the remaining stretches of the west coast canal. As per the DPR, the section between Kochi port and Kollam (138 km) involving a dredging quantity of 28.90 lakh cubic metres was to be completed in first phase in 1994-95. The section between Kottapuram and Kochi port with a length of 30 km and involving a dredging quantity of about 8.40 lakh cubic metres was to be completed in second phase in 1999-2000. However, there was no capital dredging for the development of NW3 from February 1993 to February 1998. The Authority awarded contracts for capital dredging between Kochi port and Kollam only in March 1998 and Kottapuram and Kochi port in September 2002. The contract for widening of canal (5.58 lakh cubic metres) was yet to be awarded (March 2007).

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<sup>4</sup> *The utilisation statistics are combined for NW1 and NW2.*

<sup>5</sup> *NW1*

<sup>6</sup> *NW2*

As per contracts for five stretches<sup>7</sup> between Kochi Port and Kottapuram awarded in March 1998, the capital dredging was to be completed between September 1998 and June 2003. However, dredging in only one stretch (Kochi-Allaphuza) was completed in June 2000 and no dredging has been completed thereafter as the contractors left the works on one pretext or the other. The Authority plans to re-award the works at an additional cost of Rs.7.48 crore at the risk and cost of the original contractors. The cases were under arbitration (September 2007).

### 8.3.1.2 Ensuring least available depth

To ensure navigability in the channels, a least available depth (LAD) of 2 metres was to be provided round the year. It was observed in Audit that even after spending Rs.60.36 crore<sup>8</sup> on bandalling, dredging and channel marking from 1986-87 to 2006-07, the Authority was not able to maintain the LAD of two metre consistently and contiguously in 2006-07 on all the stretches of three NWs as detailed below:-

**Table-8.5**

Waterway No	Total no. of stretches in Waterway	No. of days in 2006-07 on which two metre LAD was available			
		0-90 days	91 to 210 days	211 -329 days	330-360 days*
NW1	36	10	4	3	19 (53)
NW2	33	4	1	2	26 (79)
NW3	11	8	0	1	2 (18)

\*Figures in brackets give percentage of all year round availability.

Due to inconsistent depths, lack of contiguity and poor channel marking, the Authority had to provide piloting facilities to the cargo vessels moving in the channels.

### 8.3.1.3 River conservancy works in NW1 and NW2

While the Authority incurred Rs.40.47 crore during 1986-87 to 2006-07 (Rs.26.25 crore in NW1 and Rs.14.22 crore in NW2) on bandalling, channel marking and dredging which were temporary measures, no expenditure was incurred on permanent measures like bank protection, river training and prevention of shoals/secondary channels formation. As a result the recurring expenditure on bandalling and dredging remained unproductive.

### 8.3.1.4 Safety of navigation in the channels

The movement of vessels in the river channels was slow and not safe due to presence of bridges (20 on NW1, 3 on NW2 and 34 on NW3), overhead electric and telephone lines, fishing nets, sharp bends and secondary channels. The Authority had not initiated any action to address the problems.

### 8.3.1.5 Development of features associated with creation of channels

(i) The DPR for NW2 envisaged creation of storage reservoirs and tributaries in order to stabilise the river channels to reduce erosion and check the formation of shifting shoals and sandbars which were hampering river transport. However, no storage reservoirs were created by the Authority to improve the flow and minimise costly

<sup>7</sup> (Kochi-Allaphuzha(62 Km), Allaphuzha-Kayamkullam (38 Km), Kayamkulam-Edapallikotta (21 Km), Edapallikotta-Kollam (17 Km) and Kochi-Kottapuram (30 Km))

<sup>8</sup> Comprises Rs.26.25 crore on NW1, Rs.14.22 crore on NW2 and Rs.19.89 crore on NW3.

dredging and other conservancy works. The DPR also envisaged construction of a dam at Dihang for achieving the objective for inland navigation. There was no evidence on record to show that the Authority took up the matter relating to construction of dam at Dihang with the concerned authorities as suggested in the report.

(ii) As per the recommendations of RITES Limited (December 2001), stretches in Udyogmandal canal (10.90 km), Champakara canal (14.12 km) and west coast canal (2.85 km) on NW3 were to be protected on priority basis and completed by July 2005. However, as against the target date of July 2005, the Authority could complete only 8.45 km by August 2007.

From the above discussion it is evident that the Authority did not systematically deploy its resources on permanent development of the navigational channels. The targets set for capital dredging were not achieved in any year or any of the Plan periods. Consequently, not a single waterway had been made fully operational for day and night movement of vessels to attract prospective IWT operators. The dredging work taken up departmentally in all the three waterways with the Authority's own available six dredgers would take a long time to complete the required dredging crucial to the development of waterways.

The Authority while confirming the facts replied that the waterways could not be made operational due to shortage of dredgers. The balance-dredging work would be awarded after obtaining Government sanction for revised scheme.

As such due to an unsystematic approach to development of National waterways, even after more than 20 years of formation of the Authority not a single waterway was fully operational.

### ***8.3.2 Navigation system in National waterways.***

The Authority provided a combination of lighted buoys and manned country boats fitted with light emitting diode (LED) lights on NW1 and NW2 and lighted buoys on NW3 for navigation at a cost of Rs.4.92 crore besides incurring a recurring expenditure of Rs.2.55 crore per annum (2006-07) on its maintenance.

However, none of the National waterways had fully developed navigational channels (as discussed in para 8.3.1) and there was no movement of vessels in these waterways during night rendering the expenditure on providing Aids to Navigation (ATONs) for night movement wasteful. The night navigational facilities provided on NW1 and NW2 were not available uniformly around the clock thus making them unreliable. Moreover, ATONs provided had shortcomings like drifting due to heavy floods and damages due to various river morphological factors apart from pilferage and thefts. 78 lighted buoys on NW1 and NW2 were lost/damaged due to drifting, pilferage and theft during the period 2000-01 to 2006-07.

In NW1 and NW2, the Authority deployed small country boats at identified locations of the channel (generally two km apart), manned with a person and light, to prevent theft and pilferage and also to provide aid in marking channels at night. The system had the inherent disadvantages of (i) the position could not be reliably marked (ii) it was entirely human dependent (iii) it did not cater to day navigation requirement (iv) the control of the system was not entirely with the Authority (v) operational cost was high and (vi) it was not effective during flood season. The Authority did not consider other permanent and

dependable alternatives like Automatic Identification System (AIS) or Differential Global Positioning System (DGPS) that were available.

The Authority stated that round the clock navigation facility needed to be provided without waiting for actual vessels movement to convince the operators. It further stated that a scheme to provide the DGPS system was sanctioned and tendering process was in progress (November 2007).

**Recommendation No. 8.2**

***The Authority should formulate an annual and a rolling plan with benchmarks and milestones to ensure that***

- (i) permanent/semi permanent measures are adopted for river conservancy to reduce expenditure on recurring annual expenditure on bandalling, channel marking, dredging, etc., and the plan should be reviewed and monitored at the highest level in the Authority. (Technical help from reputed agencies could be considered for river training, bank protection and to plug the secondary channels);***
- (ii) capital dredging is achieved and maintained at the required dimension of the navigational channels; and***
- (iii) modern, dependable and permanent night navigation systems are installed in a time bound phased manner.***

**8.4 Unplanned development of infrastructural facilities on the waterways.**

The Authority did not strategise the phasing and planning of the three National waterways so as to develop the fairway/navigational channel and provide infrastructural facilities once the channels were completed/near completion, on the basis of availability/estimated demand from cargo and IWT operators. The Dutch terminal expert had recommended (July 1996) that suitable option would be to manage initially with a floating pontoon and to construct the concrete platform at a later stage. This would keep the handling cost low in the initial stage. The Asian Development Bank (ADB) who were requested to provide technical assistance for formulation of projects suitable for financing by ADB in the IWT sector also stated (July 2004) that the resources were being used in the development of terminals without adequate research in regard to their contribution to the success of IWT as an alternate mode of transportation and the terminal designs did not appear to reflect a realistic assessment of the types and volume of cargo to be the expected. Audit observed that infrastructure facilities like terminals, storage and mechanical handing equipment on the three National waterways where provided were not linked with the development of fairway, availability of cargo, and movement of vessels as described in the following paragraphs.

**National Waterway 1**

**8.4.1 Construction of terminals at Gaihat Patna**

**8.4.1.1** Due to large vertical and horizontal variation in water levels during the lean and flood period, the Authority decided (1998) to construct low and high level jetties at Patna. The GOI approved (March 1998) the revised estimated cost of Rs.14.45 crore for low level jetty, earlier estimated at Rs.4.90 crore in September 1991. The Authority gave an

advance of Rs.2.20 crore and Rs.2.51 crore to CPWD in March 1998 and July 1998, respectively. The cost was again revised to Rs.25.17 crore by CPWD. However, the Ministry advised the Authority in August 2000 to suspend the project and take refund from CPWD. However, the need for the jetty was again reviewed after declaration of new IWT policy in 2001 and the Ministry approved (March 2002) the proposal for construction of low level jetty at an estimated cost of Rs.25.50 crore. The work was entrusted (March 2002) to CPWD who awarded (October 2002) the contract to UP State Bridge Corporation Limited, Lucknow, scheduled to be completed by March 2004. The low level jetty was constructed and handed over to the Authority in April 2007 at an escalated cost of Rs.30.29 crore.

The Authority, after approval of the Ministry, entrusted (July 2005) the work of construction of a high level jetty to CPWD at a cost of Rs.13.73 crore with July 2007 as the scheduled date of completion. The Authority released the full advance of Rs.13.73 crore till March 2007 though the construction work was yet to start (November 2007).

Audit observed that at no stage in the process of preparing the project and its approval was the cargo being handled considered. In the year 2002-03, when the project was approved no cargo was being handled at Patna which increased during the period 2005-06 and 2006-07 at 5668 tonnes and 4945 tonnes, respectively. As such, the existing floating jetty that was already available at the terminal was capable of handling this limited quantity of cargo. The Authority stated that they decided to set up the permanent terminals at Patna based on cargo potential. The contention of the Authority is not tenable as due to wide variation in level of water and limited cargo, floating jetty would have been a suitable option till the cargo movement substantially increased justifying permanent jetties. The limited resources available with the Authority would have been better utilised for development of the navigational channels.

**8.4.1.2** The Authority procured one container handling crane for Rs.2.89 crore in July 2005 though there was no container movement at Patna. The Authority in its reply stated that efforts were being made to use the crane. However, it was noted in audit that the crane had remained idle (till September 2007) since its procurement in July 2005.

#### **8.4.2 Construction of floating RCC jetty at Allahabad**

The Authority awarded (March 2007) the work of construction of a floating jetty on river Ganga at Allahabad on NW1 to CPWD on nomination basis at a cost of Rs.23.64 crore. An advance of Rs. eight crore was released. The work was to be completed within 24 months.

Since an LAD of two metres was required for smooth sailing of cargo vessels which Authority was unable to maintain in the Allahabad-Patna sector for most part of the year. The decision to construct the jetty disregarded the facts that the Allahabad-Patna section was considered to be too problematic because of shallow depth, (often less than one metre) and also the presence of some 14 floating bridges that constituted major impediments to the efficient utilisation of this section of the waterway. Further the fixed service schedules conducted during 2004-05, 2005-06 and 2006-07 showed that the cargo movement was negligible at the Allahabad terminal with no incoming cargo during the period. However, the Authority was also in the process of constructing one floating pontoon terminal at Allahabad.

The Authority stated that as per report of National Buildings Construction Corporation, the annual cargo projected for Allahabad terminal would be 2.82 million tonne by the year 2025. Therefore, a better terminal with storage facility and mechanical handling facility at Allahabad was considered crucial for movement of vessels. The reply of the Authority was not tenable as the Authority failed to maintain LAD of two metres in Allahabad sector for most part of the year for smooth operation of vessels in the absence of which, there was little likelihood of the waterway achieving the periodical annual cargo load.

#### **8.4.3 Construction of floating terminals**

**8.4.3.1** The Authority approved (June 2006) a scheme for construction of 10 floating pontoon terminals<sup>9</sup> on NW1 at a total cost of Rs.6.53 crore to facilitate handling of cargo and was to be completed during 2007-08. Initially only two floating pontoons were to be fabricated to assess the operational efficiency of the floating gangways. The Board changed its earlier decision and accorded its approval (December 2006) to award the full work for fabrication of all the 10 floating pontoons to PWD, UP.

The Authority placed the order (January 2007) on PWD for supply of the remaining eight pontoons although the two pontoons earlier supplied were yet to be installed (September 2007) and their efficiency established. Further, no land was available at the eight locations identified for installation of the floating terminals. Thus, the amounts of Rs.43.25 lakh paid in December 2006 and Rs.1.73 crore in February 2007 remained blocked.

The Authority stated that parallel action for land acquisition and gangways was being taken. The reply of the Authority was not tenable as availability of land should have been secured and procurement of infrastructure facilities for terminals without ensuring availability of the land indicated defective planning.

#### **8.4.3.2 Construction of floating terminal at Kolkata**

The Authority approved (March 1993) a scheme for construction of a floating terminal at Kolkata at estimated cost of Rs.1.98 crore. It deposited (April 1994) Rs.57.57 lakh towards lease premium and security deposit with Kolkata Port Trust (KOPT) for allotment of land. The KOPT allotted (November 1998) land measuring 11606.64 sq metres on lease basis for 10 years at a monthly lease rent of Rs.1.78 lakh plus municipal taxes at 20.25 *per cent* of the lease rent with a provision for five *per cent* enhancement *per annum*. Though the Authority paid the lease rent with effect from November 1998, however, due to frequent revisions in design specifications and in the nature of facilities to be provided, the scheme for construction of floating terminal with gangway pontoon was finalised only in May 2004. The construction of floating terminal was completed in January 2005 whereas the lease is due to expire in October 2008. Thus, the expenditure of Rs.1.58 crore towards lease rent from November 1998 to April 2004 remained unfruitful. The Authority stated that the delay in construction of floating terminal with pontoon gangway was due to factors beyond their control *viz.*, non-handing over of site by KOPT till November 1998, need for updating of terminal facilities, and directive of the Ministry to wait for decision on free transfer of land.

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<sup>9</sup> *Facilities at Rajmahal, Sahibganj, Manihari, Bhagalpur, Semaria, Doriganj, Balia, Ghazipur, Chunar and Allahabad*

The Authority however, could not produce any document to substantiate its claim of a Ministry's directive preventing execution of work pending decision on free transfer of land.

#### **8.4.4 National Waterway 2**

##### **8.4.4.1 Construction of terminals at Pandu, Guwahati.**

The Authority decided (March 2002 and March 2006) to construct low and high level jetties at Pandu due to large variations in the water level during lean and monsoon period at an estimated cost of Rs.47.70 crore<sup>10</sup>. The work was entrusted to CPWD. The scheduled dates of completion were September 2005 and March 2008, respectively. The work on the low level jetty was not completed and that on high level jetty was still to start as of August 2007 despite the release of the entire amount of Rs.47.70 crore as advance.

Audit observed that the navigational channels in NW2 were not well established for day and night navigation. As such there was limited cargo and vessel movement on the river. In fact, no cargo was handled at Pandu terminal during 2005-06 and the cargo handled during 2006-07 was only 1340 tonnes which did not justify the huge expenditure of Rs.47.70 crore on the construction of the two jetties. The present cargo could have been handled with the floating jetty already available at the terminal. Further, while the jetties were still under construction, the Authority incurred expenditure of Rs.2.90 crore on procurement of one container handling crane in June 2005 though there was no container movement at Guwahati.

##### **8.4.4.2 Construction of broad-gauge railway siding at Pandu**

The Authority approved a scheme for construction of a new broad gauge railway siding at Pandu Terminal on NW2 in March 2005 at an estimated cost of Rs.5.93 crore as assessed by North Eastern Frontier (NF) Railways. Due to changes in design, the estimates were revised in March 2006 to Rs.10.30 crore. The full payment was released to NF Railways during 2005-06. In the meeting held in July 2007, it was informed that the work on the siding would start by August 2007. Thus, the funds released remained idle till August 2007 and the Authority lost Rs.1.54 crore<sup>11</sup> as interest during the period April 2006 to September 2007.

Audit observed that the Authority did not conduct any feasibility or techno-economic study for the project. As such, the present status of cargo on NW2 did not justify the construction of a new railway siding at Pandu.

The Authority stated that creation of a proper terminal with multimodal linkage was kept in view while approving the project. The reply is not acceptable as the Authority had not prepared any feasibility report prior to investing in construction of the siding.

##### **8.4.4.3 Unplanned construction of dry dock at Pandu**

The work of construction of one floating dry dock for repair of vessels at Pandu was awarded to M/s Hooghly Docks and Port Engineers (HDPE) Limited at a cost of Rs.10.86 crore in March 2005. The Authority paid (March 2005) Rs.3.49 crore towards first and second stage payments. Subsequently, the Authority decided (June 2005) to reconsider the design of the dock. A committee was constituted which recommended (February

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<sup>10</sup> Rs.30 crore for low level jetty and Rs.17.70 crore for high level jetty.

<sup>11</sup> Calculated at the rate of 10 per cent.

2006) detachable type floating dry dock. Due to change in design, the Authority terminated (January 2007) the contract with M/s HDPE and requested for refund of Rs.2.47 crore after adjusting cost of steel (Rs.14.58 lakh) and security deposit (Rs.87.30 lakh). M/s HDPE did not refund the amount as it had already utilised the money in the preparation of design, layout and labour.

Audit observed that the project was approved even when no vessel was plying there (except the four newly acquired survey launches of the Authority) and a marine work shop existed at Pandu to cater to the present need. The substantive revisions in design of the dock also indicated deficiencies at the stage of preparing the DPR.

The Authority stated that the committee constituted had recommended award of the work again to M/s HDPE at a cost of Rs.13.53 crore and the outstanding would be adjusted from other works awarded to HDPE. The fact remains that there were serious deficiencies in preparation of DPR and planning and the adjustment of the outstanding from the future bills against a new contract was not ensured as a contractual condition.

#### **8.4.5 National Waterway 3**

##### **8.4.5.1 Construction of terminals and procurement of mechanical handling equipment**

The Ministry approved in July 1999 the construction of 11 terminals at a cost of Rs.14.84 crore. Audit observed that the seven terminals constructed between March 2004 and January 2006 at a cost of Rs.15.32 crore could not be used because of non-development of the waterway for want of capital dredging and also because there was negligible cargo on this stretch; the terminals at Kottapuram and Thannermukkam could not be used as the channel had not been fully dredged and developed; the terminals at Vaikom, Thirikkunnapuza, Maradu and Kayamkulam did not have proper connecting roads for cargo trucks to approach the terminals; and the terminal at Aluva was not used due to non-availability of cargo. Of the remaining four terminals, construction of two terminals at Kakknad and Chevra had been deferred pending assessment of potential traffic and one at Alappuzha could not be taken up as State Government expressed reservations in handing over the land. The Authority released (February 2007) full amount of Rs.4.79 crore to CPWD for the fourth terminal at Kollam even though the structural drawings and estimates were yet to be finalised. Moreover, the Authority procured eight mobile hydraulic cranes and forklifts for the eight terminals, including one where work was yet to start, at a cost of Rs.7.55 crore. The order for procurement of eight platform trucks at an estimated cost of Rs.32 lakh was also under consideration (June 2007).

Thus, the Authority blocked funds of Rs.27.66 crore spent on the construction of eight terminals including mechanical handling equipment, without first cleaning/sustaining channel for cargo movement.

The Authority stated that efforts were being made for utilisation of completed terminals and mechanical handling equipment to attract entrepreneurs to adopt IWT. The reply is not tenable as the construction of terminals was not synchronised with the capital dredging work. As a result the terminals and mechanical handling equipment without availability of cargo remained idle and unutilised.

**Recommendation No.8.3**

**The Authority should ensure that**

- (i) *all the project activities should be synchronised so that there is no idling of facilities created due to non-completion of related activities; and*
- (ii) *permanent jetties should be constructed only at terminals where it is systematically assessed that there is/would be in an estimated time span, sufficient cargo for optimum utilisation. In other places the option of floating jetties should be considered.*

**8.5 Cargo movement**

**8.5.1 Procurement of cargo vessels**

The Authority prepared (September 2001) a scheme for procurement of 28 cargo vessels at a cost of Rs.107.92 crore for promotion of cargo services on NW1 and NW2. The scheme was revised (November 2001) to procure four cargo vessels (one oil tanker, one container vessel, two general cargo vessels) for NW1 and NW2 at a cost of Rs.14.12 crore. The Board, however, in the first instance did not approve (May 2002) the scheme stating that running of cargo vessels was not within the mandate of the Authority which was already running one cargo vessel 'MV Rajagopalachari' on NW1 and NW2. Subsequently, the modified proposal (November 2002 and September 2003) for procurement of four vessels at a cost of Rs.12.04 crore (excluding operational expenditure of Rs.12.96 crore for five years) was approved by the Board. The four vessels were procured at a cost of Rs.11.09 crore on nomination basis from M/s HDPE from June 2004 to July 2006.

The Authority placed another order in June 2004 on M/s HDPE on nomination basis for procurement of two self loading cargo vessels at a cost of Rs.8.70 crore and released Rs.5.69 crore as advance. The vessels which were scheduled for delivery in September/October 2005 were yet to be delivered (August 2007).

Audit observed that the Authority had entered into a MOU (April 2002) with Central Inland Water Transport Corporation (CIWTC) to create a resource pool which would consist of vessels and manpower of CIWTC and financial resources of Authority for promotion of IWTs. As per the MOU, the Authority was to maintain LAD, channel marking in the fairway, provide pilotage and temporary jetties while the vessels were to be provided by CIWTC. Thus, the Authority had access to the vessels of CIWTC if required and the procurement of vessels was infructuous. Audit tabulated the vessel utilisation for 2006-07 which is shown in the Table-8.6.

Table-8.6

*(Rs. in lakh)*

Vessel (Date of acquisition)	Cargo in MT handled 2006-07	No of Trips	No of empty trips	Revenue earned	POL Cost	Percentage of revenue to POL cost	Salary of the crew
Rajagopalachari Cargo Vessel-(1993)	1669.69	07	2	17.76	25.43	70	25.50
Cargo Vessel Lal Bahadur Shastri (June 2004)	1548.79	08	2	6.97	14.41	48	
Cargo Vessel Homi Bhabha (December 2004)	2281.71	11	3	8.73	21.32	41	
Oil Tanker Vishweshariyya (March 2006)	897.94	06	3	4.49	14.60	31	
Container Vessel R.N. Tagore (June 2006)	568.23	04	2	5.29	9.91	53	
<b>Total</b>				<b>43.24</b>	<b>85.67</b>		<b>25.50</b>

As would be seen from Table-8.6 above, the Authority earned only Rs.43.24 lakh against an expenditure of Rs.1.11 crore. The indirect costs and overheads also could not be recovered.

The Authority stated that CIWTC could not get sufficient cargo for economically viable operation and MOU was in-operational. Therefore, the Authority decided to procure some of its own cargo vessels.

However, the operation of vessels was not as per the objectives of the Authority and moreover, were also evidencing uneconomic operations.

### 8.5.2 Non-exploitation of cargo potential on national waterways.

8.5.2.1 As per the study conducted by Asian Development Bank (July 2004) there was potential for bulk cargo such as bitumen, fertilizer, coal, steel products, cement, petroleum, lime stone, paper, bamboos, gypsum, salt, etc., on NW1 and NW2 which could be transported through IWT.

However, despite inherent strength of the river transport mode, cargo transportation by this mode had not substantively increased in the last five years upto 2006-07 as is shown in Table-8.7.

Table-8.7

*(in btkm)*

Year	NW1	NW2	NW3	Total
2002-03	0.128	0.004	0.019	0.151
2003-04	0.160	0.029	0.022	0.211
2004-05	0.312	0.025	0.015	0.352
2005-06	0.411	0.032	0.017	0.460
2006-07	0.580	0.173	0.015	0.768
<b>Total</b>	<b>1.591</b>	<b>0.263</b>	<b>0.088</b>	<b>1.942</b>

8.5.2.2 The GOI in February 1998 issued directives to various Ministries to reserve a minimum of five per cent of their annual movement of cargo for 1998-99 and 1999-00 for transportation by waterways on those routes that were notified as operational by the

Authority. All Public Sector Undertakings which had the financial capacity were also encouraged to create captive vessel capacity. The Authority noted (May 1998) that the major constraint in discharging the responsibility was paucity of experienced officers and staff in the field of traffic and cargo development. To overcome these constraints, the Traffic and Cargo Development Wing headed by a full time Member (Cargo) was established. Audit observed that there was no follow up on the Government directives and the Authority failed to capitalise on the initiative.

8.5.2.3 NTPC Limited approached (2001) the Authority for movement of coal from Talchar and Barh coal mines, imported furnace oil and coal to Farakka and Kahalgaon Power Plants. Cost calculations showed that IWT mode was competitive with rail and road. NTPC Limited however, doubted the Authority's ability to maintain sufficient water depth round the year and the project did not take off (August 2007).

## **8.6 IWT Promotion Schemes**

8.6.1 With a view to providing impetus to the development of IWT through Private Sector Participation (PSP), the GOI introduced various schemes *viz.*, Interest subsidy scheme (1980 - January 2001), Compensation for non-availability of infrastructure facilities (April 1993- March 1998) and Inland Vessel building subsidy scheme (April 2002 – March 2007). However, the schemes failed to attract private operators to invest in IWT. The Inland Transport Policy announced by GOI in 2001 envisaged various incentives *viz.* (i) borrowing from the market by the Authority (ii) equity participation in BOT projects, (iii) inland vessels building subsidy of 30 *per cent*, (iv) higher depreciation rate for inland vessels, (v) customs duty concessions for equipment/machinery related to IWT sector, (vi) tax exemptions to investors similar to National Highways and (vii) foreign direct investment.

Audit observed that the Authority, despite being the implementing agency, had not capitalised on the initiatives and identify projects for Private Sector participation for development of National waterways and water based recreation activities.

8.6.2 Tourism on National waterways was an untapped area. No efforts were made to connect places of tourist interest, pilgrimage points and other sight seeing places by short distance cruises. In the case of Brahmaputra River, there was a scope to develop tourism oriented cruises connecting Guwahati and Kazhiranga, Tezpur-Singri-Biswanath, Kaziranga-Jorhat-Sibsagar, *etc.* Similarly on the Ganga, cruises could have been developed at Patna (Buddhist circuit), Bhagalpur (for Devghar) and Kolkata.

Audit observed that Authority did not identify the places/locations of tourist importance despite emphasis in this regard in the policy. The projects of private parties like M/s Vomsi India Limited (2002) and M/s Smita Associates (2003) could not take off due to non-availability of required water depth between Varanasi and Allahabad. M/s Assam Bengal Navigation (ABN), an Indo-British joint venture, was the only party to operate river cruising in Brahmaputra river on NW2.

**Recommendation No.8.4**

***The Authority should***

- (i) identify specific items or cargo which could be targeted for being transported through National waterways and establish procedures and facilities to operationalise the handling of the identified cargo/loads; and***
- (ii) identify and assess the potential for projects for private sector participation for development and utilisation of facilities on the national waterways for water based recreation activities.***

**8.7 Project monitoring and internal control**

The Authority has no system of periodical monitoring of the projects taken up for development of waterways and provision of infrastructure facilities thereon to ensure that the work progressed as per schedule and the variations in time and cost were justified. Though the Authority has an EDP section in Head Office at Noida, no MIS (Management Information System) was introduced for monitoring the implementation of the projects, utilisation of vessels and dredgers against standards and benchmarks.

The Authority did not have works manual or manuals on accounting system and internal audit, the latter having been entrusted to a firm of Chartered Accountants. The periodicity and extent of coverage was inadequate. The internal audit reports were not being submitted to chief executive of the Authority and action taken on the internal audit reports was not available on records.

The Authority while accepting the observation stated that the manuals would be prepared as suggested by Audit.

**Recommendation No. 8.5**

***The Authority should ensure that***

- (i) the Internal Audit functions independently and reports its findings directly to the chief executive;***
- (ii) accounting /auditing manual are prepared early; and***
- (iii) systems are established and staff accountabilities defined for a comprehensive Management Information System and monitoring of selected performance and status reports at appropriate management levels.***

**8.8 Other topics of interest**

**8.8.1 Non-disposal of dredged material**

The DPR for NW3 envisaged that the dredged material was in good demand as manure and had a sale value which would fetch a good price.

The Authority got 22.20 lakh cubic metres (22200 lakh kg approximately) dredged upto March 2007 from private parties. Audit observed (September 2007) that the Authority did not incorporate a clause in the technical specifications for sale of the dredged material. On a conservative basis it could have reduced the cost of dredging by at least Rs.2.22

crore had it allowed the contractors to sell the dredged material at as low a price as one paisa per Kg.

The Authority replied that the issue was not analysed clearly in DPR. The dredged material was the property of State Government and there was no scope for selling the same by the Authority. The reply is not tenable as the DPR had clearly indicated that the dredged material was valuable and in good demand and the Authority should have taken up the matter with State Government for useful disposal of the dredged material.

#### ***8.8.2 Undue favour in the award of contract.***

The work for supply of 750 LED navigational lights for installation on NW2 was awarded (July 2004) to M/s Asia Navigation Aids at a cost of Rs.70.88 lakh. Of the 750 lights supplied, 150 developed cracks in solar panels/Programme Control Boxes (PCBs) immediately after installation in January 2005. The programme of LED lights was also not functioning properly and to avoid any further damage to the PCBs, all lights were withdrawn from the field in May 2005.

The supplier dismantled 225 LED lights and repaired 75 by June 2006. The remaining lights could not be repaired (June 2007) as the solar panels had become defective and new panels were not available with the manufacturer.

The Authority, however, refunded security of Rs.7.09 lakh in April 2006 to the contractor. The Authority, thus, unduly favoured the supplier. The Authority replied that the balance lights would be repaired by the contractor and the security deposit was released as per the tender conditions. The reply is not tenable as the Authority was also fully aware of the defects before refunding the security deposit in 2006.

#### ***8.8.3 Procurement of workboats***

The Authority entered (January 2003) into a contract with M/s Neptune Marine Pvt. Limited (NMPL) for supply of three work boats at a cost of Rs.3.60 crore to be delivered in September 2003 (one) and October 2003 (two). The Authority paid Rs.53.98 lakh as interest free mobilisation advance on signing of the contract against bank guarantee valid upto December 2006. Another Rs.1.08 crore was paid on laying of the keel and on completion of 50 *per cent* steel work without any bank guarantee. The payment of interest free advance was in violation of the CVC guidelines. M/s NMPL failed to deliver the work boats. The Authority neither encashed the bank guarantee nor got it extended from the party to reduce its losses. The Authority lost Rs.60.30 lakh as interest<sup>12</sup> for the period January 2003 to December 2006 on Rs.1.62 crore advanced to the party. Besides, recovery of Rs.1.62 crore was also doubtful.

The Authority stated that they have asked the bank and the party to extend validity of bank guarantee. The reply is not tenable as neither the bank nor the party had responded to the request for extension of bank guarantee (December 2007).

#### ***8.8.4 Loss of interest of Rs.3.02 crore due to non-refund of excess amount***

Audit reviewed the records relating to acquisition of land for widening of narrow canals and construction of terminals on NW3 and found that the Authority was to recover Rs.6.48 crore (excess deposit-Rs.3.77 crore and cost of land not handed over-Rs.2.71 crore) from the Kerala Government. The non refund of amount since August 2002

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<sup>12</sup> *Calculated at the rate of 10 per cent.*

resulted in loss of interest of Rs.3.02 crore upto March 2007. Further, an advance of Rs.3.23 crore deposited during 2003-04 to 2006-07 with Department of Irrigation, for repairs of locks and bank protection remained unadjusted as the Authority was not aware of its utilisation (June 2007).

The Authority replied that the appeals seeking enhanced compensation were pending in various courts and attempt was being made to reconcile actual expenditure and balance available with District Revenue Offices; and that the Department of Irrigation, Kerala would be requested to refund the amount in case of further delay in execution of work. The reply is not tenable as there was no handing over of land after 2002 and the Authority should have worked out the balance amount by this time.

#### **8.8.5 Excess purchase of spare parts/inventories**

A review of inventory records at Patna revealed that as on 31 March 2007, spare parts in respect of survey equipment, dredgers, tugs etc. purchased during the period 1998 to 2005 at a cost of Rs.3.78 crore were lying unutilised for a long time. Most of the inventories had become obsolete with the passage of time/change of technology but no action was taken to dispose off the same.

#### **Recommendation No.8.6**

**The Authority should ensure that**

- (i) mobilisation advances are interest bearing as per CVC guidelines; and**
- (ii) the obsolete inventories are reviewed and segregated for appropriate disposal.**

#### **8.9 Conclusion**

IWAI was formed in 1986 to regulate and develop three National waterways for shipping and navigation. The IWAI failed to accomplish its objective of development, maintenance and better utilisation of National waterways and appurtenants for shipping and navigation. Even after 20 years of its existence, not a single National waterway was fully operational. The Authority failed to maintain LAD of two metre in 31 out of 80 stretches as of March 2007, rendering the National waterways unsuitable for consistent and sustained cargo movement. Permanent terminals constructed/under construction and mechanical handling equipment were lying unused due to non-availability of cargo and under utilisation of the National waterways because of inadequate depths in the National waterways. The benefits of terminals and mechanical handling equipment constructed/under construction at Rs.150.70 crore could not be availed due to non development of the waterways.

The matter was reported to the Ministry in January 2008; reply was awaited.