Chapter II PERFORMANCE AUDIT

This chapter contains results of performance audit of Construction, Modernisation and Maintenance of State Tubewells; Information System Audit on 'Preparedness of Computer Based Management Information System in Irrigation Department' and Long Paragraphs on Status of Infrastructure Facilities and Teaching Aids in Government Primary and Upper Primary Schools in Ghazipur and Gautam Buddha Nagar Districts and Status of Medical Equipment and Apparatus in Ghazipur and Gautam Buddha Nagar districts.

IRRIGATION DEPARTMENT

2.1 Performance Audit on "Construction, Modernisation and Maintenance of State Tubewells"

Executive Summary

Economy of Uttar Pradesh is dependent mainly on agriculture which provides livelihood to 65 per cent of its population. Of total net irrigated area of 1.31 crore hectare in the State, tubewells contribute irrigation to only 0.04 crore hectare (3 per cent) area. Performance audit of "Construction, Modernisation and Maintenace of State Tubwells" disclosed the following:

- *Failure of proper and required scrutiny of the project cost at E-in-C as well as at the Government level, led to avoidable creation of liability of interest bearing loan of ₹ 1.60 crore.*
- *The Department purchased heavy machines costing ₹ 3.06 crore without obtaining administrative and financial sanction from the Government.*
- *Liability of ₹ 177.06 crore was pending on account of electricity charges.*
- *The Department could utilise only 27 per cent of created irrigation potential due to wrong assessment of failed STWs, improper selection of sites for construction of new STWs, non-construction of field channels and new pump sets were replaced where pump sets were functioning effectively.*
- *Installation of 828 low capacity pump sets resulted in short utilisation of irrigation potential in 0.41 lakh hectare. Saving of ₹ 6.12 crore was also not surrendered.*
- *If the Government would have opted for metered billing an amount of ₹ 245.49 crore could have been saved.*

2.1.1 Introduction

The Irrigation Department (ID) is responsible for investigation, planning, designing, construction and maintenance of State Tubewell (STWs) Projects in the State. ID started construction of STWs of capacity of 1.5 cusec, with a command area of 100 hectares, in 1936. In 1999, operation of STWs with operators was handed over to *Panchayati Raj Institutions* (PRIs). Due to poor operation of STWs by PRIs, the Government decided to take over their operation in July 2005.

ID again started construction of STWs of one cusec capacity in 2004-05. Of the total irrigation potential of 34.15 lakh hectare created (as of March 2011), 1.66 lakh hectare was created during 2006-11 through 3521[1] new STW projects with an investment of ₹ 576.23 crore. Further, ID restored 1.85 lakh hectare of Culturable Command Area (CCA) through re-boring of wells in case of 1230 failed STWs (₹ 147.24 crore), improvement works of ₹ 187.89 crore on defunct channels of 8350 STWs and replacement of pump sets of 5750 STWs.

2.1.2 Organisational setup

At the Government level, the Principal Secretary, ID is responsible for overall monitoring and implementation of various schemes of construction, modernisation and maintenance of STWs. Engineer-in-Chief, Mechanical (E-in-C), assisted by Chief Engineer (CE), level-I (Tube well) and CE, Central Equipment and Stores Procurement Organisation (CESPO) at the Department level and four Zonal CEs and 23 Superintending Engineers (SEs) in the field. Of the total 92 divisions, three Investigation and Planning Divisions, four Procurement Divisions, 11 Construction Divisions, 70 Maintenance Divisions and four Workshop Divisions are responsible forplanning, procurement of materials, construction, modernisation/maintenance/operation and manufacturing accessories for STWs respectively.

2.1.3 Audit objectives

The objectives of this performance audit were to ascertain whether:

- planning of the schemes was proper;
- funds were adequate, released in time and utilised economically, efficiently and effectively;
- there was an effective mechanism in place for construction, modernisation, renovation/reinstallation of tubewells and also maintenance of already created assets;

[1] 234 STWs: Mukhya Mantri Ghoshana (Chief Minister's Declaration) and 3287 STWs: NABARD Funded.

- the schemes achieved the objectives to provide targeted irrigation potential to the beneficiaries and whether the potential created was utilised optimally and desired Benefit Cost Ratio (BCR) was achieved; and
- the monitoring and evaluation mechanism was effective.

2.1.4 Audit criteria

Following were the sources of criteria adopted for the performance audit:

- Survey reports, preliminary plan proposals/detailed project reports of selected projects and State Water Policy 1999;
- Project guidelines, administrative and financial sanctions;
- Annual work plan, Budget Manual and financial rules;
- Circulars/instructions issued by the Government and Engineer-in-Chief; and
- National Bank for Agriculture and Rural Development's (NABARD's) terms and conditions and reports relating to release, repayment and utilisation of loan.

2.1.5 Scope of audit

The performance audit covered the period from April 2006 to March 2011. Records of 18 selected districts[2] were test checked during the period of audit. The districts were selected applying Probability Proportionate to Size Without Replacement method with stratified statistical sampling. Information was also collected from the offices of the Principal Secretary, ID; E-in-C; Agriculture Department; and NABARD. Joint physical inspection of 148 (10 *per cent*) out of 1446 STWs, constructed/ renovated/modernised during 2006-11, was also carried out together with interaction with the beneficiaries.

2.1.6 Audit Methodology

The audit objectives, criteria and scope were discussed with the Principal Secretary, ID, Government of Uttar Pradesh (GoUP) and E-in-C in an entry conference in 21 April 2011. The audit findings, conclusions and recommendations were discussed in an exit conference in 16 January 2012 with the Principal Secretary of the Department and the replies of the Department have been suitably incorporated.

2.1.7 Planning of the schemes

STWs are the major source for providing assured irrigation round the year either in those areas where construction of gravity canals is not feasible or in the areas which are not irrigated through canal. Tubewells are also used for

[2] Agra, Aligarh, Ambedkar Nagar, Banda, Bareilly, Budaun, Faizabad, Ghazipur, Gorakhpur, Hamirpur, Hardoi, Jalaun, Kanpur, Lucknow, Mainpuri, Muzaffarnagar, Sant Ravidasnagar and Varanasi.

conjunctive use of ground water in order to increase the intensity and productivity of crops. Further, STWs require short gestation period and provide quick irrigation facilities to areas under their command.

To help Schedule Cast/Schedule Tribe/Minority communities and marginal farmers and also to create irrigation facility in unirrigated area (0.35 crore hectare) of the State, GoUP sanctioned (February 2004) the scheme[3] for construction of 1000 new tubewells with schedule date of completion by 2006-07. Further, ID also executed two other projects[4] for restoration of already created irrigation potential (1.88 lakh hectare) which could not be irrigated due to failure of STWs, depletion of distribution system and wearing down of pump sets.

Audit examination of the three schemes revealed the shortcomings, discussed in the succeeding paragraphs.

2.1.7.1 Planning without assessment of requirement

Construction of new STWs

ID started a pilot project, "Construction of 1000 Small State Tubewells", in 2003-04 at a cost of ₹ 81.91 crore in 57 districts, where sufficient ground water was available for deep tubewells. The project was revised to ₹ 98.19 crore for stated increase in cost of material, energisation charges and other construction materials such as diesel, cement, bricks etc. The project was completed in 2007-08 at ₹ 98.22 crore. Similarly, ID sanctioned another project for construction of 3000 new STWs at ₹ 448.54 crore in 2007-08 with completion schedule by 31 March 2010. The scheme was still in progress (January 2012) and expenditure of ₹ 444.52 crore had been incurred (December 2011).

Scrutiny of the records revealed that the projects were formulated without taking the requirements into account as no proposals regarding number and location of STWs were obtained from the districts at the planning stage. After the approval of the project by the Government, tubewells were distributed among the districts on the basis of number of running tubewells and net irrigated area. Subsequently, the concerned nodal tubewell division of the district invited proposals from people's representatives, *Gram Sabhas* and groups of farmers having a minimum of 50 hectare of unirrigated area. Thereafter, the nodal division ascertained the feasibility/eligibility of the construction of the STWs and submitted the proposals to District Tubewell Site Selection Committee headed by District Magistrate for approval of construction sites of the tubewells.

Further it was noticed that ID sent proposals (February 2009) to NABARD for change of target of 25 unconstructed STWs (₹ 4.02[5] crore) in three districts[6]

[3] Construction of 1000 new STWs.
[4] Modernisation of failed STWs and improvement in distribution system and installation of new pump sets.
[5] NABARD's share: ₹ 3.72 crore and State Share: ₹ 0.30 crore.

due to saline water quality and absence of sufficient granular zone, which was rejected by NABARD (March 2009). NABARD also requested (March 2009) to ID to submit a proposal for cancellation of these project which was forwarded to NABARD in May 2009.

The Government stated (January 2012) that the project was formulated keeping in view the district-wise unirrigated area and stage of ground water development but not on *ad-hoc* basis. Reply was not correct as the stated criteria for selection of site and allocation of STWs were not adhered to, for example, JP Nagar[7], with more unirrigated area as well as higher possibility of use of ground water, was allocated only 25 new STWs whereas Bagpat[8] with less unirrigated area and less possibility of use of ground water, was allocated 75 new STWs.

Modernisation of failed STWs

The STWs failed after completing their useful life results in cessation of irrigation facilities in their command area. To restore irrigation facilities in such areas, modernisation of STWs was decided by re-boring of wells; construction of new pump houses and head sumps; installation of new pump sets; connecting existing distribution systems with new well points by laying PVC pipe lines; renovation of existing distribution systems, if required; and strengthening of field channels. Accordingly, proposals for re-construction of 800 out of 1227 such STWs, as on 1 April 2007, were prepared (July 2007) excluding those where (i) water was saline; (ii) excessive number of private tubewells were installed in the command of such STWs; (iii) STWs failed before completing their economic life due to technical reasons; and (iv) there were habitations now under the command of STWs. NABARD sanctioned the project in October 2008 for RIDF loan.

However, non-availability of command area due to high concentration of private tubewells in command area of originally proposed STW, ID sent (September 2010) revised proposal to NABARD for modernisation of 470 out of 800 such STWs. Further, during test check of the STWs in Ghazipur district, it was noticed that after initial resistivity survey of these STWs, ground water salinity was observed, hence 13 STWs of Ghazipur could not be modernised.

While accepting the facts, the Government stated (January 2012) that due to technical reasons, the modernisation of these 13 STWs was not taken up and funds to the extent of ₹ 1.91 crore were surrendered.

Thus, due to improper assessment and projection of the reasons for failure of STWs,

[6] Chitrakoot (05), Mahoba (10) and Mathura (10).
[7] Unirrigated sown area was 58000 hectare and possibility of use of Ground water was 37 *per cent* of recharge.
[8] Unirrigated sown area was 3000 hectare only and utilisation of Ground water was already 113 *per cent* of recharge.

13 STWs could not be modernised and Department had to surrender ₹ 1.91 crore. Besides, farmers holding land of 0.13 lakh hectare were also deprived of the benefit of irrigation facilities.

Overestimation of project

Overestimation of project led to creation of avoidable liability of ₹ 1.60 crore.

ID prepared a project for restoration of irrigation facility in 0.80 lakh hectare command area during 2008-11 by modernising 800 failed STWs. The cost of the project was to be met through loan from NABARD and State Government in the ratio of 95:5. As per project report, the estimated cost of modernisation of each STW was ₹ 0.14 crore including the cost of survey, land, works, equipment, contingency (two *per cent*), Special Tools and Plants, plantation, charges for direction and administration and energisation. ID submitted (September 2007) the proposal to Expenditure Finance Committee (EFC), for evaluation of the cost of the project. On the recommendation of EFC, the Government issued administrative and financial sanction of ₹ 111.66 crore for the project.

Scrutiny of the detailed project documents revealed that a provision of ₹ 2.03 crore (approximately ₹ 25000 per STW for 800 STWs) was approved for Special Tools and Plants for 800 STWs. However, in the proposal put up for approval of EFC, provision for Special Tools and Plants was made at the rate of ₹ 45000 per STW. EFC approved the proposal of ID, which resulted in excess approval and release of ₹ 1.60 crore (₹ 20000 per STW for 800 STWs). Thus, the failure of proper scrutiny of the project cost at E-in-C as well as at the Government level, led to creation of liability of interest bearing loan of ₹ 1.60 crore extended by NABARD.

The Government accepted the fact and stated (January 2012) that the excess amount released was utilised to cover the escalations in the cost of labour and material. The reply was incorrect and also against the extant financial rules as the funds should have been used for the purported purpose only. The excess release of ₹ 1.60 crore should have been surrendered.

Purchase of heavy machines without administrative and financial sanctions

Department purchased heavy machineries costing ₹ 1.55 crore without obtaining administrative and financial sanction.

During 2006-11, ID formulated projects namely, *Chaudhari Charan Singh Nalkoop Yojna* (*CCSY*), for construction of 3000 new STWs (₹ 448.54 crore) and for modernisation of 800 failed STWs (₹ 111.66 crore). The projects for construction and modernisation of STWs (3000 and 800 STWs) were to be taken up departmentally and a provision of ₹ 6.24 crore was made for purchase of new machines as mentioned in **Table 1**.

Table 1: Statement showing provisions for purchase of heavy machines

(₹ in crore)

Name of the machine	No.	Rate	Total cost
Construction of 3000 New STWs under CCSY			
Drilling Rig	02	1.12	2.24
Compressors (600 PSI)	02	1.00	2.00
Modernisation of 800 failed STWs			
Drilling Rig	01	1.10	1.10
Compressors (350 PSI)	01	0.50	0.50
Compressors (150 to 250 PSI)	01	0.40	0.40
Total	**07**		**6.24**

(Source: E-in-C, Mechanical, Irrigation Department, Uttar Pradesh)

Scrutiny revealed that ID purchased none of the three rig machines proposed in the projects. Further, it purchased four 600 Pound per Square Inch (PSI) compressors at ₹ 4.87[9] crore instead of only two 600, one 350 and one 150-250 PSI compressors. This led to extra expenditure of ₹ 1.51 crore. Besides, ID also purchased eight extraction machines at ₹ 1.55 crore[10] without administrative and financial sanctions.

While accepting the facts, the Government stated (January 2012) that the compressors were purchased under the existing provision for Special Tools and Plants. The reply was not acceptable as the excess expenditure was met out of the provisions made for rigs, which were not purchased. It was further stated that although no provision for purchase of pipe extraction machines existed but these were purchased since there was rebate on linear assemblies. The purchase of pipe extraction machines without administrative and financial sanctions and also without approvals of NABARD was in violation of the extant financial rules, terms and conditions entered into by GoUP with NABARD.

Further scrutiny of the records of the test checked Tubewell Construction Divisions (TWCDs) revealed that although four additional compressors of 600 PSI capacity were purchased, the already available compressors were not fully utilised due to shortage of compressor operators as detailed in **Table 2**.

Table 2: Statement showing division-wise shortage of operators

Name of Division	Month of purchase of compressor	Amount (₹ in crore)	Number of STWs developed as of March 2011	Compressors available in the division		Compressor operator available
				Total	Working	
TWCD, Lucknow	January 2009	1.23	31	4	4	2
TWCD, Agra	February 2010	1.23	05	7	5	3
TWCD, Varanasi	February 2010	1.20	04	7	6	2
TWCD, Allahabad	February 2011	1.21	Nil	4	4	Nil
Total		**4.87**				

(Source: Information collected from CESPO and concerned TWCDs)

[9] TWCD, Lucknow: ₹ 1.23 crore; TWCD, Agra: ₹ 1.23 crore; TWCD, Varanasi: ₹ 1.20 crore; and TWCD, Allahabad: ₹ 1.21 crore.

[10] Two extraction machine @ ₹ 16.41 lakh, four extraction machine @ ₹ 19.93 lakh and two extraction machine @ ₹ 21.04 lakh.

Keeping in view the shortage of Compressor operators, the possibility of optimum utilisation of existing as well as newly purchased Compressors appear to be remote. Further, the compressor at TWCD, Allahabad was purchased (February 2011) at the fag end of completion schedule of the projects (31 March 2011) and the STWs under these two projects were developed on contracts/work orders, though the projects were to be executed departmentally.

The Government stated (January 2012) that the compressors were utilised by the existing operators and also by other technical staff, who were provided special training for operating the compressors. The reply was not acceptable as the compressors were purchased without ascertaining the availability of operators and ensuring the optimal utilisation of compressors; no records in support of special training imparted to other technical staff was made available; and payments were also made to contractors for development work of STWs through compressors.

Excess estimation of ordinary Tools and Plants

Excess estimation of ordinary Tools and Plants of ₹ 5.17 crore was made without obtaining demand from divisions.

With a view to ensuring proper utilisation of STWs' potential, GoUP sanctioned (August 2007) a project relating to improvement in system of 11000 STWs at ₹ 158.17[11] crore, to be implemented during 2008-11. An expenditure of ₹ 147.20 crore had been incurred as of March 2011.

Scrutiny of the project document revealed that ₹ 5.17 crore was provisioned for ordinary Tools and Plants without obtaining demand from the divisions. No justification for requirement of Tools and Plants was given in the project. Details are given in **Table 3**.

Table 3: Details of ordinary Tools and Plants

(₹ in lakh)

Sl. No.	Name of ordinary T&P	Provision for 11000 STWs		Required in test checked districts (3929[12] STWs)		Actual procurement in test checked districts	
		Quantity (In No.)	Total cost	Quantity (In No.)	Total cost	Quantity (In No.)	Total cost
1.	Chain Tackle 3 Tones	2100	420.00	750[13]	150.00	64	14.91
2.	6" Pipe chain wrench	2100	52.50	750	18.75	13	0.57
3.	Pipe Wrench	2100	44.10	750	15.75	54	0.43
Total			**516.60**		**184.50**	**131**	**15.91**

(Source: E-in-C, Mechanical, Irrigation Department, Uttar Pradesh**)**

It is evident from the above table that only 64 out of 750 chain tackles estimated in test checked districts, were purchased during 2009-11. This also indicates that the division-wise requirement was not assessed.

While accepting the facts, the Government stated (January 2012) that there was no intention for making excess provision of the items. Reply was not

[11] NABARD share: ₹145.35 crore and State share: ₹ 12.82 crore.
[12] 3929 STWs of the test checked districts were taken for improvement.
[13] 3929 × (2100÷11000)

justified as the provision of items under the head Tools and Plants without ascertaining the actual requirement of the districts which had resulted in excess provision of the items not required for the project.

2.1.7.2 Viability of the project: Benefit Cost Ratio (BCR)

Projects were derived in such a way to make it commercially viable to fulfill the requirements of NABARD

As per Paragraph 10 of Financial Handbook (FHB) Volume-VI read with Appendix-IX of Financial Handbook Volume-V irrigation works have been treated as commercial schemes. BCR is the ratio of annual benefits over annual cost of the project. The annual benefit is the expected increase in agricultural income, net of input cost, owing to the irrigation project. The annual cost includes cost of operation and maintenance, depreciation and interest burden on the project cost. Implicit assumption in its calculation is that the running cost of the project would be made good as a result of increased earnings from higher production. If an irrigation project assumed BCR of one or above one, it is considered commercially viable. Further, loans under RIDF are also considered for sanction to those projects that have BCR>1. Audit observed that:

Projection period

The project reports were based on unrealistic assumptions for calculating the BCR. The projection period for BCR was taken as eight years while the capital was to be invested within two/three years. Audit noticed (April-May 2011) that Department calculated BCR for eight years instead for the period in which the intended benefits have been achieved. Details are given in **Table 4**.

Table 4: Statement showing scheme-wise projection period taken for calculation of BCR

Sl. No.	Name of the project	Projection period (in years)	BC ratio	Period in which Social Benefit achieved	Actual BC ratio taking benefit period i.e., col. (5)
(1)	(2)	(3)	(4)	(5)	(6)
1	Construction of 1000 new STWs	8	1:1.07	6	1:0.79
2	Construction of 3000 new STWs	8	1:1.24	6	1:0.92
3	Modernisation of 450 failed STWs	8	1:1.64	6	1:1.07
4	Modernisation of 800 failed STWs	8	1:1.37	6	1:0.86
5	Improvement in field channel of 3100 STWs	7	1:1.05	3	1:0.45
6	Improvement in field channel of 11000 STWs	4	1:3.10	4	1:3.10

(Source: E-in-C, Mechanical, Irrigation Department, Uttar Pradesh**)**

It is thus evident from the table above that the projects at Sl. No. 1, 2, 4 and 5 were not commercially viable due to the BCR<1. Thus, the proposals for sanction of projects were not based on actual data and were based on unrealistic projections.

In reply the Government stated (January 2012) that guideline laid for the formulation of project stipulates that after the probable date of completion of project the revenue should be derived within a period of 10 years. Reply was

not acceptable as the intended social benefits of the projects were achieved well before the period taken for calculation of BCR. Further, the BCR projections for loan were unrealistic.

Envisaged cost benefit based on unrealistic running of STWs

Scrutiny of six project reports mentioned in the Table 4 above revealed that the derived BCR was not based on realistic data. Social benefit was calculated taking 1500 to 2500 hours of annual running of STWs, which was much more than the actual average running of STWs during 2006-11 as given in **Table 5.**

Table 5: Statement showing year-wise running of STWs

Year	No. of running STWs as on 1st April	Actual running hours of STWs	Average running of per STW
2006-07	27988	N/A	N/A
2007-08	28366	16573046	584
2008-09	27600	16438180	596
2009-10	27932	19478700	697
2010-11	28320	21559437	761

(Source: E-in-C, Mechanical, Irrigation Department, Uttar Pradesh)

It is evident from the above table that the actual running hours of STWs during 2006-11 ranged between 584 and 761 hours per STW. Scrutiny further revealed that BCR was calculated on the basis of annual working expenses which included (i) extension and improvement, (ii) maintenance of works and (iii) energy charges.

The cost of annual working expenses were considered without accounting for the cost of operation, though the expenditure on establishment was also to be considered for assessing the BCR.

In reply (January 2012), the Government did not offer any comment to the above observation.

2.1.8 Financial management

2.1.8.1 Allotment and expenditure

The Government provided funds for construction, modernisation, maintenance of STWs and their annual repair. The expenditure on capital works of schemes was to be met initially by the Government and 95 *per cent* of the cost of the project was to be reimbursed from borrowing the loan from NABARD at an interest rate which was pegged at the rate of 0.5 *per cent* above the bank rate. In addition, the Government also made budgetary provisions for specific[14] projects whereby the Government allotted funds to E-in-C who in turn released it to EEs. Details of provisions made in annual budget and expenditure incurred thereagainst during 2006-11 are given in **Table 6**.

[14] Chief Minister's Declaration, Improvement of field channels under Rashtriya Krishi Vikas Yojna.

Table 6: Allotment and expenditure

(₹ in crore)

Year	Final Budget Provision				Surrender			Sanction released			Total released/ utilized
	2702		4702	Total	2702		4702	2702		4702	
	NP	Plan	Plan		NP	Plan	Plan	NP	Plan	Plan	
2006-07	33.33	19.00	126.51	178.84	0.00	0.00	0.00	33.33	19.00	126.51	178.84
2007-08	34.00	19.00	136.07	189.07	0.00	0.00	0.00	34.00	19.00	136.07	189.07
2008-09	58.00	22.00	194.74	274.74	2.54	0.00	3.19	55.46	22.00	191.55	269.01
2009-10	57.00	10.05	228.74	295.79	0.89	0.00	0.05	56.11	10.05	228.69	294.85
2010-11	57.00	19.70[15]	249.49	326.19	0.00	0.00	0.08	57.00	19.70	249.41	326.11
Total	**239.33**	**89.75**	**935.55**	**1264.63**	**3.43**	**0.00**	**3.32**	**235.90**	**89.75**	**932.23**	**1257.88**

(Source: Information/data furnished by E-in-C, Mechanical, Irrigation Department, Uttar Pradesh)

Budget provision of ₹ 179.45 crore was originally made under the Plan scheme during 2008-09. Further, on demand, the Government re-appropriated ₹ 15.29 crore, out of which ₹ 3.19 crore was surrendered. Similarly, against the provision of ₹ 115 crore under Non-Plan head during 2008-09 and 2009-10, ₹ 3.43 crore were surrendered at the end of financial year.

In reply, the Government stated (January 2012) that ₹ 3.19 crore were short released against the budgetary provision. It was further stated that the excess budget provision was made on the assumption of number of running tubewells and as these were less hence ₹ 3.43 crore was surrendered/re-allocated to other heads.

2.1.8.2 Allotment and expenditure for electricity charges

Liability of ₹ 177.06 crore was still pending.

Scrutiny of records/information furnished by Uttar Pradesh Power Corporation Limited (UPPCL) revealed that a liability of ₹ 177.06 crore was pending on ID against the energy charge of STWs as on March 2011. Details of amount verified and payment made for electricity charges on account of STWs during 2006-11 are shown in Table 7.

Table 7: Statement showing payment for energy charges

(₹ in crore)

Year	Amount verified	Payment	Liabilities
2006-07	290.91	289.63	01.28
2007-08	236.08	246.28	-10.20
2008-09	392.95	389.76	03.19
2009-10	420.30	389.84	30.46
2010-11	542.16	389.83	152.33
Total	**1882.40**	**1705.34**	**177.06**

(Source: Uttar Pradesh Power Corporation Limited, Lucknow)

It would be seen from the above table that a liability of ₹ 177.06 crore was still pending as of 31 March 2011.

[15] This includes ₹ 14.70 crore for Rashtriya Krishi Vikas Yojna.

While accepting the fact the Government stated (January 2012) that the liability has been created due to less allotment of the budget. The Government also stated that the demand for clearance of the liability has already been raised.

2.1.8.3 Diversion of fund

NABARD loan of ₹ 22.39 lakh were diverted for the work sanctioned under CM's declaration scheme.

EE, TWCD and TWD, Agra demanded ₹ 139.32 lakh (TWCD: ₹ 115.00 lakh and TWD: ₹ 24.32 lakh) for spill over work of 2007-08. Accordingly, E-in-C sanctioned (December 2008) ₹ 139.32 lakh (₹ 115.00[16] lakh for spill over work of mechanical part of tubewells viz., drilling, development, *etc*., and ₹ 24.32[17] lakh for energisation work of tubewells) under NABARD funded "Chaudhary Charan Singh Project for Construction of New State Tubewells".

Scrutiny revealed that out of ₹ 139.32 lakh, ₹ 22.39 lakh (TWCD, Agra: ₹ 9.90 lakh and TWD, Agra: ₹ 2.49 lakh) in the two divisions were diverted for the work sanctioned under Chief Minister's Declaration Scheme, which was not funded by NABARD.

The Government accepted (January 2012) the fact regarding TWCD, Agra. However, in case of TWD, Agra it stated that no funds were diverted. The reply of the Government was incorrect as ₹ 2.49 lakh had been booked against STWs sanctioned under Chief Minister's Declaration scheme.

2.1.9 Implementation of the projects

2.1.9.1 Non-achievement of objectives

Department failed to utilise 73 per cent of created potential.

ID had created 32.49 lakh hectare of irrigation potential at the beginning of financial year 2007-08 which was subsequently enhanced to 34.15 lakh hectares by 31 March 2011. Details of total irrigation potential created and total Culturable Command Area (CCA[18]) irrigated between 2006-07 and 2010-11 are given in **Table 8**.

Table No. 8: Utilisation of created irrigation potential

(Figure in lakh hectare)

Category of STWs	2006-07			2010-2011		
	No. of STWs	Total irrigation potential	Total CCA irrigated	No. of STWs	Total irrigation potential	Total CCA irrigated
Running STWs	28366	27.88	6.03	29016	27.00	9.27
Failed STWs	1227	1.23	0	1877	1.88	0
Under improvement STWs	207	0.21	0	1412	1.41	0
Non-energised STWs	737	0.45	0	704	0.35	0
Abandoned STWs	2721	2.72	0	3506	3.51	0
Total	**33258**	**32.49**	**6.03**	**36515**	**34.15**	**9.27**

(Source: E-in-C, Mechanical, Irrigation Department, Uttar Pradesh)

[16] EE, Tubewell Construction Division, Agra.
[17] EE, Tubewell Division, Agra.
[18] The area which can be irrigated from a scheme and is fit for cultivation.

It would be seen from the above table that even after spending ₹ 576.23[19] crore for creation of 1.66 lakh hectare (₹ 34713 per hectare) irrigation potential during 2006-11, ID could utilise only 9.27 lakh hectare (27 *per cent*) of the created irrigation potential.

Analysis in audit revealed that this was due to improper selection of sites for construction of new STWs, wrong assessment of failed STWs, installation of new pump sets on the wells where pump sets were functioning effectively as discussed in the succeeding paragraphs.

The Government stated (January 2012) that 3.24 lakh hectare irrigated area (65 *per cent*) increased during 2006-07 to 2010-11. Reply was not acceptable, even though the Department increased 3.24 lakh hectare of irrigation area during 2006-07 to 2010-11, the Department could utilise only 27 *per cent* of the total created irrigation potential.

2.1.9.2 Non-energisation of STWs

The objective of various STWs schemes was to provide quick irrigation facilities to the small and marginal farmers. To achieve the objectives of the scheme, the constructed/modernised STWs were to be energised immediately after the installation of the pump sets. Scrutiny revealed (August 2011) that 717 out of 2016 STWs constructed in the State during 2009-11, were not energised till March 2011 despite transfer of ₹ 13.12 crore to UPPCL for energisation. Out of 717, 188 STWs (₹ 3.63 crore) were pertaining to the test checked districts.

While accepting the Audit observation the Government stated (January 2012) that out of 717 only 27 STWs were yet to be energised (December 2011) and UPPCL was being regularly requested to expedite energisation. The reply was not acceptable as Government did not furnish evidence in support of reply.

2.1.9.3 Construction of New State Tubewells

In 2006-07, ID prepared a project for construction of 3000 small STWs under CCSY of one cusec capacity with 50 hectare CCA in 68[20] districts. These STWs were proposed in each district. The energisation of STWs was entrusted to UPPCL. Initially, NABARD sanctioned (November 2006) the project under Rural Infrastructure Development Fund (RIDF)-XII at ₹ 367.98 crore, which was subsequently revised (November 2007) to ₹ 448.54 crore (NABARD: ₹ 426.11 crore and State: ₹ 22.43 crore). This project aimed at creation of irrigation potential of 1.50 lakh hectare. The proposed work was to be completed by March 2010.

[19] Expenditure of ₹ 576.23 crore was incurred on creation of additional 1.66 lakh hectare (34.15 lakh hectare – 32.49 lakh hectare) irrigation potential during 2006-11.

[20] Lalitpur and Sonbhadra districts excluded from the project due to non-feasibility of construction.

The project envisaged construction of pump house, delivery tank, header for PVC pipeline, brick work regulator, pump unit with switch gear, fuse/isolating switch, capacitor, automatic starter and an hour meter for each STW. The project also envisaged the construction of distribution system in each STW consisting of 0.6 km underground PVC pipeline with five outlets and 3 km of field channels. The examination of the records relating to the project revealed the following irregularities:

Improper selection of site for construction of new STWs

50 *per cent* STWs were constructed in areas falling under private Tubewells and flood prone area.

The Government procedure for selection of construction site for new STWs (August 2007) provided for (i) priority to those places where ground water level was deep and because of which construction of private tubewell was not feasible, (ii) non-construction in areas coming under the command of canals, (iii) non-construction of STWs where the command areas of the proposed STWs were flood prone or fell under *banjar-kankrili* soil and were therefore not fit for *Rabi*/sugarcane crop *etc*.

Scrutiny of the records in the test checked districts revealed that in contravention to the site selection order, 39 STWs were constructed at a cost of ₹ 5.36 crore. This was also confirmed during joint physical inspection of 10 *per cent* STWs constructed during 2006-11. District-wise details are given in **Table 9**.

Table 9: District-wise details of STWs constructed against the provision

(₹ in crore)

Sl. No.	Name of district	Number of STWs constructed	Number of STWs jointly inspected (10 *per cent* of constructed STWs)	STWs constructed in the command which was already irrigated by private tubewell, canal, *etc.*		STWs constructed in the command which falls under flood prone area, low land, *etc.*	
				No.	Cost of STW	No.	Cost of STW
1.	Agra	40	4	2	0.25		
2.	Aligarh	58	6	4	0.52		
3.	Ambedkarnagar	50	5	2	0.26	1	0.15
4.	Banda	80	9	4	0.60		
5.	Bareilly	50	5	3	0.41		
6.	Budaun	100	10	2	0.26		
7.	Ghazipur	46	6	2	0.33		
8.	Gorakhpur	50	6	1	0.17	1	0.16
9.	Hamirpur	50	5	2	0.25		
10.	Lucknow	30	2	1	0.08		
11.	Mainpuri	56	8	8	1.16		
12.	Muzaffarnagar	48	5	3	0.40		
13.	Sant Ravidas Nagar	34	3	1	0.11	1	0.09
14.	Varanasi	74	4	1	0.16		
	Total	**766**	**78**	**36**	**4.96**	**3**	**0.40**

(Source: Joint inspection of STWs with executing officer of TWDs)

It is evident from the above table that site selected for construction of 39 (50 *per cent*) out of 78 STWs, jointly inspected, was against the prescribed norms.

The Government stated (January 2012) that there was no ban on construction of STWs where private tubewells existed in the command of the proposed STWs and that these sites were selected by District Tubewell Site Selection Committee. Reply is not correct as the construction of STWs in 50 *per cent* cases in command area having more than three private tubewells and in the command of canals and flood prone area was against the Government procedure for selection of construction site for new STWs.

Non-construction of field channels

In test checked districts 19 out of 23 divisions did not construct field channels.

As per sanctioned project report, the water from the delivery tank passes through a regulator and then via header into pipe lines in two directions with five outlets spread over the command area of the tubewell. From every outlet field channels, totalling 3 km in length, were to be constructed to distribute water to all the fields in the command area of the tubewell. The construction cost of STW was ₹ 14.08 lakh for the first year and at enhanced rate of five *per cent* and 10 *per cent* for subsequent two years. The construction cost included the cost of ₹ 0.21 lakh for construction of field channels for first year, ₹ 0.22 lakh for second year and ₹ 0.23 lakh for third year.

Scrutiny of the records (April-August 2011) revealed that 19 out of 23 divisions (798 out of 965 STWs) of 18 test checked districts did not construct field channels costing ₹ 1.77 crore (***Appendix-2.1.1)*** which were mandatorily and essentially required for distribution of water in the entire command of the tubewell. E-in-C issued strict instructions (June 2010) to all divisions for construction of field channels as per provisions contained in the project. The photographs below, taken during April-August 2011 in few locations visited by Audit, depict that the field channels were not constructed.



335 Bah, Agra



110 ZG, Ghazipur



448 BG, Gorakhpur



405 AG, Ambedkarnagar

In reply, the Government stated (January 2012) that field channels had been constructed on most of the STWs and on those STWs where the work of construction of field channels was not taken up due to various reasons, were being constructed as per provision. The Government was, however, silent about non-construction of field channels at locations pointed out in audit.

Thus, due to non-construction of field channels, the Department could not optimise the intended benefit of construction of new STWs and the funds allocated for the purpose were utilised for other activities of STWs.

Improper establishment of well point of STWs command

As per Government Order (August 2007) and the project report, the well was to be established at the highest point in the command and in such a way that the beneficiaries may utilise the maximum irrigation facility.

Scrutiny of the records of the 15 test checked districts revealed that the 46 STWs having 2300 hectare CCA were constructed without ensuring proper location which resulted in non-distribution of water in the entire command. Details are given in **Table 10**.

Table 10: Statement showing improper establishment of well-point

Sl. No.	Name of district	Number of STWs constructed	Number of STWs jointly inspected	Number of STWs where the location of well was improper
1.	Agra	40	04	04
2.	Aligarh	58	06	01
3.	Banda	80	09	05
4.	Bareilly	50	05	03
5.	Budaun	100	10	01
6.	Faizabad	100	10	06
7.	Ghazipur	46	06	02
8.	Gorakhpur	50	06	04
9.	Hamirpur	50	05	05
10.	Jalaun	38	05	04
11.	Kanpur	37	04	01
12.	Mainpuri	56	08	02
13.	Muzaffarnagar	48	05	06
14.	Sant Ravidas Nagar	34	03	01
15.	Varanasi	74	04	01
	Total	**861**	**90**	**46**

(**Source**: Joint inspection of STWs with executing officer of TWDs)

The above table indicates that well point was not properly established in 46 (51 *per cent*) out of 90 jointly inspected (April-August 2011) STWs. Due to improper survey for selection of site for constructing the well, the entire command of the STWs was not being irrigated.

In reply, the Government stated (January 2012) that the well point of the STWs was selected after taking all technical aspects in totality so as to provide irrigation facilities in the entire command. Reply was not correct as the wells were located at points from where irrigation of the entire command of 50 hectare would not be possible.

2.1.9.4 Projects for improvement of STWs

To ensure proper utilisation of STWs' potential, ID started (2008-09) a project named "Improvement in system of 11000 State Tubewells". The project aimed at installing new pump sets and accessories in place of worn out pump sets, which had completed their economic running life and to modernise the depleted distribution system of STWs to restore irrigation in the command area. The expected irrigation potential of 48950 hectare was to be restored at ₹ 158.17 crore.

Scrutiny of the records revealed that the objectives of the scheme to restore irrigation in 48950 hectares were not achieved due to reasons discussed in succeeding paragraphs.

Pumps installed in case of STWs with low specific yield

Pump sets were replaced in STWs having low specific yield.

As per Standing Order 1 of 1997-98 of ID, specific yield of the tubewell on which pump set was being replaced should not be less than 1000 gallons per hour per feet.

Scrutiny of the records of nine test checked TWDs (April-August 2011) revealed that in contravention of the Standing Order, the pump sets were installed on 55 STWs by spending ₹ 1.15 crore which had yields of less than 1000 gallons per hour per feet. Scrutiny further revealed that the required approval of SE for this deviation was not obtained before the installation of the pump sets. Thus, the irrigation potential of the tubewells was not restored as no significant increase in discharge was noticed even after the installation of new pump sets. Details are given in ***Appendix-2.1.2.***

On being pointed out in Audit, EE of the concerned TWDs stated that the new pumps were installed on the demand of the farmers.

In reply, the Government, however, stated (January 2012) that it was misrepresentation of information at the divisions' level. Further, Government also stated that on re-verification, it was found that there is not a single STWs on which the specific yields is less than 1000 gallons per hour per feet and significant increase in discharge has been found. The reply is not acceptable as

even from the revised details given by the Government, it is evident that in 33 out of 55 STWs, the discharge before replacement of the pump sets was below 1000 gallons per hour per feet. Besides, Government also did not furnish the history chart of the STWs (original document) in support of their reply which indicates actual yield of the STWs.

Thus, installation of pump sets on the STWs, which had insufficient water strata, resulted in unfruitful expenditure of ₹ 1.15 crore.

Pump sets installed on STWs with more than 70 per cent discharge

As per Standing Order 1 of 1997-98 of ID, pump set should be replaced only when the discharge of the STWs is less than 70 *per cent* of the designed discharge (33655 gallon per hour). However, 145 out of 306 pump sets, replaced in seven test checked TWDs, and had discharge of water of more than 70 *per cent*. Scrutiny further revealed that even after installation of new pump sets in most of STWs, there was no improvement in irrigation potential. Details are given in ***Appendix-2.1.3***.

In reply, the Government stated (January 2012) that pump sets which were replaced, had completed their economical life and were worn out, required frequent repairs. Reply was not correct as criteria for replacement should be efficiency and not the life of pump sets. Moreover, in case of deviation in the Standing Order, prior approval of SE was not obtained.

Thus, expenditure of ₹ 2.58 crore incurred on replacement of pump sets was against the prescribed norms.

No significant change in discharge of STWs

The objective of replacement of pump set was to increase the irrigation potential of the STWs. Scrutiny of the records of the test checked divisions revealed that due to improper assessment, discharge of the STWs remained more or less the same despite replacement of pump sets during 2009-10 at a cost of ₹ 0.82 crore. Details are given in ***Appendix-2.1.4***.

Scrutiny revealed that in six TWDs, discharge of the 46 STWs (20 *per cent*) out of 235 STWs, where pump sets were replaced, remained almost same. This indicates that replacement of pump sets was not required as the discharge remained almost unchanged.

On being pointed out in Audit, EE of the concerned TWDs stated (April-August 2011) that due to field requirement and demand of people representatives pump sets were installed on the STWs.

In reply, the Government however, stated (January 2012) that it was misrepresentation of information at the division level. Government also furnished the details showing the increase in the discharge of the STWs. The information furnished, however, revealed very meagre increase in the discharge of the STWs. Besides, Government also did not furnish the history

chart of the STWs (original document) in support of their reply which indicates actual discharge of the STWs.

Thus, despite incurring an expenditure of ₹ 0.82 crore on replacement of new pump sets, the discharge of STWs remained almost the same and could never achieve the designed discharge of 33,655 gallons per hour in any of the STWs replaced.

Installation of low capacity pump sets

Saving of ₹ 6.12 crore due to installation of low capacity pump sets was not urrendered but utilised for other work.

The STWs which could not irrigate the entire command area due to worn out pump sets or due to failure of STWs, installation of 1.5 cusec capacity of pump sets was sanctioned in the projects viz., "Modernization of 800 failed STWs" and "Improvement of field channel and Installation of pump set in 11000 STWs". Both the projects covered STWs having capacity of 1.5 cusec discharge and 100 hectare of command area.

Scrutiny of the records of CESPO, Lucknow revealed that it procured and supplied 828 pump sets having capacity of one cusec (22437 gallons per hour) to the concerned divisions and these were installed in lieu of 1.5 cusec (33655 gallons per hour) capacity pump sets. Details are given in **Table 11**.

Table 11: Details of low capacity pump sets procured and supplied

Name of scheme	Number and capacity of pump sets sanctioned in the project				Number and capacity of pump sets actually installed				Saving (₹ in crore)	Short utilisation (in hectare)
	No.	Capacity	Amount (₹ in crore)	Area to be covered (in hectare)	No.	Capacity	Amount (₹ in crore)	Area to be covered (in hectare)		
Modernization of 800 failed STWs	94	1.5 cusec	2.56	9400	94	1.0 cusec	1.29	4700	1.27	4700
Improvement of channels & installation of pump sets in 11000 STWs	734	1.5 cusec	14.85	73400	734	1.0 cusec	10.00	36700	4.85	36700
Total			**17.41**	**82800**	**828**		**11.29**	**41400**	**6.12**	**41400**

(Source: CESPO and test checked TWDs)

It would be seen from the above table that all the 828 pump sets installed under the two schemes were of one cusec capacity only as against the approved capacity of 1.5 cusec. Scrutiny further revealed that saving of ₹ 6.12 crore due to installation of low capacity pump sets was also not surrendered but utilised for other work. This resulted in short utilisation of 0.41 lakh hectare irrigation potential.

In reply, the Government accepted the fact and stated (January 2012) that due to technical reason one cusec capacity pump sets were installed in lieu of 1.5 cusec capacity. Reply was not acceptable as 1.5 cusec capacity pump sets should have not been provisioned in the project, if the STWs on which pump sets required to be installed were not technically feasible.

2.1.10 Other irregularities

2.1.10.1 Excess expenditure on electricity charges

If Government would have opted metered billing an amount of ₹ 245.49 crore would have been saved.

Scrutiny of the records of test checked divisions revealed that UPPCL submitted the bill to the concerned divisions for verification of Break Horse Power (BHP) of the STWs. All the divisions verified BHP of each STW mentioned in the bill and sent it back to UPPCL. BHP verification was also done at the level of E-in-C on the basis of total running and closed STWs in the State. Total BHP for the quarter was verified taking an average of 17.5 BHP per STW and total running STWs in the last week of the previous quarter. UPPCL submitted the electricity bills[21] to E-in-C on the basis of verified BHP at the E-in-C level. E-in-C in turn issued authority letter to Tubewell Division, Lucknow (Nodal Division) for centralise payment of electricity charges.

Metered connection at STWs (89 Bah and 335 Bah) in Agra



89 Bah, Agra



335 Bah, Agra

Scrutiny of records of test checked TWDs revealed that UPPCL submitted detailed estimate for energisation of each STW including cost of meter to the concerned TWDs. In some STWs, the electricity connection was metered as shown in the photographs above. Audit calculated the electricity charges of the STWs on the basis of running hours and compared it with the fixed rates. This revealed that ID paid more than 80 *per cent* of actual electricity consumed.

The calculation of difference between metered and un-metered electricity charges, based on the basic data of ID and rates and procedure of UPPCL during 2010-11, is given in **Table 12**.

[21] ₹ 500 per BHP (1.04.2006 to 12.08.2007); ₹ 350 per BHP (13.08.2007 to 31.10.2007); ₹ 364 per BHP (01.11.2007 to 26.04.2008); ₹ 800 per BHP (27.04.2008 to 14.04.2010) and ₹ 1000 per BHP (15.04.2010 to 31.03.2011).

Table 12: Calculation of difference between metered and un-metered electricity charges during 2010-11

Number of running STWs as on 1 April 2010	28320 STWs
Average BHP per STW	17.5 BHP
One BHP	746 watts
Hence 17.5 BHP (746×17.5)	13055 watts
13055 watts (13055/1000)	13.055 kw
Running hours during 2010-11	21559437 hrs
Total unit consumed (13.055×21559437)	281458450.04 kwh
Due to 65% efficiency factor excess consumption of units (281458450.04×(100/65)	433013000.05 kwh
(A) Electricity Charge per unit (₹4.40×433013000.05)	₹ 1905257200.24
(B) Fixed demand charge per BHP per annum (28320×17.5× ₹ 100×12)	₹ 594720000.00
(C) ED per annum (28320× ₹ 270×12)	₹ 91756800.00
Total (A+B+C)	₹ 2591734000.24
Capacitor surcharges 15 *per cent* of (A+B)	₹ 374996580.04
Total Bill	₹ 2966730580.27
Say	₹ 296.67 crore
Amount verified at unmetered connection	₹ 5421615000.00
Say	₹ 542.16 crore
Saving (₹ 542.16 crore - ₹ 296.67 crore)	₹ 245.49 crore

From the above details it is apparent that had the Government would have opted for metered billing, an amount of ₹ 245.49 crore would have been saved.

While accepting the fact the Government stated (January 2012) that due to practical difficulties there was no alternative except to follow ongoing procedure of paying electricity charges on un-metered connection basis. The reply was not acceptable as the Government should have opted the billing system which would have been beneficial to the State.

Besides, taking the above calculation into consideration, possibility of excess payment in the previous years can not be ruled out.

2.1.10.2 Delayed handing over of drilling and development of STWs

Chief Engineer, Mechanical, level-1 issued (May 2008) instruction for handing over of tubewells immediately after development or within 15 days in any case. The above instruction was to ensure timely completion of the construction work, energisation work *etc*., to be started after development. SE was responsible for compliance to the above instruction. The instruction also entailed that responsibility of officers would be fixed for delayed handing over.

Scrutiny of records of the test checked divisions revealed that there were delays ranging from 1 to 29 months in handing over of new STWs to TWDs from the date of its development as detailed in **Table 13**.

Table 13: Statement showing delays in handing over of STWs during 2006-11

Sl. No.	Name of TWCD	Total No. STWs Constructed	No. of STWs handed over with delay(s)	Delay range (in month)
1.	Agra	232	78	1 to 8
2.	Faizabad	494	145	1 to 9
3.	Gorakhpur	276	99	1 to 8
4.	Jalaun	367	93	1 to 12
5.	Kanpur	154	73	1 to 8
6.	Lucknow	214	76	1 to 10
7.	Muzaffarnagar	455	48	1 to 9
8.	Varanasi	400	179	1 to 29

(Source: Mentioned TWCDs)

Delay of 1 to 29 months, adversely affected the completion of STWs on time and deprived the farmers of the benefit of irrigation.

In reply, the Government stated (January 2012) that there were no cases of abnormal delay between development and handing over. Reply was not correct as STWs were to be handed over to concerned TWD within 15 days of development. Further, there was nothing on record which could prove that the Government had initiated action against any of the SEs for non-compliance to the above instruction.

2.1.11 Manpower Management

2.1.11.1 Shortage of manpower

Shortage of Tubewell operators hindered the operation of STWs resulting in short utilisation of irrigation potential.

Adequate manpower was required for optimum utilisation of benefits from STWs. Running of newly constructed STWs under two projects viz. construction of 1000 and 3000 new STWs required tubewell operators.

As per paragraph 3(VII) of Irrigation Manual of Orders, one tubewell operator is required to be posted for each STW.

During course of performance audit (April-August 2011), it was noticed that there was huge shortage in the cadre of tubewell operators (responsible for operation[22] of STWs). Scrutiny of records of test checked Tubewell Divisions (TWDs) revealed that during 2006-11, 1062 new STWs were constructed in these districts. The status of tubewell operators and running STWs (newly constructed as well as existing) in these TWDs during 2006-11 is given in **Table 14**.

[22] Operation of STW required (i) Entry of meter reading at 8 am, (ii) presence at STW during *Kharif*: 6am to 11 am and during *Rabi*: 8 am to 1 pm & 4 pm to 5 pm and other work assigned vide para 16 of Irrigation Manuals of Orders.

Table 14: Statement showing year-wise shortage of tubewell operators in test checked districts

Year	No of running STWs	Tubewell operators available	Availability of Tubewell operators (In percentage)
2006-07	8177	6557	80
2007-08	8373	6134	73
2008-09	8129	5934	73
2009-10	8203	5690	69
2010-11	8413	5663	67

(Source: Records of concerned TWDs)

It is evident from the above table that though the number of STWs gradually increased, but the number of tubewell operators decreased (80 to 67 *per cent*).

Further, as a result of shortage of manpower, tubewell operators were looking after the charge of more than one STW and in TWD, Varanasi one tubewell operator had charge of six STWs at a time.

While accepting the shortage of manpower the Government stated (January 2012) that due to shortage of tubewell operators, one tubewell operator has been directed to attend two to three nearby tubewells. This hindered the working of STWs resulting in short utilisation of irrigation potential.

2.1.12 Internal Control Mechanism

A built-in-internal control system provides reasonable assurance to the department about compliance with applicable norms and rules thus achieving reliability of financial reporting and effectiveness and efficiency in departmental functions. Scrutiny of records revealed the following:

2.1.12.1 Improper/non maintenance of important records and registers

10 to 21 prescribed records were not maintained at STWs.

For effective control over financial and physical progress, E-in-C issued (August 2007) instruction to EEs for proper upkeep of 21 prescribed records at STW so that the inspecting authority can evaluate their performance. E-in-C directed (December 2007) all EEs to maintain Works Register prescribed in the Financial Hand Book Vol-VI.

Scrutiny of records revealed that Works Register, essential to watch the progress of day to day expenditure incurred on a particular STW, were not maintained in 18 test checked divisions. Due to non-maintenance of Works Register, divisions failed to maintain tubewell-wise expenditure in Form 64 of monthly accounts. This resulted in lack of control over allotment made for the particular STW.

Scrutiny further revealed that prescribed records, ranging from 10 to 21[23] were not available at 53 out of 148 jointly inspected STWs. Further, the records available were incomplete, unreliable and, therefore, did not serve the purpose.

In reply, the Government stated (January 2012) that instruction had been issued for keeping up all necessary records in the divisions as well as STWs.

2.1.12.2 Non closure of stock account

Paragraph 768 of FHB, Volume VI, provides the time schedule for six monthly closing of stock account (September by 1 December and March by 1 August). In this regard, E-in-C also issued (December 2002) detailed instructions for settlement of discrepancy noticed during verification and for closing of stock accounts.

Scrutiny of records of the test checked divisions revealed that the stock accounts were not closed from March 2006 to September 2010. This was indicative of lack of internal controls in the Department. Details are given in ***Appendix-2.1.5***.

In reply, the Government stated (January 2012) that instructions have been issued to all CEs for closing of stock accounts by March 2012. Thus, due to non-closure of stock account, stated stocks valued at ₹ 73.76 crore were could not be verified in audit.

2.1.12.3 Non-disposal of surplus/unserviceable items

The Government issued (February 2011) instruction for withdrawal of orders for settlement of unserviceable items of the Department through Small Scale Industries and instructed that settlement hereinafter be done as per procedure contained in Appendix-XIXD of FHB-V.

Scrutiny of the records of CESPO revealed that 745.23 MT of worn out super enamelled copper wire, PVC coated copper wire and steel/cast iron/aluminium scrap (₹ 7.05 crore) and 209364 unserviceable machines/stores (₹ 7.37 crore) were lying in the divisions as of March 2011. Details are given in ***Appendix-2.1.6***. Possibilities of further deterioration and pilferage of these stores cannot be ruled out.

In reply, the Government stated (January 2012) that ID made efforts for the disposal of items at the Central level but despite wide publicity, highest biding prices of various items were below the norm. Reply was not acceptable as the ID should have taken effective steps to dispose of the unserviceable items to avoid further deterioration and pilferage of surplus/unserviceable items. Further, this also resulted in blockade of ₹ 14.42 crore.

[23] (i) Khasra shudkar register; (ii) Khasra bandobast; (iii) Tubewell command shajra; (iv) Sown area register; (v) Receipt book/irrigation sleep; (vi) Parhtaal register; (vii) Register jamabandi; (viii) Mechanical register; (ix) Civil register; (x) Running hour chart; (xi) Discharge chart; (xii) Pump efficiency chart; (xiii) History chart; (xiv) Strata chart; (xv) Gul/pipe line chart; (xvi) Osarabandi chart; (xvii) Irrigation supervisor log book; (xviii) Mistry log book; (xix) Complain book; (xx) Inspection book; and (xxi) Dak bahi.

2.1.13 Monitoring and supervision

On the direction of State Government, E-in-C fixed (July 2007) norms for monitoring/inspection at each level for proper functioning of STWs. CEs and SEs would thoroughly inspect the STWs for a minimum of three/five days respectively in a week and ensure immediate corrective action, in consultation with the farmers. EEs were required to be available in the office till 12 Noon, and after that they were to inspect the STWs and ensure immediate corrective action, whenever needed, in consultation with the farmers.

Scrutiny of the records of the test checked divisions revealed that norms for monitoring/inspection were not adhered to at any level. Only 10 to 24 monitoring meetings were held by the SEs in respect of 19 out of 23 test checked divisions during 2008-11. Similarly, SE was required to inspect each division under his control at least once a year. Scrutiny of 18 out of 23 divisions revealed that no inspection was carried out by SEs in eight divisions during 2006-11. In eight, out of remaining 10 divisions, only one to four inspections were carried out by SEs during 2006-11.

As the monitoring/inspection systems were not adhered to, ID failed to initiate any remedial measures for improving the implementation of schemes, maintenance of important records and consequently, the lessons learnt over a period of time in implementing the schemes failed to bring about any systemic improvements. ID did not evaluate the performance of the schemes to ensure that the irrigation potential created was fully utilised.

In reply, the Government stated (January 2012) that the referred order was issued under the prevailing drought conditions in the State, in special circumstances. The routine work of monitoring and supervision was being done at different levels as per norms and orders issued from time to time. Reply was not correct as if the order *ibid* was for special circumstances that would have been withdrawn and fresh order should have been issued.

2.1.14 Conclusion

The Department failed to achieve its objectives as the projects were not formulated on ground realities and STWs were identified in an *ad-hoc* manner. The projects were made deliberately economically viable as assumptions made were based on unrealistic data. The Department could not utilise 73 *per cent* of the created irrigation potential due to inadequate implementation of the construction, modernisation and maintenance schemes. Further, payment for energy charges was based on fixed rate of BHP, whereas, actual running of STWs was less than the BHP verified resulting in creation of huge liability of ₹ 177.06 crore on account of electricity consumption charges. Adequate manpower required for functioning of the newly constructed STWs was not ensured. Internal control mechanism of the Department was also inadequate.

2.1.15 Recommendations

- *Feasibility/eligibility criteria for the construction site should be ascertained prior to sanction of the project;*
- *BCR should be derived on the actual data so that the economic viability of the project can be accurately computed;*
- *Construction of field channel should be ensured as to optimise the intended benefits of the construction of new STWs;*
- *Energy charges should be paid through metered connections based on actual consumption; and*
- *The monitoring and supervision was not found to be effective. Remedial measures need be taken by the department soon.*

IRRIGATION DEPARTMENT

2.2 Information System Audit on 'Preparedness of Computer Based Management Information System in Irrigation Department'

Executive Summary

Uttar Pradesh Irrigation Department (UPID) initiated (April 2001) a computer based Management Information System (MIS); supporting administrative and water resource database and analytical & communication facilities. MIS plan envisaged making computer based MIS operational in 48 months and taking over the system and withdrawal of consultant in next 6 months starting from April 2001. Even after expiry of 10 years computer based MIS was a non starter in the Department due to deficiencies in project implementation and also in system developed.

Major audit findings are highlighted below:

- *Uploading of master and historical data was not yet completed. Consequently not a single module has been put to use.*
- *The Department failed to provide prescribed training to the end users for their skill development and effective use of the Application Software (AS).*
- *Department had not appointed the required technical experts for implementation and maintenance of MIS.*
- *Slow and unreliable internet connectivity was a great stumbling block in implementation of web based Application Software. Further there was delay in delivery of service due to multiple vendors.*
- *Access control was inadequate. Administrative right of database was still with the vendors.*
- *In the Application Software there was lack of data integrity and consistency checks.*
- *Defective screen design of Application Software hindered smooth operation, online help facility was neither user friendly nor topic specific.*
- *There was no disaster recovery plan.*

2.2.1 Introduction

As provided in Irrigation Manual prepared under the provisions of Northern India Canal & Drainage Act-1873, Irrigation Department (ID) of the Government of Uttar Pradesh (GoUP) is entrusted with the responsibility of utilisation of water resources of the State for irrigation purposes by means of canals, tube wells, dams & *bundhies* and of flood control activities. In April 2001, ID initiated, the UP Water Sector Restructuring Project (UPWSRP).

Business process re-engineering part of UPWSRP provided for establishing a Management Information System (MIS); supporting administrative and water resources database; and analytical and communication facilities to modernise and streamline Uttar Pradesh Irrigation Department business processes. UPWSRP was funded by International Development Association (IDA), an arm of World Bank. ID created a Project Activity Core Team (PACT) comprising one Chief Engineer, one Technical Advisor and experts from the fields of agriculture, ground water, rehabilitation, environment, geographical information system, participatory irrigation management, procurement, legal, finance etc. under a chairman to monitor the implementation of UPWSRP in May 2002. Implementation schedule and financing plan of computer based MIS were as under-

Table 1: Schedule for Completion of task and Financial Plan

Project Year	One	Two	Three	Four	Five	TOTAL
A. Implementation Schedule						
(1) Development of MIS Strategy	Four months					
(2) Development of MIS Plan	Eight months					
(3) Implementation of MIS Project		24 months				
(4) Operation and training		36 months				
(5) Handing over of the system					Six months	54 months
B. Financing Plan	**(₹ in crore)**					
(1) Capital cost	21.07	22.30	15.05	3.64	50.00	62.56
(2) Recurring cost	1.83	3.65	5.21	7.33	7.33	25.35
Total	**22.90**	**25.95**	**20.26**	**10.97**	**57.33**	**87.91**

(Source: UPWSRP Project Implementation Plan)

ID envisaged following benefits from computer based Management Information System:

- Effective analyses and planning by using timely, accurate and reliable, online available data and trends, for improved performance and early detection of variations to effect speedy correctives;
- Increased efficiencies in routine tasks by online sharing and quick retrieval of data, reduction in manual documentation and compilation; and
- Speedy decision making on real time data and trends available on state wide network of computers.

2.2.2 Organisational set up

Principal Secretary, Irrigation Department at the Government level and Engineer-in-Chief at the Department level monitor the project. One post of Chief Engineer (Information System) was created in the office of the Engineer-in-Chief. To implement and co-ordinate MIS activities, a MIS Cell comprising one Superintending Engineer (MIS Expert), two Executive Engineers, two Assistant Engineers and two Junior Engineers were in place at

the office of PACT. MIS Cell functioned under the supervision of Chief Engineer, UPWSRP.

2.2.3 Audit objectives

The Information Systems Audit was conducted to assess whether:

- user requirements were assessed properly and incorporated fully and accurately in the Application Software;
- accuracy, confidentiality, completeness, up-to-date status, reliability, availability, timeliness and effectiveness of data were not compromised;
- the MIS developed was being used for speedy and informed decision making;
- information Systems Assets and resources have been acquired as per requirement, properly safeguarded and operated/used by trained personnel; and
- Monitoring and evaluation of the MIS was being carried out effectively.

2.2.4 Audit criteria

Following were the sources of criteria adopted for Information System Audit:

- Project Document;
- User Requirement Specifications;
- Financial Rules;
- Documents relating to the targets and coverage of various schemes of computerisation;
- Best practices relating to IT controls; and
- World Bank guidelines on selection of consultants/vendors.

2.2.5 Scope and audit methodology

The Information System Audit of MIS of ID was conducted from May 2011 to July 2011 and covered the period from April 2001 (inception) to June 2011. Records of the office of CE (PACT), one out of two SEs (PACT), four out of seven Divisions (in three[1] out of five[2] districts) functioning under the control of CE (PACT) and nine other divisions[3] of ID located in these three districts were examined in audit. Further, information relating to MIS was called for from 57 offices out of remaining 541 offices[4] (total number of offices 555).

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[1] Jaunpur, Raibareli and Sultanpur.
[2] Barabanki, Jaunpur, Pratapharh, Raibareli and Sultanpur.
[3] Irrigation Divisions, Sultanpur; Sharda Sahayak Khand-16, Sultanpur; Irrigation Division-2, Sultanpur; Irrigation Division, Jaunpur; Minor Lift Canal Division, Jaunpur; Tubewell Division, Jaunpur; Sharda Sahayak Khand-6, Rae Bareli; Sharda Sahayak Khand-South, Rae Bareli; and Sharda Sahayak Khand-45, Rae Bareli.
[4] Administrative offices:143 and divisions: 398.

The Entry Conference was held with the Government on 07 June 2011 wherein the audit objectives, criteria and methodology were discussed. The audit findings and recommendations were discussed with the Government in the Exit Conference held on 16 January 2012. Replies from the Government were received, discussed and suitably incorporated in the report.

2.2.6 Limitations

Apart from offices visited by Audit Team, information regarding availability of maintenance service and progress of work were called for from 57 offices but reply had been received from nine offices only.

2.2.7 Audit Findings

2.2.7.1 Development of MIS Plan, Application Software (AS) and acquisition of MIS & AS Assets

In order to facilitate timely decision by making comprehensive and relevant database available on real time basis and at one place, the computer based MIS was planned to be implemented by November 2007. Procurement of hardware; development of software and procurement of consultancy services are discussed in subsequent paragraphs. The selection of consultant/vendors was based on Quality-cum-Cost based selection procedure prescribed in World Bank guidelines.

Development of MIS Strategy

Although implementation of UPWSRP commenced from April 2001 and the phase of "development of MIS strategy" was to be completed within four months, the implementing agency, *viz.* PACT, was constituted in May 2002, after a delay of more than one year.

Project implementation was replete with instances of advance procurements, delayed procurements, delayed installations and commi-ssioning etc. in key items/ activities leading to inordinate delays.

MIS Plan, software development, implementation of MIS and networking

An agreement was executed (May 2002) with M/s Tata Consultancy Services (TCS) to help and develop a MIS plan within eight months, and implement it in the following 24 months; guide project operation, supervise staff training & support in the following 12 months; and hand over the MIS systems in the following six months at ₹ 3.40 crore. The IS strategy consisted of (i) Executive functions[5] (ii) Technical functions[6] and (iii) Support function[7]. M/s TCS submitted report consisting of comprehensive User Requirement Specification and MIS Plan, scheduled for submission within eight months (January 2003), in June 2003 with a delay of four months.

[5] Accounting, audit and draft para management, contract management, human resource management, payroll accounting, litigation management, stores accounting, revenue collection, budget, procurement and tender management, assembly & parliamentary questions and their reply management and asset management.

[6] Irrigation and water management, drainage improvement and maintenance, flood control and management, investigation and planning, design of works, construction of projects, mechanical works, dam safety monitoring, monitoring and evaluation.

[7] Messaging and work flow system, document management system, information technology management system, intranet and administration.

Engagement of networking vendors

Although the networking vendor was to be engaged immediately after submission of the MIS plan, PACT engaged (August 2004) M/s HCL Comnet Limited for establishing state-wide, Wide Area Network (WAN) at ₹ 15.79 crore, by April 2006. The vendor was also responsible for maintenance of WAN and meeting bandwidth charges for six years, including three years' warranty, beginning April 2006. Thus, engaging the networking vendor in August 2004, instead of immediately after submission of the MIS plan (June 2003), resulted in delay by 14 months. The implementation of MIS was further delayed as the vendor (M/s HCL Comnet) completed the work with a delay of four years (April 2010).

The Government attributed (January 2012) the delay in award of the work to procedural delays. Reply was not acceptable as a dedicated facility (PACT) was created for designing and implementation of the MIS plan and the delays indicated its failure in discharging duties. The Government also attributed the delay in implementation of the network to non-availability of leased line facility at various locations. The reply was not acceptable as the availability of leased line facility should have been ensured before awarding the work.

The work of implementation of Local Area Network (LAN), in all the 555 offices, was to be commenced immediately after finalisation of the MIS plan (June 2003). PACT sent the draft bidding document to World Bank for approval on 1 May 2004, and World Bank issued No-objection certificate on 7 July 2004. However, the work was awarded in September 2005 to M/s GTL Limited, at ₹ 4.90 crore, with date of completion by August 2006. The vendor, who was also responsible for hand-holding and maintenance of the system for six years (including three years warranty, beginning August 2006) completed the work in July 2007 with a delay of 11 months. Thus, there was delay of approximately one year in sending the bidding documents to the World Bank and a further delay of more than a year in the award of work.

The Government stated (January 2012) that the delay in implementation of LAN was due to delay in finalisation of locations and changes therein and also due to establishment of new offices. The reply was not acceptable as the various locations for establishing network should have been ensured well in advance and failure in this regard indicated inadequate planning.

Procurement of hardware

PACT procured (October 2004) 1000 desktop computers, printers, UPSs and software (OS and MS office) from M/s HCL Infosystems Limited (Firm) at ₹ 7.28 crore. These items were supplied between January and March 2005 and carried three years' warranty. After the expiry of warranty period, ₹ 1.26 crore was to be paid to the firm for maintenance of the above mentioned items for the following three years. However, M/s Mahindra British Telecom Limited

was engaged for software development in October 2005 and various modules were delivered between September and November 2009. Thus, by the time software modules were made available, warranty period of all the desktop computers and one and a half years, out of three years of the maintenance contract period, had expired. This resulted in infructuous expenditure of ₹ 1.89 crore on warranty and maintenance charges without use of hardware. This was avoidable, had procurement of hardware been dovetailed with the delivery of the software modules.

Government replied (January 2012) that hardware items were purchased in advance and the staff was being provided basic computer training on it. The reply was not acceptable as these computers, printers and UPS were for implementation of AS and not for providing basic computer training.

Development of application software

Although the MIS plan prepared by M/s TCS was received in June 2003, ID engaged (October 2005) M/s Mahindra British Telecom Limited (now M/s Tech Mahindra), after a lapse of 27 months, for development and submission of AS, at ₹ 12.90 crore. This included development and supply of application system, general purpose software, training, conversion and migration of data and six years of post implementation support. The vendor completed the assignment in November 2009, with a delay of 25 months. Thus, there was a delay of 27 months in selection of vendors/award of works and a further delay of 25 months in delivery of the AS. The deficiencies noticed in the AS are discussed in paragraph 2.2.7.2 below.

Audit observed that though the consultant (M/s TCS) submitted its report in June 2003, there was delay in sending (May 2004) the draft bidding document to World Bank for approval, and after receiving clearance from the later in October 2004, the Department finalised the engagement of Software Vendor in October 2005. Vendor had also delayed the completion of work by two years, resulting in a total delay of four years in development of Application Software.

Government replied (January 2012) that process for engaging software vendor was started in February 2004 and there was procedural delay. Regarding delay in completion of work Government stated that it was due to shifting of data centre twice and also due to contract with vendor remaining ineffective between 25 Feb 2008 to 06 June 2008. Reply was not acceptable as procedural delays and shifting of data centre indicates lapse in planning the work.

Supply and installation of server

It was necessary to procure and install the server and associated hardware immediately after receipt of the AS by the concerned vendor (November 2007). However, ID took 22 months in placing the supply order

(August 2009) on M/s Vayam Technologies Limited for supply of a server, associated hardware, operating system and *anti-virus* software for ₹ 6.70 crore. The delivery and installation was to be completed within three months from August 2009. The vendor was to hand-hold and maintain the server and above mentioned items for six years, including three years' warranty, beginning December 2009. Servers were, however, supplied and installed in September 2010.

The Government stated that on the advise of UPDESCO (February, 2008) all the bids were rejected in July, 2008 and procurement process was started afresh (September 2008). Rejection of bids delayed the procurement process. The Government further stated that a penalty of ₹ 3.35 lakh was imposed on the vendor for delay in installation of the server.

Thus, procurements were not made in accordance with the implementation schedule detailed in the MIS Plan of UPWSRP. For implementation of any MIS synergies and synchronisation in procurement and commissioning are a prerequisite. The development of computer based MIS in the Department was replete with instances of advance procurements, delayed procurements, delayed installations and commissioning etc. in key items/activities leading to inordinate delays. MIS was a non-starter in the Department till date (January 2012) although more than 74 months have already been lapsed since its scheduled date of completion (October 2005).

The Government stated that ID is using mailing and messaging services and efforts are being made for implementation of MIS. However, these services were just spin off benefits.

2.2.7.2 Implementation of Application Software

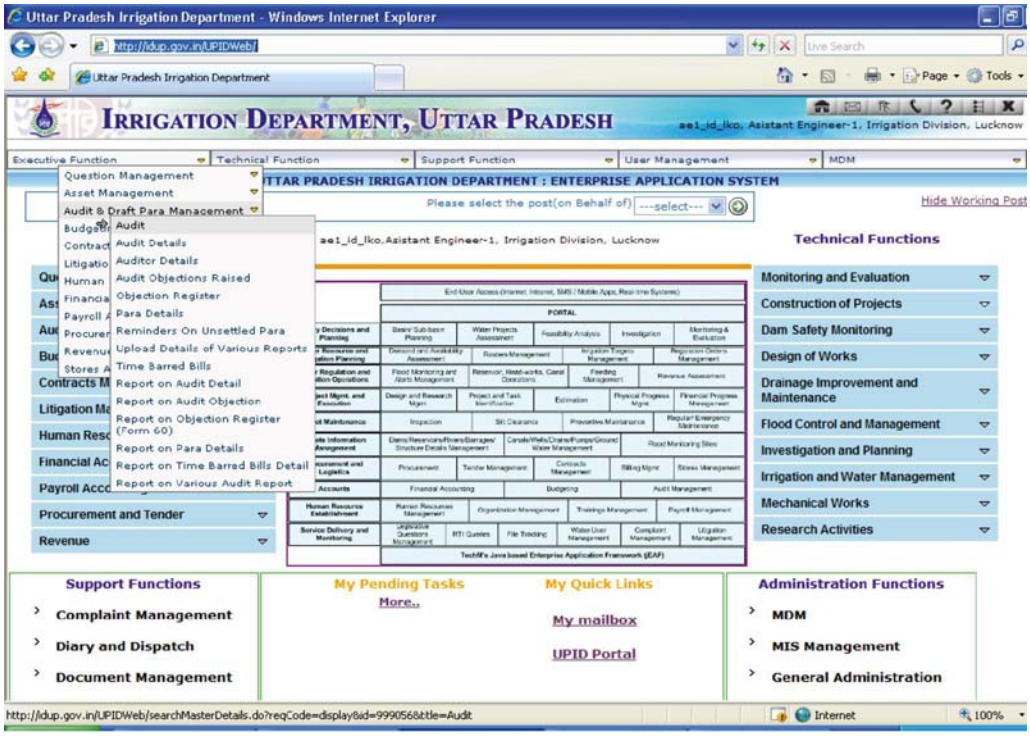
Screen Design and inbuilt help facility

Screen design was a hindrance in smooth operation of application software. Online help facility was neither user friendly nor topic specific.

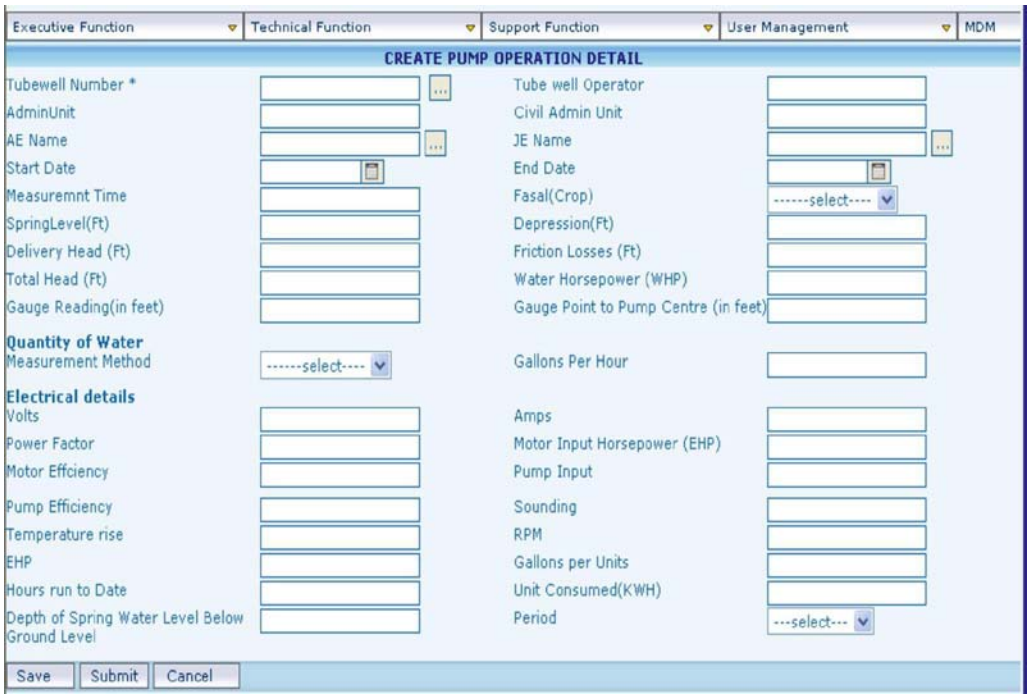
Screen should be designed so as to ensure smooth operation and reduction in likely input errors. Online help facility should be built into the AS to get topic specific help easily. Audit observed that the 'Opening screen' of the AS was congested (screenshot of opening screen is given below). Multiple windows popped-up on the screen while entering data and the data were to be retrieved from another table provided in look-up screens. This problem is there in every module. Therefore, to facilitate easy data entry, drop down list boxes should have been built-in. The Government stated that lookup screen was introduced due to high volume of data. The reply was not acceptable as volume of data does not come in the way of drop down list.

Online 'Help facility through use of function keys' was to be provided in AS. This had been provided by loading module-wise user manual in MS Word format. Each manual consists of 100 to 160 pages and was to be downloaded for use. The access to help facility was neither topic specific nor user friendly.

Opening Screen of AS



Data Entry Form (Mechanical Works Module)



The Government replied (January 2012) that in place of online-help, user manual had been uploaded. The reply was not acceptable as providing 'help' in manner it had been, defeated the purpose of online 'help' facility.

Access Control

Access control was weak, rendering system vulnerable to unauthorized access.

Users identify themselves to an 'access control system' by their usernames and passwords. Therefore, to prevent misuse, the password should have a periodic validity and after a pre-determined number of unsuccessful log-in attempts the user profile should automatically get disabled.

Audit observed that:

- there was no pre-defined policy for password creation in terms of number of characters *viz.* number of numerals, alphabets or a combination of both;
- nine[8] out of 23 test checked offices had not received user name and password;
- in Irrigation Division, Sultanpur the password assigned to the Executive Engineer was not changed since its receipt from PACT (November 2010) and it was being used by all data entry operators;
- no restriction was built into the software against the number of unsuccessful/unauthorised attempts and consequent disabling of the password/locking of the system was not programmed.

The inadequate access controls were a threat to data integrity and increased vulnerability and unauthorised access.

The Government stated (January 2012) that the password policy had not been implemented keeping in view the user convenience and it would be implemented soon. The reply indicated that data security was compromised in exchange of convenience which was dangerous and risk ridden.

2.2.7.3 Delivery and Support

Delay in making current data available to the software developer

Uploading of master and historical data was not yet complete; consequently not a single module had been made fully operational.

The developed Application Software, having 26 modules, covered the executive, technical and support functions of the Department. For effective use of the AS, it was necessary to upload and lock the historical and master data before its implementation**.** M/s Tech Mahindra was to upload the master and historical data. According to para 2.1.1 of the agreement and the clarification of vendor of (July 2005), the vendor was to upload 23 GB historical/master data at ₹ 1.5 crore which were to be made available by the Department in time. Though software vendor had handed over all the 26 modules to the Department between September to November 2009, the master & historical

[8] Sharda Sahayak Khand-16, Sultanpur; Irrigation Division-2, Sultanpur; Irrigation Division, Jaunpur; Minor Lift Canal Division, Jaunpur; Tubewell Division, Jaunpur; Sharda Sahayak Khand-6, Raibareli; Irrigation Division-I, Lalitpur; Rajghat Canal Construction Division, Lalitpur; and Eastern Ganga Canal Construction Division, Najibabad, Bijnore.

data had not been completely uploaded (January 2012). Thus, in absence of master/historical data, modules developed could not be put to use.

The Government stated (January 2012) that the vendor was paid for only the quantum of data actually uploaded and efforts were on for complete data entry and the work was regularly being monitored at Head of Department and Chief Engineer level.

Inadequate training to staff

Staff was not provided proper training in operating application software and support activities.

According to para 2.4.2 of the agreement, the vendor was to provide training to at least two users per office per module. For the said training, a sum of ₹ 0.18 crore was paid to vendor in two installments (March and October 2009). Details of training imparted, furnished to Audit by PACT did not mention the modules for which training was provided. The examination of available details revealed that 1867 out of 2566 trained persons received only one day training and 374 persons were provided two days' training against the prescribed 10 days'. In 10 out of 23 offices, from where information was collected, not even a single person was trained and in the remaining 13 offices, employees were trained for use of only two to three modules. Training in the area of database administration, helpdesk, application system support, operation and facilities and management were provided only to private IT persons hired for the project period.

Thus, the Department failed to provide prescribed training to the end users for their skill development and effective use of the AS available. Further, there was lack of technical capacity building for taking over the job after support phase was over.

The Government stated (January 2012) that 10 days' training in 40 batches were provided to employees in operating all the 26 modules. As already stated above, ID did not have details regarding modules in which various trainees were trained and duration of training. However, training database and information received from field offices did not support the Governments' assertion.

Staffing

Department has not appointed required technical experts for implementation and main-tenance of MIS.

According to para 9.2.4 of the MIS Plan, successful implementation, subsequent operation and maintenance of MIS necessitated that data and information was managed as 'resource' of the Department as opposed to being "owned" by the users. The high level interactions and dependencies between computers, communications, office automations and technologies make it imperative that these resources are managed as single organizational function.

The MIS Plan proposed a Departmental Information System Structure to support the implementation of MIS technical plan, ongoing maintenance and enhancement thereof. This proposal included appointment of Chief

Information Officer for overall responsibility for MIS; and System Managers for application system support; database administration; network management; mailing and messaging; Computer Aided Design (CAD); and Geographical Information System (GIS) at State level. All these positions were to be held by personnel technically qualified in the field of their assignment.

Scrutiny of records in PACT revealed that the Department (September 2004) created one post of Chief Engineer (IS) as 'Information System Officer' at the State level with overall responsibility for implementation and maintenance of MIS. Posts of System Managers were, however, not created till date (January 2012). Further, the Department proposed (March 2009) to the Government for posting of one Chief Engineer Level-2 as Chief Information System Engineer. Posting of Superintending Engineer and Executive Engineer level officers of defunct circle/divisions, as Senior System Engineers and System Engineers, was also proposed. The proposal was, however, pending with the Government (January 2012). In the absence of technical experts for implementation and maintenance of MIS the Department was dependent upon the vendors/professionals of AS, Server, LAN and WAN for utilisation of the MIS.

Thus, the Department failed to appoint the required technical experts for implementation and maintenance of MIS. Further, the proposal of the Department to adjust surplus Civil Engineers, who did not have any experience in Information Technology, against the posts of system engineer was against the advice of MIS Consultant who had advised that Chief Information officer and system managers should have seven to nine years' and four to six years' experience respectively in IT related field.

The Government in its reply stated (January 2012) that the action for creation and filling of posts was in progress.

Absence of input controls

In the Application Software there was lack of data integrity and consistency checks.

Data of selected modules, out of the data of all the modules were obtained (June-July 2011) from PACT in delimited text format and analysed using MS Access 2007 to verify their accuracy, confidentiality, completeness, updation status, integrity and consistency. Results were as under:

Human Resource Management System Module

This module, included personnel record management, manpower estimation, recruitment, training, leave, complaint, grievance management etc., and was designed to help the Department in effective utilisation of human resources in order to enhance organisational performance. Data entry in this module was started without assigning unique code to each employee of the Department. Audit observed the following:

- employee Number column of Employee Table exhibited characters (both numeric and alpha numeric).
- in Employee Table 26382 records had been entered. Duplicity was checked on combination of name and date of birth fields and it was noticed that same name was entered twice in 1289 cases, and three to 23 times in 951 cases.
- year of birth had been shown as 2008 in 4528 records, 2010 in 68 records, 2011 in 87 records and 2020 in 31 records. Year of birth shown ranged from 1992 to 6420 in 68 records.
- year of birth had been shown as 1900 in 37 records of Employee Table, there were 86 other cases in which year of birth shown ranged from 0957 to 1947.
- date of birth was same as date of appointment in 14 cases, date of appointment was prior to date of birth in 26 cases. Difference between date of appointment and date of birth ranged from one day to 6260 days (less than 18 years) in 22 cases.
- in Employee table father's name had not been entered in 9301 records and date of appointment not entered in 22738 records.
- weekday of appointment was Sunday in 100 records.
- in Employee Table 26382 records were entered but in tables relating to nomination, education, leave and training only 209, 2810, 5 and 316 records respectively were only entered.
- test data, which were to be deleted before launching the programme, were still appearing in the tables.

These deficiencies/discrepancies indicated that requisite input controls/checks were not introduced and data were incomplete and unreliable.

The Government replied (January 2012) that in the initial phase validation checks were disabled for facilitating data entry. Data was being corrected and validation checks had been established. The reply was not acceptable as disabling validation checks for speeding up data entry was not proper which resulted in erroneous data being fed.

Litigation Management Module

This module was designed to provide easy flow of information to facilitate timely action on pending court cases and compliance to court orders. Analysis of data obtained from department in delimited text form revealed that:

- case description column, for mentioning description of the case, was left blank in 7084, out of 9021 entries in Case Table.

- case number column for mentioning case number was left blank in 111 records, and case number was mentioned as "0" in 16 records. Case numbers were repeated two to 10 times in 1438 records.
- the date of first hearing was mentioned as 04 January 2006 in 688 records of the Case Table, 04 January 2003 in 590 records. The date of first hearing was same in 100 to 574 records which apparently do not appear to be correct.
- the day of first hearing was Sunday in 1012 cases, and the day of filing the writ was Sunday in 957 cases.
- in other tables *viz.* Case Proceedings, Delay Case, Court Order and Case Documents, only test data were available.

Thus, the authenticity of data entered in the module till date could not be established.

Government replied (January 2012) that instruction had been issued to upload data and remove test data. The reply was self explanatory that the appropriate checks were not introduced in the system.

Assembly and Parliamentary Question Reply management system module

This module intended to help in keeping track of the questions raised by the Hon'ble members of Parliament and State Assembly. Data analysis of this module revealed that:

- the Nodal Officer *Id* column was filled with 'zero' in 225 records out of 972 records available in Questions Table;
- diary number for each question should be unique but same diary number was repeated from two to 79 times in 19 cases;
- check of duplicity of question description, in combination with *session-id* and name of Hon'ble member revealed that 61 questions were repeated in Questions Table from two to four times;
- authority for entry in Question Table was available to Executive Engineer (Assembly Cell) but entries in the table were made at the level of Chief Engineer, PACT indicating that user privileges were not defined;
- instead of the 'time taken for furnishing replies' to the questions in Questions table, name of week-day was entered in 270 records out of 972 records, in remaining records this column was left blank; and
- in reply table, the column 'Reply' was meant for entering reply, but only word 'replied' or 'replied by' has been entered in 75 records.

Evidently, such data would be of no use in monitoring submission of replies to Assembly and Parliamentary questions, and the purpose for which the module was designed remained unachieved.

Government replied (January 2012) that errors in data were being removed and checks were being introduced. The reply was not tenable as checks should have been implemented before data entry.

Financial Accounting Module

This module was developed for maintaining various registers, cash books and to generate various reports such as cash outlay report, imprest account report, transfer entry book, schedule of remittances, schedule of works expenditure, schedule of suspense/deposit. Analysis of data available in this module revealed that:

- in Cash Book Table, which stored summarised position of cash books, there were only 20 records. All the records appeared to be test data. In none of the records, closing balance equaled opening balance plus total cash receipts minus cash payments. None of the closing balances equalled cash in chest plus temporary imprest plus permanent imprest. In three records all the values were zero. It revealed that closing balance was not being calculated by the system. Values were entered manually and accepted by the system;
- in Cash Book table Cash book period end-date was less than cash book period start-date in one record (Record number 9), closing of 30 June 2011 had been entered on 29 June 2011 in three records (Record number 18 to 20), and the same was accepted by the system. Three entries were accepted by the system for the same Administrative unit and month;
- in Generic Bill Table there were 424 records which were fed only by two offices. Bill amount minus deduction amount did not match with amount approved/amount passed. In 16 records, total of deductions under various heads of deduction did not match with total deducted amount in 11 records; and
- In Cheque Book table, there were only 10 records. Number of leaves available in Cheque Book Column, did not match with details fed in 'cheque number from' to 'cheque number to' columns in three records.

Above discrepancies indicated that data integrity and consistency checks were absent in the module.

The Government replied (January 2012) that errors were due to test data and checks were being introduced. The reply was not acceptable as checks should have been implemented, and test data must have been removed before data entry.

Budget Module

This module was to facilitate users to make budget request, watch budget sanction, re-appropriations, and surrender of unutilised budget. Various reports generated in this module were to help in analysing fund information and in preparation of budget for the next year. Analysis of 'Account Head Table' revealed that incorrect account heads such as "4701C22424", "567867888787806" were entered. Account head description given was also incomplete. Thus, no checks were built into and the system accepted any value and even incomplete Account head description.

The Government replied (January 2012) that validation checks had been established. The reply was not acceptable as validation checks should have been introduced before implementation of software.

Irrigation and Water Management Module

This module was to help the Department in efficient operation of canals, to ensure timely maintenance of canal system, efficiency and accuracy in recording revenue receipts and to minimise grievances of farmers. Analysis of the data revealed that:

- The data of main canals, branches, distributaries and minors were entered in a single table named Canal Table. Coding system for each category of canal and also for each canal had not been developed. As such completeness and accuracy of data could not be ensured and in absence of coding there was no double check;
- Parent Identification mapping in the Canal Table was also incorrect. There was one entry "SARYU MAIN CANAL" which was shown as a branch of "Sharda Sahayak Feeder Channel". Another entry "Saryu Main Canal" which was shown as branch of "Basti Branch", while Saryu Main Canal was a main canal;
- Bed Level Column was blank in 9940 records; in 9840 record FSL (Full Supply Level) was blank, tail-column was blank in 3302 records and head discharge column was blank in 10363 records. In many records, columns such as benefitted villages, point off take etc. were also lying blank; and
- Water Users Association's (WUA) member identification was system generated and there was no check of duplicate entries. Duplicity was checked on combination of WUA identification, name, address and 236 names were found repeated from two to 1088 times.

As such incomplete and inaccurate data entered in the system rendered the module unusable.

The Government replied (January 2012) that errors were there due to presence of test data which was being removed and coding system had been established.

Reply was not acceptable as introducing coding system after entering a large volume of data is of no use.

Mechanical Works Module

The key objectives of the module was to maintain details of all the tubewells and minor lift canals and to keep track of all the construction works, complaints and maintenance works relating to tubewells and minor lift canals. In the tubewells Table, meant for storing details of all tubewells, there were 24234 records. Duplicity check on combination of circle offices, divisions and departmental tubewell number revealed that same tubewell had been entered twice in 383 cases, thrice in 13 cases and four times in one case indicating absence of input control and haphazard data feeding.

The Government replied (January 2012) that validation system existed and more checks were being introduced. The reply was not acceptable as all the checks must have been introduced before starting data entry.

Flood Control and Management Module

For arranging relief work during floods, complete and accurate information of floods and rainfall pattern is needed to assist the concerned authorities. This module was to help in notifying the details of flood related information to appropriate authorities of Civil Administration and the Department for ensuring timely counter safety and relief measures. Analysis of the data available in the module revealed that there were 156 records in Flood Forecast Site table. In 74 records, the column, Danger Level and Highest Flood level were blank; in Flood Forecast Reading table, all the records were entered by temporary users. Flood Forecast Time column providing a time-stamp and the year in the timestamp ranged from 1955 to 2003, revealing entry of non-real life data and non-use of the module for the purpose for which it was designed.

The Government stated (January 2012) that instructions had been issued to all the offices to check the data and remove test data and duplicate entries, make necessary corrections and to update the data. The Government also stated that validation checks were being introduced.

Multiple vendors

LANs established in each office, were integrated thorough WAN. M/S GTL Limited established LAN in field offices and M/S HCL Comnet Limited implemented WAN. In case of any problem in internet connectivity, users were not aware as to which vendor required to be contacted for solution due to unawareness of the exact nature of the problem. Multiplicity of vendors for similar nature of work, led to delays in smooth delivery of services.

The Government stated (January 2012) that separate vendors were engaged for domain expertise and efforts were being made for early disposal of complaints.

Dependence on vendors

There was no capacity building in the Department and even for routine tasks Department was dependent on vendors.

Vendors for software development and maintaining servers still held the Administrative rights of database. Consequently, the Department was dependent on these vendors for routine tasks like deletion of any record from backend, taking up backup of database etc. Sometimes there might be need for backend corrections, though backend corrections should not be permitted in normal course, but as there was lack of validation checks as already mentioned, in para relating to input controls, for which Department was dependent on vendors. Provision of backend access to vendors was a risk to data integrity.

The Government stated (January 2012) that administrative rights were in control of MIS Cell. The reply was not correct as despite passage of considerable time, and the vendor support period nearing to end, the Department had not buildup adequate capacity to take over the system after support phase is over.

Slow and unreliable internet connectivity

Like any other *web-based* application, internet service was necessary for use of the AS. The internet speed should also be fairly good for quick response time and without broken working rhythm.

Internet connectivity was provided to users through LAN and WAN. The latter was established through BSNL leased line. Expenditure on establishment of LAN was ₹ 4.90 crore (₹ 3.27 crore one time and ₹ 1.63 crore recurring for the period from August 2007 to July 2013, 100% of capital amount has been paid and recurring payment is being made). Expenditure on WAN was ₹ 15.79 crore (₹ 0.84 crore one-time and ₹ 14.95 crore for the period from May 2010 to April 2016). At each LAN site, internet speed provided (upto 64 Kilo Bytes per Second) were not adequate to access AS and enter data. In test checked offices, it was observed that on opening the departmental *web-site* it takes a long time. Sometimes, repeated attempts were required to log-in. Once logged in, the internet got disconnected automatically. This was a great stumbling block in the implementation of computer based MIS. Ten out of twenty three test checked offices, confirmed inadequate connectivity and nine offices stated that there was no internet connectivity.

Thus, even after incurring such a huge amount on LAN and WAN (₹ 4.90 crore on LAN and ₹ 15.79 crore on WAN), the Department started distributing USB modems to each office for accessing internet. Two out of 14 test checked offices, had even taken BSNL broadband connection which resulted in wasteful expenditure on LAN and WAN of ₹ 20.69 crore[9] and

[9] ₹ 20.69 crore (LAN - ₹ 4.90 crore + WAN - ₹ 15.79 crore)

extra expenditure of ₹ 6.59 lakh[10] on procurement of USB modem and recurring charges on the Government exchequer.

The Government stated (January 2012) that there was a proposal to increase bandwidth upto 10 MBPS in the second phase of the project (UPWSRP). The reply indicated that the data load and the need of band-width for use of the AS was not assessed at the time of planning and implementation of the computer based MIS.

Disaster Recovery and Business Continuity Plan

There was no disaster recovery system.

There must be a plan in position to ensure that the Information System continues to function even in the event of a failure of information processing resource. For ensuring continuity of work, it was necessary that Database Backup is kept in a safe place away from the data centre so that data remains secure in case of any disaster. Further for computer based MIS of such a large magnitude a disaster recovery site should be planned. The Department has not documented any Disaster Recovery/Business Continuity Plan. In the Department, there was no alternate data centre site and backup was being stored at data centre itself exposing the Department to high risk of stoppage of the MIS activity in case of destruction of data centre.

The Government stated (January 2012) that there was a proposal to develop a Disaster Recovery System in the second phase of the project (UPWSRP). This indicated that the MIS plan was faulty to the extent that it did not provide for a disaster recovery and business continuity plan.

2.2.8 Monitoring

Vendors handed over all the modules of AS to the Department between March and November 2009 but the Department did not make any plan for gradual shifting from the manual system to computer based MIS. In the absence of such a plan there was no yardstick against which progress of implementation of computer based MIS could have been monitored.

The Government stated (January 2012) that all the Chief Engineers were instructed (January 2012) to get the MIS modules implemented. However, due to lack of proper monitoring MIS modules were yet to be fully implemented.

2.2.9 Conclusion

Even after spending ₹ 68.97 crore (January, 2012) and after expiry of about 10 years the progress of implementation of computer based MIS in the Irrigation Department was far from satisfactory. The objective of effective planning and analyses based on the factual data, increased monitoring, enhanced transparency and communication could not be achieved due to non preparedness of the Department in making current data available to the vendor, poor internet connectivity and inadequate training. Till date

[10] ₹ 6.59 lakh (₹ 3.84 lakh on USB modem + ₹ 2.75 on recurring charges)

(January 2012), not a single module, out of 26 modules, has been put to use, though these modules were handed over to the Department, by the vendor, between September and November 2009, besides the hardware procured in October 2004, also became outdated. Till date, even master data had been fed partially and that too were unreliable. Department also failed to protect the system/data from any disaster.

2.2.10 Recommendations

- *Unique codes should be assigned to each officer/employee, canals, Tubewells and minor lift canals for avoiding duplicity of data; input and validation controls should be built-in to ensure completeness and correctness of the data;*
- *The backlog of data entry should be completed at the earliest for ensuring availability of historical and master data and facilitating expeditious decision process;*
- *Data backup should be stored at a place away from the data centre; and a disaster recovery site & business continuity plan should be put in place;*
- *Proper monitoring efforts should be made to make all the 26 modules put to use and appropriate training should be imparted to staff; and*
- *Issues of LAN/WAN and bandwidth needs to be addressed and resolved with promptitude.*

BASIC EDUCATION DEPARTMENT

2.3 Status of Infrastructure Facilities and Teaching Aids in Government Primary and Upper Primary Schools in Ghazipur and Gautam Buddha Nagar Districts

2.3.1. Introduction

"UP Education for all Project Board" was constituted in May 1993 to manage the World Bank assisted project and the powers to manage the primary and upper primary schools were vested with the "Village Education Committees (VEC)". The Board also manages the Centrally sponsored *Sarva Shiksha Abhiyan* (SSA), 2001 which aims at ensuring availability of a well equipped, well staffed, well functioning and well attended primary and upper primary schools, providing useful and relevant elementary education cutting across all social, regional and gender gaps, to all children in the age group of six to 14 years by the year 2010. The Right of Children to Free and Compulsory Education Act, 2009 (RTE) envisions free and compulsory education to all children in the age group of six to 14 years.

Keeping in view the aforesaid objectives, the State Government initiated number of steps which included opening of new schools in un-served habitations, adding new class rooms to existing schools, recruitment and training of teachers to improve pupil-teacher-ratio and reorientation of the teaching skills, effective implementation of SSA activities and Mid-Day Meal (MDM) scheme etc.

Principal Secretary, Basic Education Department; State Project Director, SSA; Director, Basic Education; Basic Shiksha Adhikari (BSA); and Deputy/Assistant BSA and Village Education Committee at the Government, department, district, block and school levels, respectively, were responsible for implementation of the aforesaid programmes.

2.3.2 Audit coverage and sample selection

To evaluate the status of availability of infrastructure facilities and teaching aids in the Government "Primary Schools" (PSs) and "Upper Primary Schools" (UPSs) and its impact on basic education during 2006-11, Ghazipur (GZP) and Gautam Buddha Nagar[1] (GBN) were selected on the basis of geographical locations, economic conditions and inter-district disparity[2] in the State. **Table 1** exhibits the population, number of children (0-6 years), number of PSs/UPSs in both the districts and sampled PSs/UPSs for detailed examination.

[1] Ghazipur lies in the State's eastern border and Gautam Buddha Nagar in western border.

[2] The Government has worked out the level of development in the state by Ranking Method at district level on the basis of 36 selected indicators under economic infrastructure, social infrastructure etc. On this basis, the districts have been placed in five ranges of Composite Index of Development (CID): very high, high, medium, low and very low. While Ghazipur is under very low CID with 71.90 points, Gautam Buddha Nagar is under very high CID with 431.44 points.

Table 1: Population and total number of schools, sampled schools and schools physically inspected for detailed examination as on April-May 2011.

Sl. No.	Particular	Ghazipur	G.B. Nagar
1.	Population	36.23 lakh	16.75 lakh
2.	Children (0-6 years)	5.38 lakh	2.45 lakh
3.	Number of Government PS (Primary School)	1720	463
4.	Number of PS sampled for collection of information (10 *per cent* of Sl. No. 3)	172	46
5.	Number of PS sampled for physical verification (33 *per cent* of Sl. No. 4)	57	15
6.	Number of Government UPS (Upper Primary School)	748	208
7.	Number of UPS sampled for collection of information (10 *per cent* of Sl. No. 6)	75	21
8.	Number of UPS sampled for physical verification (33 *per cent* of Sl. No. 7)	25	7

(Source: Records of BSAs)

2.3.3 Financial arrangement

The cost of SSA was shared between the Central and State Government in the ratio of 75:25 up to the Tenth Plan period (2002-07). The State share was raised to 50 *per cent* thereafter. The contribution to SSA was to be over and above this investment. In the two sampled districts, the receipt and utilisation of funds earmarked for infrastructure facilities and teaching aids, during 2006-11, was as below:

Table 2: Status of expenditure on the Infrastructure Facilities and Teaching Aids as on March 2011

(₹ in crore)

Year	Ghazipur					G.B. Nagar				
	Opening balances	Receipts	Total funds available	Expenditure *(per cent in bracket)*	Closing Balances	Opening balances	Receipts	Total funds available	Expenditure *(per cent in brackets)*	Closing Balances
2006-07	1.74	65.39	67.13	64.71 *(96)*	2.42	NA	NA	11.20	10.64 *(95)*	0.56
2007-08	2.42	67.42	69.84	66.58 *(95)*	3.26	0.56	14.62	15.18	12.79 *(84)*	2.39
2008-09	3.26	156.37	159.63	154.01 *(96)*	5.62	2.39	34.97	37.36	36.03 *(96)*	1.33
2009-10	5.62	182.95	188.57	184.17 *(98)*	4.40	1.33	49.48	50.81	47.40 *(93)*	3.41
2010-11	4.40	211.82	216.22	207.52 *(98)*	8.70	3.41	60.29	63.70	57.02 *(90)*	6.68
Total		**683.95**		**676.99 *(96)***			**159.36**		**163.88 *(92)***	

(Source: Records of BSAs/SSAs) **NA:** Not available

It would be seen from the above table that although the percentage of utilisation remained almost the same in the two districts but in the sampled schools the number of children enrolled (class-I) reduced by 44 *per cent* in GZP during 2006-11 and by 19 *per cent* in GBN during 2008-11, as discussed in paragraph 2.3.6.1.

Audit Findings

2.3.4 Infrastructure Facilities

2.3.4.1 Basic Amenities

Basic education was affected due to non-availability of adequate basic amenities

To achieve universalisation of elementary education in the State, basic infrastructure and amenities like separate toilets for boys and girls, safe and adequate drinking water facility, play grounds, boundary wall for ensuring security and sanitation facilities to keep the schools clean were to be provided in all schools under *Sarva Shiksha Abhiyan*. The status of Infrastructure and basic amenities in the Government PSs and UPSs of GZP and GBN was as under:

Table-3: Status of non-availability of basic infrastructure facilities as on May 2011.

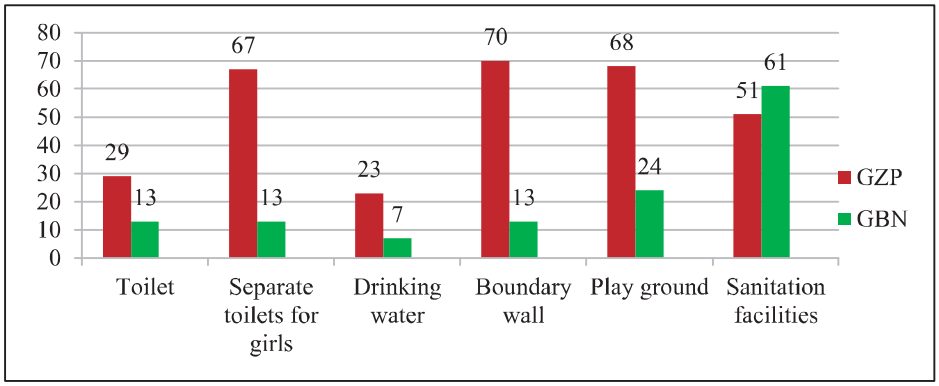
District	Number of Government PSs/ UPSs	Non-availability of basic infrastructural facilities				
		Toilets *(Per cent in bracket)*	Separate Girls' Toilet *(Per cent in bracket)*	Drinking water *(Per cent in bracket)*	Boundary wall *(Per cent in bracket)*	Play ground *(Per cent in bracket)*
GZP	2468	224 (9)	814 (33)	425 (17)	1666 (68)	1298 (53)
GBN	671	49 (7)	224 (33)	49 (7)	89 (13)	205 (31)

(Source: Records of BSAs)

Thus, 9 to 68 *per cent* schools in GZP and 7 to 33 *per cent* schools in GBN were running without adequate basic infrastructure facilities.

The status of infrastructure/basic facilities in sample selected schools of GZP and GBN are shown in ***Appendix-2.3.1 (a) & (b) and 2.3.2 (a) & (b)*** and chart below:

Chart-1: Percentage of the PSs and UPSs where basic infrastructure was not available as on May 2011.



Thus, the percentage of schools lacking basic infrastructure was very high in GZP as compared to GBN although the expenditure in GZP was higher (₹ 676.99 crore) than the expenditure incurred in GBN (₹ 163.88 crore) during 2006-11.

In reply, the Government stated (February 2012) that drinking water and toilet facilities have been made available in almost all the schools and boundary walls would be completed by March 2013. The Government also stated that play ground were not available due to non-availability of land/funds. Reply of the Government in respect of drinking water and toilet facilities is not acceptable since such facilities were not available as per information made available by the sampled schools.

2.3.4.2 Availability of electric supply in schools

As per recommendation of Twelfth Finance Commission, the lectrification of schools was not done.

As envisioned in the Twelfth Finance Commission recommendations, all the Government PSs and UPSs were to be provided electricity connection by October 2009. The status of availability of electric connection in PSs and UPSs of GZP and GBN during 2010-11 was as under:

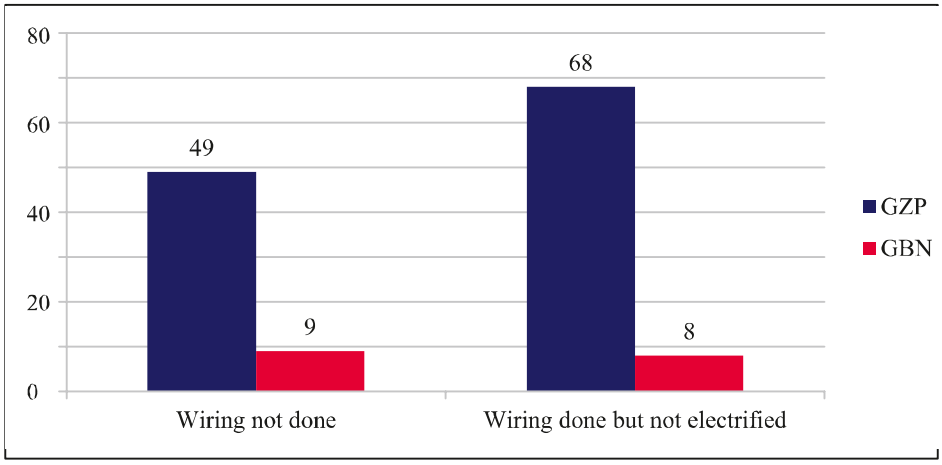
Table 4: Status of electrification in schools during 2010-11

District	Total Number of PSs and UPSs	Number of schools having electric wiring *(per cent in bracket) (2)-(4)*	Number of schools without electric wiring *(per cent in bracket)* (2)-(3)	Number of schools where electric wiring has been completed but no electric connection provided *(per cent in bracket) (5)*100/(3)*
(1)	(2)	(3)	(4)	(5)
GZP	2468	1327 *(54)*	1141 *(46)*	920 *(69)*
GBN	671	671 *(100)*	0	0

(Source: Records of BSAs)

As per information made available (May 2011), all the PSs and UPSs in GBN were having power supply and electric wiring. In GZP, electric wiring was not done in 46 *per cent* schools. In 69 *per cent* schools, wiring was complete but there was no electric connection. The position of electrification as reported by the sampled PSs and UPSs (247 in GZP and 67 in GBN), was as below:

Chart-2: Percentage of sampled schools provided with electric supply during 2010-11



Thus, as per information made available (May 2011) by sampled schools only 126 out of 247 schools in GZP had internal wiring and only 40 schools (32 PSs and eight UPSs) out of these 126 were electrified. However, 22 (16 PSs and 6 UPSs) out of 40 reported that there was no power supply during school hours {***Appendix-2.3.3 (a) & (b)}.***

Similarly, in GBN, six schools (four PSs and two UPSs) out of 67 sampled schools did not have electric wiring and five (three PSs and two UPSs) out of 61 schools having electric wiring, did not have electric supply {***Appendix-2.3.4 (a) & (b)***}.

Thus, the wiring done in the sampled school of GZP and GBN where there is no electric supply without ensuring the power supply is of no use.

In reply, the Government stated (February 2012) that in GZP electrification was completed in 1327 schools against which 440 schools were electrified.

2.3.4.3 Seating arrangements

Adequate seating arrangements were not made available in all schools.

As per guidelines, *Tat-Patty* & *chowkis* and desks & benches were to be provided to each student of PSs and UPSs respectively.

BSA, GZP informed (May 2011) that ₹ 2.86 crore was provided in 2006-07 for *Tat-Patty* and *chowkis* and desks and benches to1667 schools (1559 PSs and 108 UPSs) out of 2082 schools (1606 PSs and 476 UPSs). No funds were provided for seating arrangements to remaining 415 schools (47 PSs and 368 UPSs).

Four PSs and 30 UPSs (out of sampled 247 schools) in GZP informed (May 2011) non-availability of seating facility {***Appendix-2.3.1 (a) & (b)***}. In GBN also eight out of 21 sampled UPSs reported non-availability of desks and benches {***Appendix-2.3.2 (a) & (b)***}.

No reply to the above was furnished by the Government (March 2012).

2.3.5 Teaching Aids in PSs and UPSs

2.3.5.1 Computer hardware and software for innovative activity

Innovative activities for computer education in UPSs were not undertaken due to non-electrification of schools.

As SSA envisaged introduction of computer education in UPSs, computers were provided to those schools where electric connection was available. The information provided (May 2011) by the concerned BSAs of GZP and GBN in this regard is given in **Table 5**.

Table-5: Supply of Computer hardware and their functionality as on May 2011

District	Number of UPSs in the district (2010-11)	Number of UPSs, where Computers were provided	Number of UPSs, where computers were installed and were being used
GZP	748	79	79
GBN	208	40	40

(Source: Records of BSAs)

Thus, computers were provided to only 11 *per cent* schools in GZP. Test check of records (May 2011) of sampled schools revealed that only 10 out of 75 sampled UPSs received computers, of which seven were not installed because of non- availability of electricity. Further, only one (UPS Shriganj) out of the three installed computers were in use {***Appendix-2.3.1 (b)***}.

In addition, physical verification (April-May 2011) of seven UPSs, where computers have been supplied, revealed that in two UPSs (Mainpur and Mardah) computers were not physically available and in two UPSs (Yushufpur and Khanpur) computers, although reported as installed, were not installed.

In GBN, only 40 out of 208 UPSs received computers. Eight out of 21 sampled UPSs had received computers and five out of these were installed. Remaining three[3] Computers were not made functional due to non-availability of electricity {***Appendix-2.3.2 (b)}.***

In reply, the Government stated (February 2012) that keeping in view the availability of funds the districts had implemented computer aided learning programme.

Thus, computer education was affected adversely due to short supply of computers and non-availability of electricity in schools.

2.3.5.2 Sports facilities

As per provisions of RTE Act, 2009, the sports facilities were not made available in all the schools.

The RTE Act, 2009 prescribes norms and standards for schools in terms of provisioning for play material, games and sports equipment. Details of the sports items provided to the children in sampled PSs/UPSs of GZP and GBN was as below:

Table-6: Status of availability of sports items in the sampled PSs/UPSs as on May 2011.

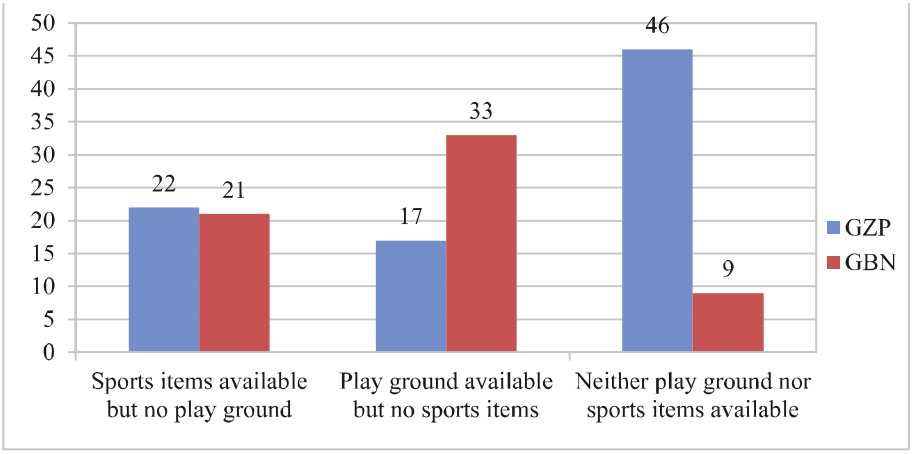
District	Category of schools	No. of sample selected PSs/UPSs	No. of schools where sports items were not provided (*per cent* in brackets)
GZP	PS	172	111 (65)
	UPS	75	45 (60)
GBN	PS	46	18 (39)
	UPS	21	10 (48)

(Source: Data Collected from PSs/UPSs)

[3] UPS Latifpur, Luharli, Girdharpur.

Thus, both the districts did not have adequate provision for ensuring sports activities as envisaged in the Act *ibid*. Audit of the sampled schools[4] revealed further inadequacies as presented in the chart below and detailed in ***Appendix-2.3.1 (a) & (b)*** and ***Appendix-2.3.2 (a) & (b)***:

Chart-3: Percentage of schools not having adequate sports arrangements



In reply, the Government attributed (February 2012) this to non-availability of land in the school.

2.3.5.3 Mid-Day Meal

Kitchen utensils and kitchen rooms were not available in all schools. In GBN, ₹ 206.25 lakh incurred on construction of kitchen rooms and purchase of utensils remained unfruitful.

MDM scheme was launched (September 2004) as a centrally sponsored scheme to improve the nutritional status and to increase attendance of school children. According to the norms of the MDM, a Kitchen-cum-Store Room should be provided in each school for cooking of food and storage of cooked food and utensils.

The status of available facilities in GZP and GBN as on May 2011 was as under:

- In GZP kitchen utensils were not available in 424 (17 *per cent*) schools (12 PSs & 412 UPSs) and kitchen- cum- store rooms were not available in 328 schools (12 PSs & 316 UPSs) out of 2468 schools; and
- In GBN kitchen-cum-store rooms, constructed in 284 (42 *per cent*) PSs/UPSs, out of the total 671 PSs/UPSs during 2006-11 at a cost of ₹ 1.73 crore, and in 637 (95 *per cent*) schools kitchen utensils purchased for ₹ 33.25 lakh, were not being used, as NGOs were supplying the MDM in all PSs/UPSs.

Further, scrutiny of records (May 2011) of sampled schools (PSs/UPSs) revealed that the percentage of schools not having adequate arrangements for providing MDM was larger in GBN than GZP, as shown in **Table 7**.

[4] 247 schools in GZP and 67 schools in GBN in April-May 2011.

Table-7: Status of Kitchen-cum-Store Room and utensils in sampled PSs/UPSs as on May 2011

District	Category of schools	Number of selected schools	Number of schools having no kitchen room (*per cent* in bracket)	Number of schools having no kitchen utensils (*per cent* in bracket)
GZP	PS	172	11 (6)	14 (8)
	UPS	75	44 (59)	22 (29)
GBN	PS	46	17 (37)	28 (61)
	UPS	21	17 (81)	14 (67)

(**Source**: Data Collected from PSs/UPSs) ***{Appendix 2.3.1-(a) & (b) and 2.3.2 (a) & (b)}***

It would be seen from the above table that kitchen rooms were not available in six *per cent* to 37 *per cent* in PSs and 59 *per cent* to 81 *per cent* in UPSs. Similarly, kitchen utensils were not available in eight *per cent* to 61 *per cent* in PSs and 29 *per cent* to 67 *per cent* in UPSs.

No reply to the above was furnished by the Government (March 2012).

2.3.5.4 Distribution of Free Text Books and Uniforms

Free text books and uniforms were not distributed to all eligible children.

SSA envisages providing free text books to all girls/SC/ST children at primary and upper primary level with an upper ceiling of ₹ 150 per child. Besides, free uniforms were also to be provided to all girl students of all categories of PS, as provided in the National Programme of Education for Girls at Elementary Level, a component of SSA.

Scrutiny of records (May 2011) of sampled schools revealed that free text books and uniforms were not distributed in some of the schools of GZP and GBN districts as shown below:

Table-8: Status of distribution of Free Text Books and Uniform in sampled schools as on May 2011.

District	Category of schools	Number of selected PSs/ U PSs	Number of schools where text books were not distributed (*per cent* in bracket)	Number of schools, where uniform was not distributed (*per cent* in bracket)
GZP	PS	172	22 (13)	19 (11)
	UPS	75	14 (19)	Not applicable
GBN	PS	46	11 (24)	21(46)
	UPS	21	2 (10)	Not applicable

(**Source:** Data Collected from PSs/UPSs) ***{Appendix-2.3.3 (a) & (b) and 2.3.4 (a) & (b)}***

Non-distribution of free uniforms to girls, scheduled caste/ scheduled tribe students and text books to the eligible children in all the schools resulted in non achievement of 100 *per cent* scheme objectives.

No reply to the above was furnished by the Government (March 2012).

2.3.5.5 Library facility

Schools lacked library facility.

The RTE Act, 2009 provides that there shall be a library in each school having newspaper, magazines and text books on all subjects, including story books.

BSA, GZP informed that library facility was not provided in 939 (384 PSs & 555 UPSs) out of 2468 schools (1720 PSs & 748 UPSs). Similarly, BSA, GBN informed that this facility was not available in 221 (83 PSs & 138 UPSs) out of 671 schools (463 PSs & 208 UPSs).

Scrutiny of records (April-May 2011) in sampled PSs/UPSs revealed that in GZP 102 PSs (59 *per cent*) and 61 UPSs (81 *per cent*) did not have library facility and in GBN nine PSs (20 *per cent*) and six UPSs (29 *per cent*) lacked the same. Details are given in ***Appendix-2.3.3 (a) & (b) and 2.3.4 (a) & (b).***

No reply to the above was furnished by the Government (March 2012).

Significant shortfall in enrolment of children even after increase of classrooms.

2.3.6 Enrolment, Drop Out and Retention Rate

Increase in number of enrolment, reduction in rate of dropout and higher retention rate are indicative of a successful education system. The discrepancies noticed in this regard are discussed in following paragraphs.

2.3.6.1 Enrolment

Analysis of the information of enrolment of children of PSs/UPSs furnished (May 2011) by BSAs of GZP and GBN revealed as below:

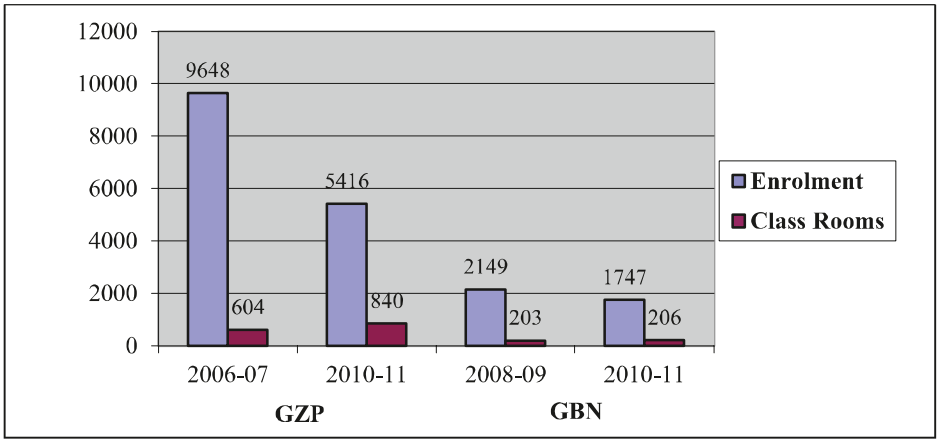
Table 9: Number of enrolment at PS and UPS level in GZP and GBN

District	School	2006-07	2007-08	2008-09	2009-10	2010-11
GZP	PS	394973	358223	328733	252948	268624
	UPS	56753	66789	78034	64689	71748
GBN	PS	The district was formed after 2007-08.		65530	63181	57636
	UPS			3390	3794	3421

(Source: Information collected from BSAs)

Thus, enrolment in PSs came down from 394973 (2006) to 268624 (2011) in GZP and in GBN from 65530 (2008) to 57636 (2011) respectively. Scrutiny of records in 172 sampled PSs in GZP and 46 PSs in GBN also revealed a declining trend in enrolment in Class-1 as shown in the Chart 4.

Chart 4: Trend of enrolment in Class1 in GZP (2006-11) and GBN (2008-11)



Note: Sampled schools of GBN had not furnished the information from 2006-07 to 2007-08

Thus, enrolment in Class-I decreased by 44 *per cent* in GZP during 2006-11, despite increase in number of class-rooms by 39 *per cent* (2006-11) ***{Appendix-2.3.5(a)}.*** Similarly, enrolment in Class-I in GBN also decreased by 19 *per cent* (2008-11) although, class rooms in the district increased by one *per cent* during the period {***Appendix-2.3.5(b)}***.

In reply, the Government stated (February 2012) that decline in enrolment was not due to poor quality of infrastructure, basic amenities and teaching Aids etc, but did not explain the reasons for decline.

2.3.6.2 Dropout and Retention of children

Schools were not able to retain the dropout of children.

As per recommendations of SSA programme management the children enrolled should continue to remain in school to complete their basic education. Children leaving schools midway indicates either non-availability of good educational environment/teachers or lack of proper atmosphere/ facilities.

In 463 PSs of GBN, 8161 children out of 12421 children enrolled in Class-III (2008-09), took admission in Class-V (2010-11). Thus, 34 *per cent* children dropped out and did not continue their education in the Government schools during the period. Similarly, in 208 UPSs, 3421 children out of 4791 children enrolled in Class-VI (2008-09) were admitted to Class-VIII (2010-11), resulting in drop out of 29 *per cent* children at UPSs level during the period. Information relating to GZP was not made available.

As per the data relating to the sampled schools the drop out percentage rate is shown in **Table 10**.

Table 10: Status of dropout at PS and UPS level in GZP and GBN as on May 2011

(***Per cent*** **in brackets)**

Particular	Class-1 2006-07	Class-V 2010-11	Class-VI 2008-09	Class-VIII 2010-11
GZP Sampled schools	172 PSs		75 UPSs	
Number of enrolment	9648	5079 (53)	3595	3056 (85)
Particular	**Class-III 2008-09**	**Class-V 2010-11**	**Class-VI 2008-09**	**Class-VIII 2010-11**
GBN sampled schools	46 PSs		21 UPSs	
Number of enrolment	1305	824 (63)	579	401 (69)

(Source: Information collected in sampled schools) ***{Appendix-2.3.3 (a) & (b) and 2.3.4 (a) & (b)}***

Thus, during the period under review 47 *per cent* children dropped out at primary level and the dropout rate was 15 *per cent* at the UPS level in GZP; and 37 *per cent* at primary and 31 *per cent* at UPS level in GBN.

The high drop-out rate of the children in PSs and UPSs of both the districts was indicative of lack of good quality infrastructure, teaching aids and MDM etc.

No reply to the above was furnished by the Government (March 2012).

2.3.6.3 Transition Rate

Transition rate of children was not maintained upto the mark.

Transition rate reflects the proportion of children continuing to the entry grade of Upper Primary from the exit grade of Primary level. The year-wise transition rate in sampled 247 (172 PS; 75 UPS) and 67 (46 PS; 21 UPS) schools in GZP and GBN were as below:

Table 11: Transition Rate from class-V to class-VI as on May 2011

Name of District	Enrolment – Transition							
	2006-07	2007-08	2007-08	2008-09	2008-09	2009-10	2009-10	2010-11
	Class-V	Class-VI	Class-V	Class-VI	Class-V	Class-VI	Class-V	Class-VI
GZP	5338	3358 (63)[5]	5191	3595 (69)	4732	3502 (74)	5162	3359 (65)
GBN	993	592 (60)	1026	579 (56)	874	516 (59)	883	459 (52)

(**Source:** Data Collected from PSs/UPSs) ***(Appendix-2.3.6 (a) & (b) and 2.3.7(a) & (b))***

Thus, the transition rate of children from class-V to class-VI in GZP ranged between 63 and 74 *per cent* and in GBN, between 52 and 60 *per cent*. Therefore, more children left the schools after primary level in GBN indicating inadequate effort by the authorities to retain children from PSs to UPSs.

No reply to the above was furnished by the Government (March 2012).

2.3.7 Other points of interest

2.3.7.1 Teacher Student Ratio (TSR)

The improved TSR was reported but it was mainly due to declining of enrolment and high dropout of children.

As per RTE Act, the TSR of 1:30 (PS) and 1:35 (UPS) should be maintained for effective teaching. The TSR at GZP and GBN in sampled schools during 2006-11 was as below:

Table 12: Position of Teacher Student Ratio (TSR) as on 2010-11

Year	Ghazipur		G .B. Nagar	
	TSR in PS	TSR in UPS	TSR in PS	TSR in UPS
2006-07	1:60	1:58	1:44	1:31
2007-08	1:54	1:54	1:43	1:36
2008-09	1:52	1:43	1:35	1:32
2009-10	1:42	1:34	1:35	1:32
2010-11	1:45	1:37	1:37	1:37

(**Source:** Records of BSA)

In 247 sampled schools (172 PS and 75 UPS) in GZP, the TSR during 2010-11 was 1:45 (PS) and 1:37 (UPS). In 67 sampled schools (46 PS and 21 UPS) in GBN, the TSR at the both PS and UPS in 2010-11 was 1:37.

It would be seen from the above that the TSR has improved in GZP and GBN districts mainly due to declining of enrolment and drop out of children.

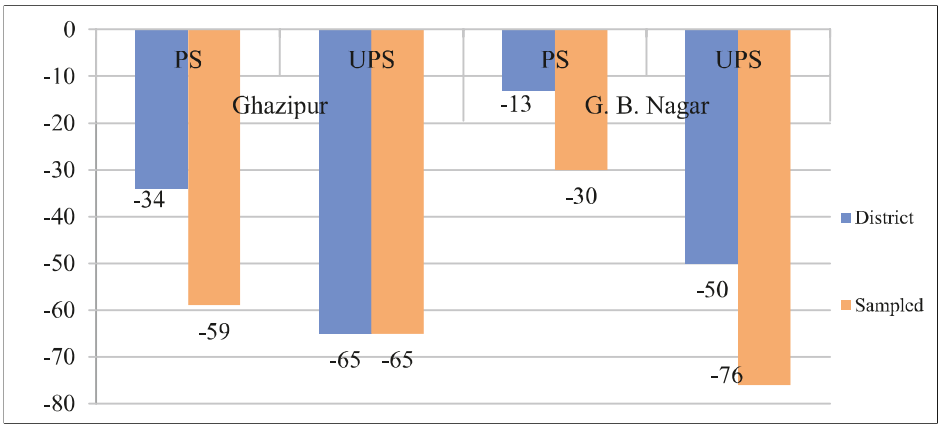
[5] Percentage of children enrolled in class-VI in brackets.

No reply to the above was furnished by the Government (March 2012).

2.3.7.2 Shortage of teachers

The shortage of teachers at schools level was more pronounced in sampled schools, *vis-à-vis*, the overall position of the district. The details are shown below:

Chart 5: Comparison of shortage of teachers (in *per cent*) at district and sampled school level as on May 2011.



(Source: Records of BSA and schools)

The shortage of teachers affected the quality of education.

It would be seen from the chart-5 that the shortage of teachers in PSs and UPSs in GZP district level was 34 *per cent* and 65 *per cent* and in GBN it was 13 *per cent* and 50 *per cent* respectively. Similarly, the shortage of teachers in sampled PSs and UPSs in GZP was 59 *per cent* and 65 *per cent* and in GBN it was 30 *per cent* and 76 *per cent* respectively. The shortage of teachers in sampled 314 schools (GZP: 247 & GBN: 67) is detailed in ***Appendix-2.3.8 (a & b) and Appendix-2.3.9 (a) & (b).***

The shortage of teachers affected the quality of education as well as TSR also.

No reply to the above was furnished by the Government (March 2012).

2.3.7.3 Gross Enrolment Ratio, Net Enrolment Ratio and Retention Rate

Gross Enrolment Ratio (GER)[6], Net Enrolment Ratio (NER)[7] and Retention Rate (RR)[8] are the performance indicators under SSA. The GER, NER and RR in both the districts, during 2006-11, were as below:-

[6] GER is the percentage of total enrolment in primary/elementary level of education to the population of primary/elementary schools.
[7] NER indicates the percentage of enrolment corresponding to the targeted child population.
[8] Retention rate (RR) indicates retention of the children at the end of the year.

Table 13: Status of GER, NER and RR as on May 2011.

District	Particular	Schools	2006-07	2007-08	2008-09	2009-10	2010-11
GZP	GER	PS	93.61	89.63	83.76	81.11	84.36
		UPS	36.89	47.23	54.42	42.50	50.11
	NER	PS	92.64	89.52	81.67	79.72	83.61
		UPS	26.23	32.17	39.32	35.19	45.15
	RR	PS	90.12	91.13	93.26	95.30	96.43
		UPS	87.92	89.45	91.02	92.70	93.50
GBN	GER	PS	104.12	107.29	98.64	96.15	96.70
		UPS	49.42	64.89	74.30	76.49	83.69
	NER	PS	78.23	82.77	73.67	78.96	82.11
		UPS	36.13	51.01	54.21	59.75	61.78
	RR	PS	99.82	100.06	83.35	50.19	Information not furnished
		UPS	Information not furnished			95.33	

(Source: Records of BSAs)

Thus, the GER and NER at primary level declined from 93.61 and 92.64 (2006-07) to 84.36 and 83.61 (2010-11) respectively in GZP and the GER declined from 104.12 (2006-07) to 96.70 (2010-11) in GBN. The retention rate at primary level improved in GZP from 90.12 (2006-07) to 96.43 (2010-11). However, this rate fell down in GBN from 99.82 (2006-07) to 50.19 (2009-10). The information about 2010-11 was not made available. This indicated that schools failed to attract new children for enrolment at primary level in both the districts and the schools in GBN failed to retain the students for full course at primary level.

No reply to the above was furnished by the Government (March 2012).

2.3.7.4 Training Facilities

Deployment of teachers in other activities led to significant shortfall in attaining the target of teachers training.

Pre-service training of 30 days for newly recruited teachers and of 60 days for contract teachers, besides 20 days in-service training, covering several pedagogical issues, including content and methodology, to improve teaching-learning transactions at class room level, were to be provided every year to every teacher by the master trainers of Block Resource Centers (BRC)[9] and Cluster Resource Center (CRC) who in turn were to be trained by the District Institute of Educational Training (DIET). The targets and achievements in both the district are given in **Table 14**.

Table 14: Status of target and achievement of teachers training as on June 2011

District	Year	Target (mandays)	Achievement (mandays)	Percentage of achieved target
GZP	2010-11	23439	10818	46.15
GBN	2010-11	2150	1720	80.00

(Source: Records of DIETs/BSAs)

The above table indicates that the targets for training of teachers could not be achieved in both the district.

[9] BRC and CRC are to provide academic support structure at a block and cluster level.

Both the BSAs stated (August 2011) that target of teachers' training was not achieved due to engagement of teachers in other activities.

No reply to the above was furnished by the Government (March 2012).

2.3.8 Conclusion

Universalisation of elementary education by providing sufficient number of teachers, adequate infrastructure facilities like toilets, separate toilets for girls, safe and adequate drinking water, mid-day-meal, sports grounds in the Government Primary and Upper Primary Schools were not largely fulfilled in the Ghazipur and Gautam Buddha Nagar districts of the State. Enrolment in Government PSs/UPSs was on declining trends (44 *per cent* in GZP and 19 *per cent* in GBN during 2006-11 in class-1) and dropout in these schools was also significant (47 and 37 *per cent* at the primary level respectively in GZP and GBN) in the scenario of growing population of the State. Shortage of teachers in the sampled schools, *vis-à-vis,* the overall position of both the district also effected the achievement of objective of the scheme. The Computers were provided to 10 UPSs of GZP, of which seven were not installed due to non-availability of electric supply. Distribution of free text books and uniform to all girls, SC/ST children at primary and upper primary levels was not ensured in all Government PSs/UPSs. Besides, 59 *per cent* sampled PSs and 81 *per cent* sampled UPSs of GZP and 20 *per cent* sampled PSs and 29 *per cent* sampled UPSs of GBN lacking library facilities. The transition rate of students from class-V to VI in sampled schools of GZP ranged between 63 and 74 *per cent* and 52 and 60 *per cent* in GBN.

Despite availability of sufficient class-rooms, improved TSR, MDM and other facilities, the Government was not able to restrict the drop out of the children in the Government schools.

2.3.9 Recommendations

- *Universalisation of elementary education should be ensured by reducing drop out rate and bringing children into the education stream;*
- *The infrastructure facilities and teaching aids, provisioned in the programmes launched by GoI and State, should be ensured to every school;*
- *Supply of free text books and uniforms to all eligible children should be ensured; and*
- *The shortage of teachers be mitigated in the schools by deployment of teachers and proper training to the teaching staff should be provided for better quality of education.*

MEDICAL HEALTH AND FAMILY WELFARE DEPARTMENT

2.4 Status of medical equipment and apparatus in Ghazipur and Gautam Buddha Nagar districts

2.4.1 Introduction

With a view to promoting good health and expand the outreach of health care, Medical Health and Family Welfare Department (MHFWD) runs a network of hospitals comprising District Hospitals (DHs), Community Health Centres (CHCs), Primary Health Centres (PHCs) and Sub centres. In 1994, the Government of Uttar Pradesh (GoUP) set norms for medical equipment and apparatus for these hospitals. In 2006, the Government of India (GoI) also prescribed health standards (designated as Indian Public Health Standards-IPHS) defining the level of quality of the hospitals/centres should meet with the key aim to enhancing the quality services delivered.

At the Government level, the Principal Secretary, assisted by the Director General, Medical and Health Services, Lucknow (DGMHS) at the State level, the Chief Medical Superintendents (CMSs) for DHs/ DJH and Chief Medical Officers (CMOs) for CHCs, PHCs and Sub centres at district level were responsible for the implementation of activities of MHFWD.

To evaluate the status of medical equipment and apparatus for 2006-11, Ghazipur and Gautam Buddha Nagar were selected [1] on the basis of geographical locations, economic conditions and inter-district disparity in the State.

Records for 2006-11 were examined (May and June 2011) in the offices of DGMHS, Lucknow, CMSs of DHs/ DJH and CMOs of Ghazipur and Gautam Buddha Nagar. Besides, records of five CHCs[2] out of ten, 15 PHCs[3] out of 87 and 59 Sub centres[4] out of 521 were also examined. Results of examination are discussed in succeeding paragraphs. These findings were discussed (January 2012) with the Principal Secretary, MHFWD. The results of discussions and the replies of the Government have been suitably incorporated.

Audit findings

2.4.2 Allotment and expenditure

Internal controls were lax.

During 2006-11, DGMHS provided ₹ 178.96 crore to the CMOs and CMSs, Ghazipur (₹ 137.49 crore) and Gautam Buddha Nagar (₹ 41.47 crore) against

[1] Ghazipur lies in State's eastern border and Gautam Buddha Nagar in western border. The Government has worked out the level of development in the state by Ranking Method at district level on the basis of 36 selected indicators under economic infrastructure, social infrastructure etc. On this basis, the districts have been placed in five ranges of Composite Index of Development (CID): very high, high, medium, low and very low. While Ghazipur is under very low CID with 71.90 points, Gautam Buddha Nagar is under very high CID with 431.44 points.

[2] Ghazipur: Khanpur, Muhammadabad and Saidpur; Gautam Buddha Nagar: Badalpur and Bhangel.

[3] Ghazipur: Abhisan, Asawar, Barachaur, Betawar, Bhadaura, Karanda, Kusmikalan, Mardaha, Reotipur, Subhakarpur, Zamania and Gautam Buddha Nagar: Barela, Bisrakh, Dankaur and Sector 22.

[4] Gautam Buddha Nagar: 17 and Ghazipur: 42.

which ₹166.67 crore (Ghazipur: ₹ 128.45 crore; Gautam Buddha Nagar: ₹ 38.22 crore) was utilised in providing health care, leaving overall savings of ₹ 12.29 crore (Ghazipur: ₹ 9.04 crore; Gautam Buddha Nagar: ₹ 3.25 crore). The details of allotment, expenditure and savings are given in **Table 1**.

Table 1: Allotment and expenditure

(₹ in crore)

Units test checked	Period	Allotment	Expenditure	Savings
CMO, Ghazipur	2006-11	105.52	100.01	5.51
DH (Male), Ghazipur	2006-11	21.67	19.25	2.42
DH (Female), Ghazipur	2007-11	10.30	9.19	1.11
CMO, Gautam Buddha Nagar[5]	2008-11	35.60	32.94	2.66
DJH, Gautam Buddha Nagar[6]	2006-08	5.87	5.28	0.59
Total		**178.96**	**166.67**	**12.29**

(Source: CMOs and CMSs**)**

Scrutiny revealed (May-June 2011) that the funds were allotted for pay and allowances on the basis of sanctioned strength of staff rather than person-in-position in violation of Paragraph 32 of the Budget Manual[7] resulting in savings of ₹ 12.29 crore. Scrutiny also revealed that CMO, Gautam Buddha Nagar did not maintain the register for allotment and expenditure during 2006-11. As such the register was not submitted to the Controlling Officer, depriving him of the opportunity to exercise expenditure control, as required under Paragraphs 112 and 116 of the Budget Manual[8]. Further, CMO, Gautam Buddha Nagar did not record day-to-day transactions (involving ₹ 4.96 crore) in cash book for the months of February and March 2011. The monthly balances (involving ₹ 16.24 crore) from June 2010 to January 2011 were also not authenticated by DDO (as of June 2011).

The Government stated (January 2012) that the funds were allotted in anticipation of appointment of doctors by the Public Service Commission. The Government also stated (January 2012) that the CMO, Gautam Buddha Nagar had since authenticated the cash book entries. The replies were not acceptable as the fact remained that the statutory provisions (Rule 32 of Budget Manual) were violated, resulting in savings of ₹ 12.29 crore. No reply for non-maintenance of register of allotment and expenditure was furnished (March 2012).

Thus, internal controls were lax not only in allotment of funds but also in utilization thereof which was fraught with the risk of misappropriation /embezzlement.

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[5] Does not include budget allotment and expenditure under the grant number 32 during 2009-10.
[6] During 2008-11, the expenditure was incurred by the New Okhala Industrial Development Authority.
[7] Budget estimates should be framed on the basis of expenditure to be incurred on pay and allowances of the person-in-position irrespective of sanctioned strength.
[8] DDO should maintain a register of allotment and expenditure containing columns for voucher number, date, description from major head to detailed head and objects. A copy of such register was also to be submitted to the controlling officer by fifth of each month in respect of the previous month.

2.4.3 Functioning of departments

Hospitals/ Centres were ineffective in providing health care services.

To ensure the mandated health services, the Government had sanctioned departments of Radiology, Pathology, Paediatrics etc. for DHs and CHCs. DGMHS was responsible for posting of doctors/specialists. Test checked hospital-wise departments sanctioned and their functioning in selected districts is brought out in **Table 2**.

Table 2: Functioning of departments as on March 2011

Name of hospital	Departments sanctioned	Departments not functional (periods in bracket)
Ghazipur		
DH (Male)	Radiology, Pathology, Paediatrics, Surgery and Cardiology	Surgery, Cardiology and Pathology (2010-11)
DH (Female)	Gynaecology, Radiology, Pathology & Paediatrics	Radiology & Pathology (2006-11), Paediatrics (2006-09)
CHC, Muhammadabad	Surgery, Medicine, Gynaecology, Paediatrics, Radiology and Eye	Surgery (2007-11), Paediatrics (2008-11), Gynaecology & Eye (2006-08)
CHC, Saidpur	Surgery, Medicine, Gynaecology, Paediatrics, Eye	Surgery & Paediatrics (2010-11)
CHC, Khanpur	Surgery, Medicine, Gynaecology, Paediatrics, Eye	Surgery, Gynaecology, Paediatrics (2006-11)
Gautam Buddha Nagar		
CHC, Badalpur	Surgery, Medicine, Gynaecology, Paediatrics, Orthopedic & Radiology	Radiology (2006-08), Paediatrics (2006-09)
District Joint Hospital	Surgery, Pathology, Skin, Cardiology, Radiology, Eye, Orthopedics, ENT, Medicine, Paediatrics, Dental and Gynaecology	Surgery, Pathology, Skin, Cardiology (2007-10)

(Source: Records of test checked hospitals/centres**)**

The table above indicates that various departments did not function during different spells. This was due to non-posting of medical staff by DGMHS, Lucknow. In DH (Male), Ghazipur, nine specialists (Pathologist: two; Physician: one; Anaesthetist: one; Surgeon: two; Paediatrician: one; Radiologist: one Cardiologist: one) were not posted (2010-11). In DH (Female), Ghazipur, one to two Medical Officers were not posted (2008-11). In DJH, Gautam Buddha Nagar, none was posted (2006-11) against nine specialists (General Surgeon: two; Pathologist: two; Skin Specialist: one; cardiologist: one, Superintendent and Senior Medical Officer: two; Chief Medical Superintendent: one).

In test checked CHCs, the shortfall[9] in medical staff ranged (during 2006-11) between 11 and 15 against sanctioned 34 specialists. Likewise, in test checked

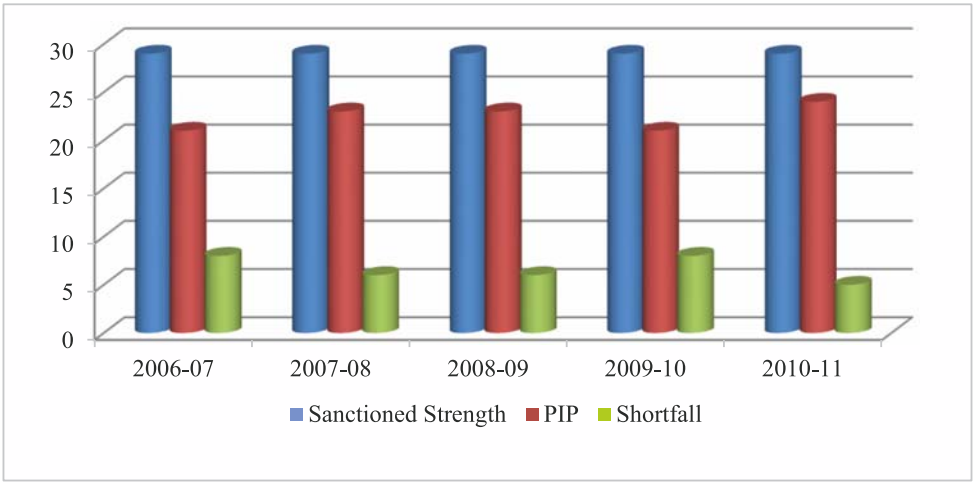
[9]

Hospitals	Sanctioned strength	2006-07	2007-08	2008-09	2009-10	2010-11
		person-in-position/shortfall				
CHCs	34	21/13	19/15	20/14	22/12	23/11
PHCs	29	21/8	23/6	23/6	21/8	24/5

(Source: Records of test checked hospitals)

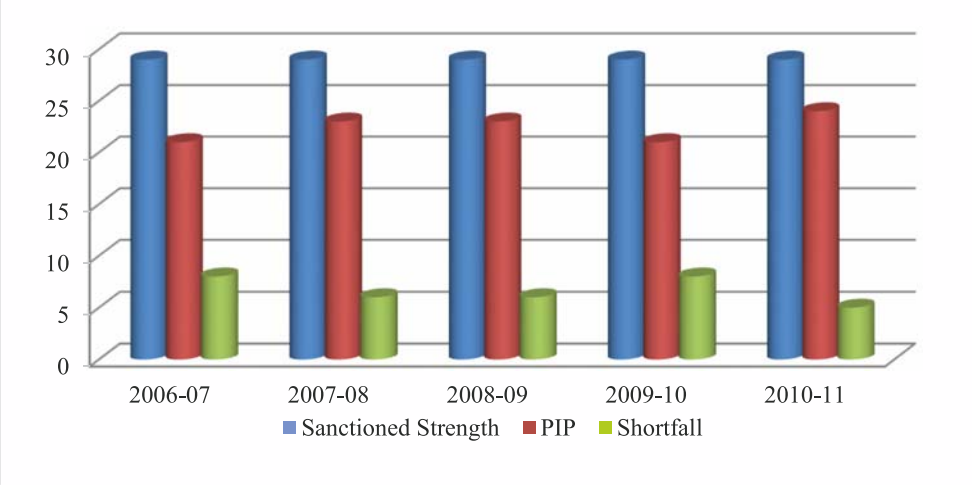
PHCs, it ranged between five and eight against sanctioned 29 (during 2006-11). The shortfall in CHCs and PHCs shown in Bar Chart 1 and 2.

Chart 1: Shortfall in CHCs



(Source: Records of test checked hospitals**)**

Chart 2: Shortfall in PHCs



(Source: Records of test checked hospitals**)**

The Government accepted (January 2012) the aforesaid shortfalls. Thus, the hospitals/centres in Ghazipur and Gautam Buddha Nagar test checked were not effective to the mandated extent in providing health care services to the community.

2.4.4 Medical equipment

With a view to ensuring health care service, the Government provided medical equipment and apparatus to DHs and CHCs. However, Audit observed (May - June 2011) that a number of medical equipment and apparatus were lying idle since long as discussed below:

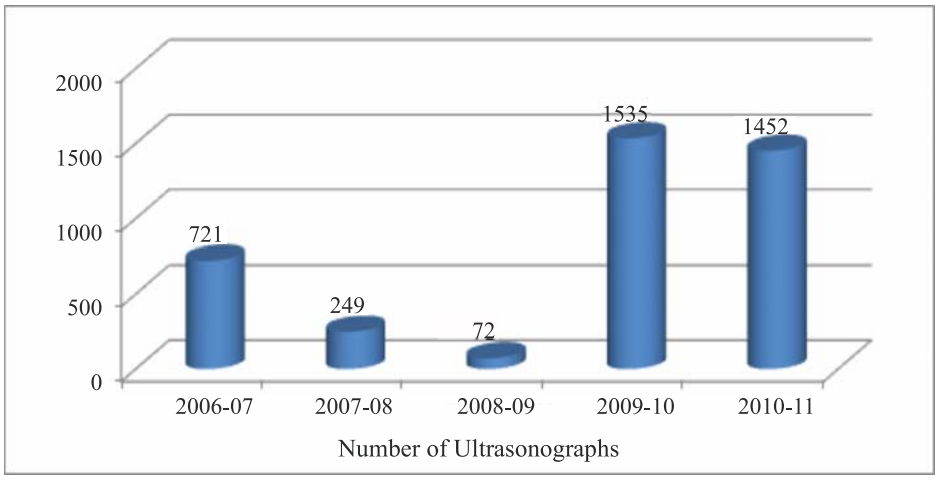
Ultra sound machine

Ultrasound, X-ray machines, Ventilators etc., were lying idle.

In DH (Female) Ghazipur, one ultrasound machine (₹ 5.79 lakh) was installed in September 2006. Prior to it, a post of radiologist was sanctioned by the Government in 2005. However, neither DGMHS posted a radiologist nor the CMS of the hospital effectively pursued the matter of posting since September 2006. During joint inspection (26 May 2011) of wards of the hospital, Audit noticed that the patients had ultra sono graph reports of the private diagnostic centres. Thus, the ultra sound machine remained idle, as of May 2011, even after five years of its installation and the patients did not have any option but to visit private diagnostic centres for ultra sono graphs all along.

In DH (Male), Ghazipur, one ultrasound machine was installed in 2006 and 4,029 ultra sono graphs were conducted during 2006-11 as shown in **Chart 3**.

Chart 3: Number of ultrasonographs



(Source: Records of the hospital**)**

The chart above indicates the number of ultrasonographs, ranging between 72 (2008-09) and 1,535 (2009-10), conducted during the years 2006-11. As the log books of repair and performance in respect of the machines were not maintained by the CMS of the hospital, though mandatory in terms of Government instruction (May 1991), the reasons for variation could not be ascertained in audit. The Government attributed (January 2012) very low numbers of ultrasonographs during 2007-09 to the non-availability of radiologists.

X-ray machine

In DH (Male), Ghazipur, six X-ray machines (₹ 13.41 lakh) were installed prior to 2006-07. However, as of March 2011, three were unserviceable since 2009-10 (no annual maintenance contract was executed with the supplier) for no reason on record. One machine was condemned in 2004 but was not disposed of even after seven years due to inaction. Out of the remaining two,

one was in service and 7,405 x-rays were conducted during 2009-11, while one machine was idle.

In reply, the Government stated (January 2012) that only one machine was in service due to sanction of only one post of x-ray technician. The Government further stated (January 2012) that action to dispose of one x-ray machine (condemned in 2004) was ongoing.

Cardiac equipment

The Government sanctioned cardiology department for DJH, Gautam Buddha Nagar prior to 2006-07 and equipped it with computerised ECG, four cardiac monitors and two cardiac monitors with defibrillator[10]. The Government also sanctioned (June 2005) a post of cardiologist for the department. However, the equipment were not being used for treatment of patients and remained idle as the cardiologist was not posted by DGMHS, as of June 2011.

The Government stated (January 2012) that cardiologist could not be posted due to their non-availability.

Electrolyte Ion Analyser

In May 2003, Uttar Pradesh Health System Development Project supplied Electrolyte Ion Analyser[10] to DH (Male), Ghazipur. However, DGMHS did not provide funds during 2003-09 for consumable kits though a pathologist remained posted in the hospital since May 2003. This indicated lack of monitoring by DGMHS. However, after six years, DGMHS sanctioned (February 2010) ₹ 3.30 lakh for consumable kits. Even after purchase (March 2010) of consumable kits, the equipment was lying idle (as of May 2011) as the pathologist was in the meanwhile transferred (March 2010) and the post remained vacant during 2010-11.

The Government accepted (January 2012) that the Electrolyte Analyser could not be used due to non-posting of pathologist; it further stated that a pathologist has been posted in December 2011.

First Referral Unit (FRU) equipment

PIP (2009-10) revealed that CHCs, Muhammadabad and Saidpur in Ghazipur (2008-09) and CHC, Badalpur in Gautam Buddha Nagar (2009-10) were accorded status of FRU. Consequently, the equipment[11] for FRU was supplied (February 2010) to them.

However, the status of FRU of CHC, Muhammadabad was subsequently withdrawn in 2009-10 due to non-functioning of surgery and paeadiatric departments for want of posting of specialists. During Joint Physical

[10] Cost not furnished though called for in February 2012.
[11] First Referral Unit (FRU) equipment comprises surgical sets, IUD insertion kits, normal delivery kits, devices for anaesthesia, neo-natal resuscitation equipment etc. Cost not furnished though called for in February 2012.

Inspection (May 2011), it was noticed that the equipment was lying idle in packed condition.

The Government did not furnish any reply (March 2012).

The FRU status of CHC, Saidpur was not withdrawn. However, the surgical sets and neo-natal resuscitation medical equipment were lying idle since their receipt in 2009-10 as the posts of surgeon and paediatrician were vacant (May 2011) since then.

In CHC, Badalpur, baby radio therapy and normal delivery kits were in use and blood transfusion kit[10] which were received in December 2010, was transferred (April 2011), due to non-availability of infrastructure, to DJH, Gautam Buddha Nagar where it was again lying idle due to the same reason. Remaining equipment meant for FRUs were also lying idle in packed condition as shown in the photographs.

In reply, the Government accepted (January 2012) the facts.



Packed Autoclave lying idle in CHC, Badalpur, G B Nagar



Packed FRU equipment lying idle in CHC, Badalpur, G B Nagar

Ventilator

In March 1999, Central Medical Store Depot, Lucknow supplied a ventilator[10] to DJH, Gautam Buddha Nagar for installation in Intensive Care Unit (ICU) of the cardiology department of the hospital. However, the cardiologist was not posted to ensure its functioning even after 12 years (June 2011) of its supply although the post of cardiologist was sanctioned by the Government prior to



Ventilator lying idle in DJH Gautam Buddha Nagar

its supply. The ventilator was lying idle in store as of June 2011 since its receipt. No action was initiated by the CMS, DJH, Gautam Buddha Nagar for the posting of cardiologist.

In reply, the Government stated (January 2012) that the action was being taken to post the specialist /cardiologist.

Other Medical equipment and apparatus

The Department upgraded existing PHCs at Bhangel, Gautam Buddha Nagar (July 2008) and Bhadaura, Ghazipur (December 2009) to CHCs and equipped (July 2010) them with several medical equipment[12]. To ensure services at CHC, Bhangel and CHC, Bhadaura, the CMOs submitted the proposals to the Government in December 2009 and July 2010 for sanction of posts of the requisite medical and para medical staff. However, while the Government did not sanction the staff (June 2011) for CHC, Bhangel even after one year of submission of the proposal, DGMHS did not post (May 2011) them even after 15 months of sanction (January 2010) of the staff for CHC, Bhadaura.

The Government stated (January 2012) that the medical and para medical staff for CHC, Bhangel had been sanctioned in June 2011. However, the staff was yet to be posted rendering the equipment idle.

Thus, due to administrative failure and lack of monitoring by DGMHS and non-functioning of departments/non-posting of specialists, equipment like Ultrasound Machines, X-ray Machines, Electrolyte Ion Analyser and FRU equipment etc. were lying idle. This deprived the patients of the mandated benefits of the equipment.

2.4.5 Ambulances

Ambulances were not used for intended purpose.

There were three ambulances[10] in DJH, Gautam Buddha Nagar, as on June 2011. Scrutiny of log books revealed (May-June 2011) that out of 197 journeys performed by these ambulances during various periods[13], only 25 journeys (13 *per cent*) were for incoming and discharged patients while remaining 172 (87 *per cent*) were for administrative works including postal distribution. Similarly, there was an ambulance each in DH (Male), Ghazipur and DH (Female), Ghazipur, as of June 2011. Scrutiny of their log books for the month of April and May 2011 also revealed that ambulances were used for only administrative works, instead for incoming and discharged patients. In DH (Female), Ghazipur, the log book was incomplete.

The Government stated (January 2012) that the ambulance in Gautam Buddha Nagar was used for VIP duty. The Government also stated that the ambulance

[12] CHC Bhangel: dental chair, hydraulic operation table, ECG machine, defibrillator, physio-therapy table, ultra sound machine and x-ray machine. CHC Bhadaura: 30 beds, dental chair, three operation tables, surgical sets, neo-natal resucication equipment and various medical devices for labour room. Cost not furnished though called for in February 2012.

[13] January to March 2011, December 2010 to March 2011 and January 2011 to April 2011.

in Ghazipur was not used for patients as ambulance services were available at local level at cheaper rates. Besides, only one vehicle was available in the hospital for administrative and emergency works. The replies were not acceptable as the objective of procurement of ambulances were frustrated.

PHC, Subhakarpur, Ghazipur purchased one ambulance[10] from MPLAD fund in 2006. However, after one year of use, it was sent to the workshop at Varanasi in 2007 for repair but was not taken back (May 2011) due to non-payment of parking charges (₹0.80 lakh) levied by the workshop.

The Government stated (January 2012) that action is being taken to take it back.

Thus, on one hand there was misuse of ambulances in DJH, Gautam Buddha Nagar, DH (Male), Ghazipur and DH (Female), Ghazipur, on the other, an ambulance was lying idle in a workshop for about four years (May 2011).

2.4.6 Unproductive expenditure on ventilators and ambulances

Unproductive expenditure on ventilators

Expenditure of ₹ 3.76 crore incurred on purchase of ventilators and ambulances proved unproductive.

The State Government sanctioned (September 2010) ₹ 2.45 crore for purchase of 35 ventilators on propriety and single quotation basis for installation in hospitals of the National Capital Regions[14] (NCR) for providing treatment for dengue and other vector borne diseases during XIXth Commonwealth Games[15] (CWG-2010). CMO, Ghaziabad was the nodal officer for it.



Ventilators in packed condition at Dr. Ram Manohar Lohia Joint Hospital, Lucknow

Scrutiny of the records revealed (May-June 2011) that CMO, Ghaziabad, instead of placing purchase order for ventilators immediately after administrative and financial sanction (₹ 2.45 crore) in September 2010, placed the order on M/s Aeon Medical Private Limited, Indore (firm) nine days after commencement of the Games in October 2010 with the direction to arrange supply at the earliest. No time schedule for supplies was, however, fixed in disregard to the canons of financial propriety. The firm commenced the supply[16] (after over a month of the end of the CWGs) from November 2010 and completed by March 2011. Further, the ventilators were not installed in

[14] Bagpat, Bulandshahar, GB Nagar, Ghaziabad and Meerut.

[15] The Commonwealth Games is a multi-sport event held every four years among Commonwealth Countries. XIXth Commonwealth Games (CWG-2010) were organized from 3 to 14 October 2010 in New Delhi and adjacent Gautam Buddha Nagar, where the cycling event was held on 13 October 2010.

[16] 18 November 2010: 10 sets, 13 December 2010: nine sets, 18 December 2010: 14 sets and 18 March 2011: two sets.

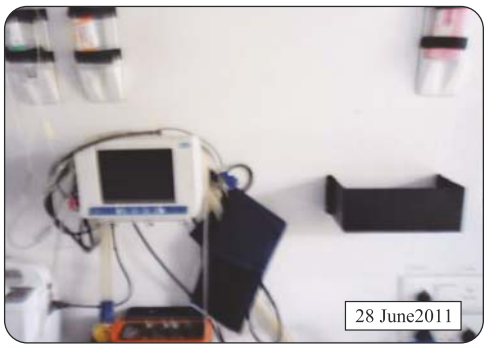
the hospitals of the NCR. The CMO, Ghaziabad did not cancel the purchase order mid-way as the games were over but accepted the supplies. Further scrutiny revealed that all 35 ventilators, under the orders of DGMHS, were subsequently transferred (November 2010 to March 2011) to six hospitals[17] at Gorakhpur, Kanpur, Lucknow and Meerut without ensuring whether these were actually required there and also whether infrastructure existed for installation in these hospitals. It was noticed that out of 35 ventilators (₹ 2.45 crore), 14 (₹ 0.98 crore) were lying idle in packed condition in three test checked hospitals at Lucknow (June 2011) for want of infrastructure and non-availability of staff in Balrampur, Shayama Prasad Mukherjee and Ram Manohar Lohia Hospitals. In Ram Manohar Lohia Hospital, five ventilators were already installed with an average usage of twice or thrice per day.

In reply, the Government stated (January 2012) that the purchase order was not cancelled in public interest. The Government also stated that the ventilators were transferred to other hospitals in public interest. The reply was not acceptable as the ventilators were purchased for CWG. No reply was, however, furnished regarding non-utilisation of ventilators in the hospitals where these were transferred as of March 2012.

Unproductive expenditure on ambulances

For providing advance life support to the cycling event [18], the State Government sanctioned (September 2010) ₹ 1.31 crore for purchase of nine ambulances (₹ 64.98 lakh) and fittings (₹ 66 lakh) for four with advanced life support systems and five with basic life support systems.

CMO, Gautam Buddha Nagar purchased (September 2010) nine ambulances at ₹ 64.98 lakh from M/s Force Motors Limited, Pune and placed (September 2010) the order for fitting of life support systems, including defibrillator to M/s Aeon Medical Private Limited, Indore. As per supply order (September 2010), the firm was to arrange on-site training to the designated team of doctors and other medical personnel. The supplies of nine ambulances, duly fitted, were received (October 2010) from the firm. However, as no team of doctors and medical personnel were constituted by the CMO, Gautam Buddha Nagar, the on-site training was not provided. This indicated not only failuref of governance but also lack of vigilance. No log books of the ambulances were maintained/



Missing defibrillator in ALS of Dr. RMLJH, Lucknow

[17] UHM Kanpur: 6; DH Gorakhpur: 12; PLS Meerut: 3; SPM Lucknow: 6; Balrampur Hospital Lucknow: 6 and RML Lucknow: 2.
[18] Under instruction (February 2010) of the Ministry of Health & Family Welfare, GoI.

furnished to audit. As a result, it could not be ascertained in audit as to whether these ambulances were used in CWGs or otherwise.

Scrutiny of the records also revealed (May-June 2011) that after the CWG were over, the aforesaid nine ambulances were transferred (November 2010), without ensuring their utility, to the Joint District Hospital, Sanjai Nagar, Ghaziabad (one), MMG Hospital, Ghaziabad (one) Ram Manohar Lohia Hospital, Lucknow (two), Shayama Prasad Mukherjee Hospital, Lucknow (two) and UHM Hospital, Kanpur (three). During scrutiny of the records (May-June 2011) in test checked hospitals, it was noticed that four ambulances, transferred to Shayama Prasad Mukherjee and Ram Manohar Lohia Hospitals, Lucknow were lying idle as of January 2012, as these hospitals were already equipped with the ambulance[19]. In test check of the records of ambulances in these hospitals, Audit also observed that none of the free six services[20] were availed as of June 2011. The CMSs of these hospitals intimated (June 2011) that no demands were placed for these ambulances. joint physical verification (July 2011) revealed that defibrillator (cost: ₹ 1.50 lakh), consumable items (cost: ₹ 25000) and emergency kit (cost: ₹ 40000) were missing from the ambulances available in the hospitals at Lucknow. On being pointed out in audit (May-June 2011), CMS, Ram Manohar Lohia Hospital, Lucknow stated (July 2011) that the matter had already been reported (March 2011) to DGMHS, Lucknow. The reply was not acceptable as neither any departmental enquiry was initiated nor First Information Report lodged with the police upto January 2012.

Thus, due to delay in placement of purchase orders for ventilators to a firm without specifying time-frame for supply and subsequently transferring them to hospitals without ensuring their utility/requirement, expenditure of ₹ 2.45 crore, on purchase of 35 ventilators was rendered unproductive. Besides, due to failure for providing onsite training of equipment to doctors and paramedical staff and transferring ambulances equipped with basic and advanced life support systems to hospitals, without assessment of requirement, ₹ 1.31 crore was also rendered unproductive.

During discussion (January 2012), the Principal Secretary stated that the Government was committed for better use of the equipment through perspective planning. It further stated that the Government is committed for utilisation of all the equipment at the place of requirement by transferring them to those hospitals/districts wherever required.

2.4.7 Other points of interest

- Six hospitals out of seven test checked were not equipped with as per equipment norms of the State Government, 1994 (***Appendix-2.4.1***),

[19] Shayama Prasad Mukherjee Hospital, Lucknow was equipped with four ambulances and Ram Manohar Lohia Hospital, Lucknow with three ambulances.
[20] The manufacturer provides free services for maintenance.

depriving people of medical health care in Ghazipur and Gautam Buddha Nagar.

- Size of DHs and number of CHCs, PHCs and Sub centres in rural areas were below the IPHS in Ghazipur and Gautam Buddha Nagar even after six years of launching of NRHM, as of March 2011 **(*Appendix-2.4.2*)**.
- Equipment available (May/June 2011) in the test checked hospitals/centres were below the IPHS **(*Appendix-2.4.3*)**.
- Treatment of low number of patients in Indoor Patient Department indicated that the test checked DHs, CHCs and PHCs did not attract patients for treatment due to non-availability of equipment, non-functioning/non-sanction of departments/non-posting of doctors/ specialist and medical staff. As a result, bed occupancy was low **(*Appendix-2.4.4*)** during 2006-11.

The Government did not furnish any reply (March 2012).

2.4.8 Conclusion

The departments sanctioned by the Government did not function due to non-posting of medical staff. Consequently, a large number of equipment were either not optimally utilised or were lying idle. The hospitals in Ghazipur and Gautam Buddha Nagar were not even equipped as per the norms of 1994 of the State Government. Achievement *vis-a-vis* IPHS was minimal even after six years of launching of NRHM in 2005. The bed occupancy rate of the hospitals was very low and the patients were left to take recourse to the private diagnostic centers. The ambulances were used for official works, instead of by the incoming /discharged patients. Besides, huge expenditure incurred on purchase of ventilators and ambulances for CWGs was rendered unproductive due to improper planning.

2.4.9 Recommendations

- *The Government should constitute a Monitoring Committee at State level for ensuring functioning of all the departments in hospitals/centers, optimum use of equipment and ambulances by incoming and discharged patients;*
- *The Government should ensure that the hospitals/ centers are equipped with adequate facilities and requisite manpower, so that the community gets the intended benefits of standardised medical services; and*
- *The Government should also ensure optimum utilisation of the medical equipments etc., procured for CWGs.*