WATER RESOURCES DEPARTMENT

2.1 Performance Audit on Requirement, Construction and Utilisation of Anicuts in Chhattisgarh

Executive Summary

The State Government prepared (June 2005) a work plan for construction of Anicuts in the State by prioritising areas which have less rain fall or rain shadow, depleting ground water level, drought prone areas, dearth of drinking water etc. Anicut is a dam constructed over a river or a stream for regulating and supply of water for drinking, agriculture, industrial use and *nistari*[1] etc. The State Government constructed 769 Anicuts spending ₹ 2,679.92 crore from 2005 to 2016. A Performance Audit on the Requirement, Construction and Utilisation of these Anicuts constructed during 2011-16 was undertaken between June and August 2016. During audit, records relating to 89 Anicuts (72 Anicuts completed and 17 incomplete Anicuts) were test checked. The major audit findings are:

The State Government was ill prepared to execute a comprehensive, planned and effective Anicut system. While the Master Plan for assessment of surface water and ground water in the State is pending at Government level for the past 15 years, the department planned construction of 595 Anicuts in 2005 based on the toposheet only without factoring in the parameters of selection enumerated in the plan itself. Resultantly, the department failed to stick to the plan and took up only 231 of the 595 planned Anicuts for construction while the balance 364 Anicuts was dropped. Subsequently, the department sanctioned 538 additional Anicuts at different locations but again without adhering to the conditions of selection. Thus, 769 Anicuts in total were sanctioned without adopting the selection criteria. Further, at ground level also, due care was not taken for selecting the sites for the Anicuts as the essential data such as rainfall, crop failure, ground water level during summer and other seasons etc. required for evaluating the feasibility were neither collected nor incorporated in the Detailed Project Reports of Anicuts. As a result, in our sample selection and site visit of the 72 Anicuts, it was noticed that 35 Anicuts were sanctioned over *nallas* and rivers which were not perennial sources in violation of the conditions of selections and of these 22 Anicuts have water only for six to eight months against the objective of round the year availability. Overall, only 10 out of 72 sampled Anicuts could meet all the objectives as envisaged in the plan.

(Paragraphs 2.1.6.1, 2.1.6.2, 2.1.6.3, 2.1.9.1 and 2.1.9.1(a))

Of the 769 sanctioned Anicuts, the department incurred an expenditure of ₹ 1095.74 crore up to March 2016 on the construction of 280 Anicuts during 2005-16. These Anicuts could not be completed in more than one to 10 years of their commencement on account of land disputes, land compensation issues, slow progress of works by the contractors etc. However, the department neither resolved these bottlenecks to ensure completion of these Anicuts nor assessed the damages to the old foundations and structures of the Anicuts, particularly 119 Anicuts which were not completed in more than

[1] Utilisation of water for domestic purposes i.e. bathing, washing, cattle drinking etc.

three to 10 years involving expenditure of ₹ 611.85 crore. Thus, completion of the Anicuts in all respects to realise benefits from these seems a remote possibility. In the sampled Anicuts, completion of 65 Anicuts were delayed between two and 36 months on account of labour problems, *naxalite* problems or presence of water in river or *nalla* preventing construction works.

(Paragraphs 2.1.8.1 and 2.1.8.2)

The intended purposes of the Anicuts such as ground water recharge and irrigation during *Rabi* season were not served as out of 72 sampled Anicuts, 47 did not increase ground water recharge as confirmed by Central Ground Water Board and 79 *per cent* of cultivable land was not irrigated due to lack of electric connection, long distance of agricultural land from Anicuts, excessive height of banks in nearby areas of Anicuts etc. However, Government did not intervene to arrange electric connections, canal network to take the water to the fields etc. to extend the benefit of the Anicuts to the end users. Further, the department did not prepare any plan for management of water supply from the Anicuts.

(Paragraphs 2.1.9.1 (b), (c) and 2.1.9.2)

Kabonga Anicut was damaged only in 19 months of its completion as quality test of materials and workmanship was not carried. Mainpur Anicut was also damaged as bank protection and foundation works were not executed. In Sirpur and Badgaon stopdams, there were cracks in the main structure, installation of gates were not proper and protection wall was damaged. As a result, Government had to bear a loss of ₹ 3.22 crore on the damages while the very purpose of construction of these Anicuts to store water for *nistari* and agricultural use as well as increase in ground water level was totally defeated.

(Paragraphs 2.1.8.6)

2.1.1 Introduction

Management of water resources is a part of Chhattisgarh State Water Resource Development Policy 2001. The State Government prepared a work plan (June 2005) and proposed to construct a series of Anicuts/stopdams which is a dam constructed over a river or a stream for regulating and supply of water for *nistari*, agriculture, industrial use etc. The purpose of construction of Anicuts is to increase the ground water level, agricultural production and to make available water for drinking, industrial and *nistari* purpose.

As per the work plan, construction of Anicuts were to be prioritised in the areas falling under rain shadow areas, areas of declining ground water level, drought prone areas, dearth of drinking water etc. Further, priority was also to be given to sites of perennial rivers and also rivers which flow till the month of February. The State has 489 completed Anicuts and 280 ongoing Anicuts as of March 2016.

2.1.2 Organisational Setup

The Water Resources Department (department) is headed by Secretary at Government level. Engineer-in-Chief (E-in-C) is the professional advisor to the Government and is responsible for the overall working of the department. The E-in-C is assisted by five Chief Engineers (CEs) at zone level, 11 Superintending Engineers (SE) at circle level and 61 Executive Engineers (EE) at divisional level. In addition, CE (Monitoring) monitors the budget of the department and progress of schemes functioning in the department. Besides, there are eight quality control units who reports to the SEs.

2.1.3 Audit Objectives

The objectives of the Performance Audit (PA) were to evaluate whether:

- requirement of Anicuts was assessed and survey for suitable site was proper and adequate;
- fund management was efficient and adequate;
- construction of Anicuts were done in an economic, efficient and effective manner;
- Anicuts were being used for the purpose they were constructed for; and
- monitoring mechanism and evaluation of the projects was adequate and effective.

2.1.4 Audit Scope and Methodology

The Performance Audit was conducted for the period 2011-12 to 2015-16 during June to August 2016 covering the Anicuts sanctioned between 2008 and 2013 by scrutiny of records of Water Resources Department, E-in-C, five CE, three out of 11 SEs and 12 out of 61 EEs.

To determine the sample, the geographical spread of Chhattisgarh which spans into three regions viz. Northern hills (five districts), Chhattisgarh plains (15 districts) and Bastar plateau (seven districts) have been considered. Twenty five *per cent* districts from each of the geographical regions i.e. seven[2] out of total 27 districts were selected using Population Proportional to Size without Replacement (PPSWOR) sampling method with number of Anicuts in the district as the size measure.

In the selected districts, the State Government undertook construction of 162 Anicuts during the period 2008-2013, of which 120 were completed till March 2013 and remaining 42 were under construction as of March 2016. Of these, 72 completed Anicuts and 17 under construction Anicuts were selected using Simple Random Sampling without Replacement (SRSWOR) method. Audit also conducted joint physical verification of the 72 completed Anicuts and undertook survey with 720 beneficiaries of these selected Anicuts for ascertaining their utilisation. The findings of joint physical verification and beneficiary survey are commented in relevant paragraphs.

An entry conference was held (May 2016) with the Secretary, WRD to discuss the objectives, scope and methodology of Audit. An exit conference was also held (December 2016) with the Secretary, WRD to discuss the audit findings and the views/replies of the State Government have been suitably incorporated in the report.

[2] Bemetara, Bilaspur, Dantewada, Dhamtari, Janjgir-Champa, Kondagaon and Sarguja

2.1.5 Audit criteria

The audit criteria were derived from the following sources:

- Work Plan for construction of Anicuts (2005)
- Detailed Project Report (DPR) of individual Anicuts
- Chhattisgarh Finance code and Treasury code
- Works Department (WD) Manual
- Unified Schedule of Rates (USOR) issued by WRD in 2003, 2008, 2010 and 2013
- Circulars/instructions issued by the department.

Audit Findings

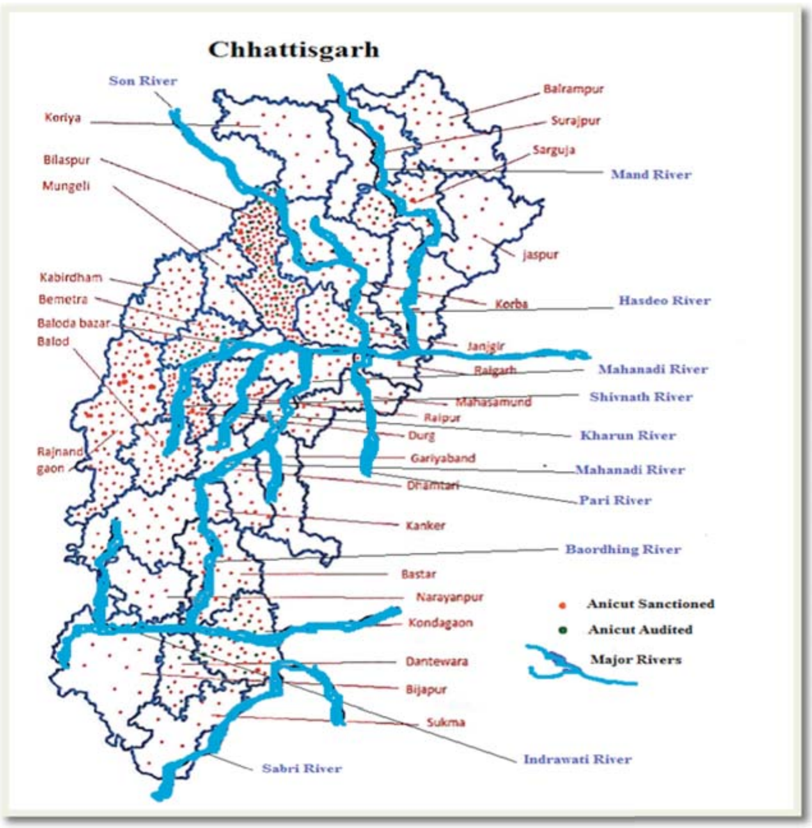
2.1.6 Planning

2.1.6.1 Inordinate delay in finalisation of Water Resources Development Master Plan

Water Resources Development Master Plan was not prepared even after 15 years from approval of Water Resources Development Policy

As per paragraph 4.1 of Water Resources Development Policy (WRDP) 2001, assessment of surface water and ground water in the State was to be done and based on the assessment, an integrated "Water Resources Development Master Plan (WRDMP)" was to be prepared by WRD. Further, it was also planned to give priority for balanced use of surface and ground water and preparing the estimates for availability of ground water in scientific method with necessary judicial provisions.

However, it was observed in audit that the said WRDMP was not prepared even after 15 years from approval of WRDP. Although the same Master Plan was again reiterated in the draft of new Chhattisgarh State WRDP 2012, it had not been approved as of December 2016 and stated to be under review by the Government.



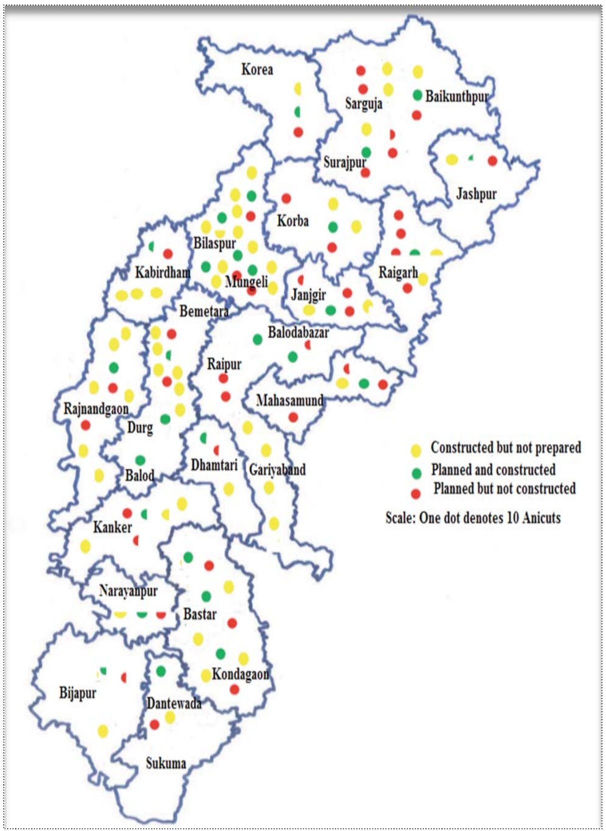
Meanwhile, in the absence of WRDMP, the department went ahead with construction of Anicuts in the State and incurred expenditure of ₹ 2,679.92 crore on construction of 769 Anicuts between 2005-06 to 2015-16 without assessing availability of surface water and ground water in the State. Thus, neither the WRDMP could be prepared nor scientific assessment of ground/surface water was undertaken.

During exit conference the Secretary stated (December 2016) that the draft of Chhattisgarh State WRDMP upto 2040 was under scrutiny by the CEs. The fact remains that WRDMP was not prepared even after lapse of 15 years from the approval of WRDP preventing scientific assessment of ground/surface water.

2.1.6.2 Unscientific preparation of work plan

The State Government prepared (June 2005) a work plan for construction of 595 Anicuts on different rivers and *nallas* in all districts. As per the plan, priority was to be given for construction of Anicuts in those areas which have less rain fall or rain shadow, depleting ground water level, drought prone areas, dearth of drinking water etc. Further, priority was also to be given to sites of perennial rivers and rivers which flow till the month of February (for eight months).

Scrutiny of records in E-in-C office revealed that detailed survey to factor in the above conditions while preparing (June 2005) the work plan was not ensured by the department. As a result of this failure, against the work plan for construction of 595 Anicuts, only 231 Anicuts (39 *per cent*) were taken up for construction by the department during 2005-16 while the remaining 364 Anicuts were dropped (December 2016). Instead, 538 additional Anicuts were sanctioned during 2005-16 de-novo by the department at places different from the locations of the previously planned 364 Anicuts. As a result, the number of Anicuts in the Northern Hills decreased from 102 to 77 Anicuts while it increased from 119 to 136 in Bastar Plateau and from 374 to 556 Anicuts in Chhattisgarh Plain as detailed in **Appendix-2.1.1**. Thus, the work plan (June 2005) was ill conceived.



Note:- The geographical distribution of Anicuts planned, constructed and not constructed in the various districts (Appendix-2.1.1) are shown by dots, with each dot representing 10 units. The geographical distribution is not to scale.

Audit further noticed that the 538 additional Anicuts were again sanctioned in ad-hoc manner without adhering to the stipulated conditions for selection by the department as and when proposals were received from the WRD divisions. This indicates failure of the department to again draw up a scientifically driven work plan supporting the need of the State for Anicuts.

During exit conference the Secretary agreed (December 2016) that the work plan for construction of 595 Anicuts was prepared on the basis of toposheet which was not based on detailed survey. However, survey was done at the time of preparation of DPR of each Anicut. The reply is not acceptable as DPRs are prepared only after selection of sites and not that sites are selected based on DPRs. Further, fact remains that 364 out of the 595 Anicuts proposed in the work plan had to be dropped for failure of the department to factor in the essential conditions for selection of the Anicuts.

2.1.6.3 Need assessment of Anicuts

According to the work plan for construction of Anicuts, data of rainfall, crop failure, ground water level during summer and other seasons should be taken into consideration for selection of site for construction of Anicuts.

Need assessment of Anicuts not done

Scrutiny of records in 12 WRD divisions in sampled districts in respect of 89 selected Anicuts revealed that DPRs were prepared by the concerned EEs of WRD divisions. In the DPR of Anicuts, information such as participatory process of stakeholders i.e. recommendation of local public representatives and residents of nearby village, name of the district/block/village, design features of Anicut such as height, length, discharge capacity, soil survey and foundation investigation etc. were mentioned. However, the criteria laid down in the work plan as discussed in paragraph 2.1.6.2 were not taken into consideration as these information were not available with the department.

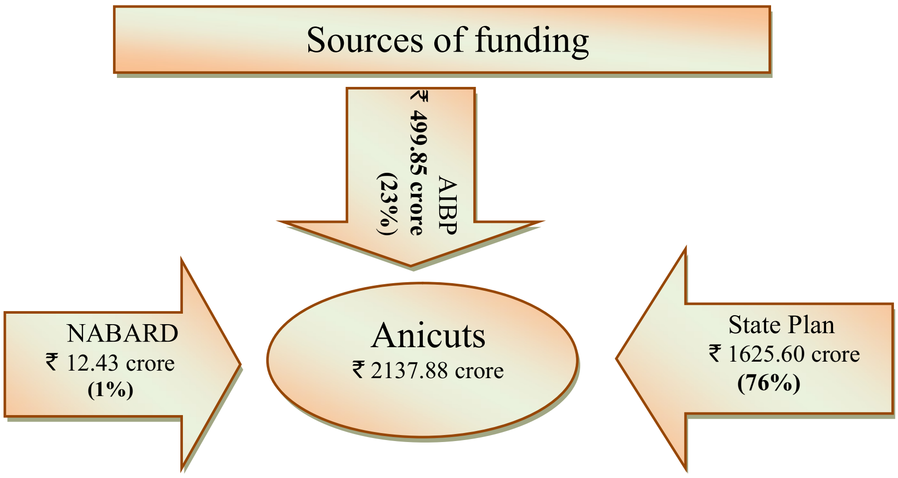
Thus, Anicuts were constructed totally ignoring the factors of selection. In order to ascertain the efficacy of these Anicuts, Audit conducted beneficiary surveys in some selected Anicuts. Based on the reports of beneficiary survey and information collected from Central Ground Water Board, Audit observed cases of unfruitful expenditure, cases where ground water level did not increase, marginal increase in irrigation potential and stagnant area under *Rabi* crop as discussed in subsequent paragraphs. This could be a direct consequence of not selecting the projects in a scientific manner.

During exit conference the Secretary accepted the audit observation and instructed (December 2016) the concerned officials to ensure the criteria for assessment of requirement in future.

2.1.7 Financial Management

2.1.7.1 Funding pattern

The Anicuts in the State are constructed under State plan scheme, Accelerated Irrigation Benefits Programme (AIBP) scheme of GoI and National Bank for Agriculture and Rural Development (NABARD) assisted Rural Infrastructure Development Fund (RIDF) programme for which, budget is allocated under 4702 Major Head. As per funding pattern of AIBP, till 2012-13, 90 *per cent* of the total allocation was to be reimbursed by the GoI and 10 *per cent* was to be borne by the State Government. Thereafter from 2013-14, this pattern was revised as 75:25 (GoI: State Government). NABARD releases the sanction amount on reimbursement basis which is given as loan to the State Government. The interest on loan is to be paid to NABARD by the State Government at the prevailing rate of interest of NABARD in equal annual installments within seven years from the date of drawal including a grace period of two years. Though allocation of funds is made separately for scheme under NABARD assisted RIDF programme, no separate allocation is made in the budget for the schemes sanctioned under AIBP. The expenditure against schemes under AIBP is made from the provisions of funds made in the State Plan schemes (4702-construction of Anicuts) and then claims of reimbursements are made to GoI. This is depicted in the flow diagram below:



The allotment of fund and expenditure thereon incurred during the year 2011-12 to 2015-16 for construction of Anicuts/stopdams by the department is as follows:

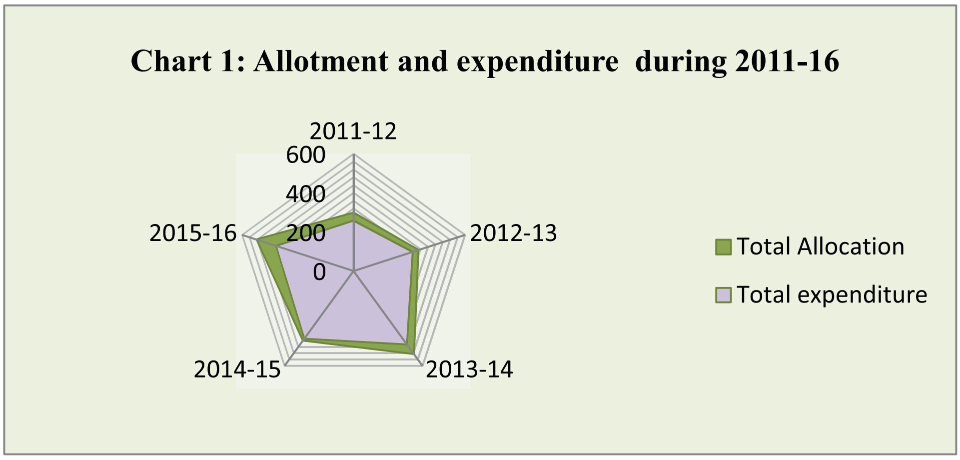
Table 2.1.1:- Allotment and expenditure incurred on Anicuts during 2011-16

(₹ in crore)

Year	Allotment		Total Allocation	Expenditure		Total expenditure	Savings (*per cent*)
	State scheme[3]	NABARD		State scheme	NABARD		
2011-12	295.00	3.78	298.78	255.97	2.64	258.61	40.17 (13)
2012-13	349.45	0.00	349.45	317.86	0.00	317.86	31.59 (09)
2013-14	517.00	8.65	525.65	456.29	8.09	464.38	61.27 (12)
2014-15	441.00	0.00	441.00	428.32	0.00	428.32	12.68 (03)
2015-16	523.00	0.00	523.00	417.63	0.00	417.63	105.37 (20)
Total	**2125.45**	**12.43**	**2137.88**	**1876.07**	**10.73**	**1886.80**	**251.08**

(Source: Information furnished by E-in-C and compiled by Audit)

3 The state scheme allotment and expenditure includes AIBP expenditure of ₹ 416.85 crore incurred during 2011-12 to 2013-14.



It may be seen from the above table that as against the total allocation of ₹ 2,137.88 crore, expenditure of ₹ 1,886.80 crore (88 *per cent*) was incurred by the department. The savings of 20 *per cent* noticed in the year 2015-16 was due to completion of less number of works (21 works were completed) as compared to the previous three years (80 in 2012-13, 67 in 2013-14 and 61 in 2014-15). Further, out of NABARD loan of ₹ 12.43 core, the department could spend only ₹ 10.73 core. Thus, ₹ 1.70 crore could not be spent on which interest worth ₹ 34.08 lakh[4] was payable by the department.

This is indicative of the fact that the department failed to achieve the desired results even though enough money was available for expenses. Various management failures of the department are highlighted in the subsequent paragraphs.

2.1.7.2 Short receipt of grant under AIBP

Accelerated Irrigation Benefits Programme (AIBP) guideline provides for inclusion of new projects on completion of an ongoing project on one to one basis. As per funding pattern of AIBP, till 2012-13, 90 *per cent* of the total allocation was to be reimbursed by the GoI and 10 *per cent* was to be borne by the State Government. Thereafter from 2013-14, this pattern was revised to 75:25 (GoI:State Government).

The GoI accorded sanction for inclusion of 129 Anicuts/stopdams under AIBP during 2011-12 and 2013-14. The details of expenditure and receipt of grants from GoI is as below:

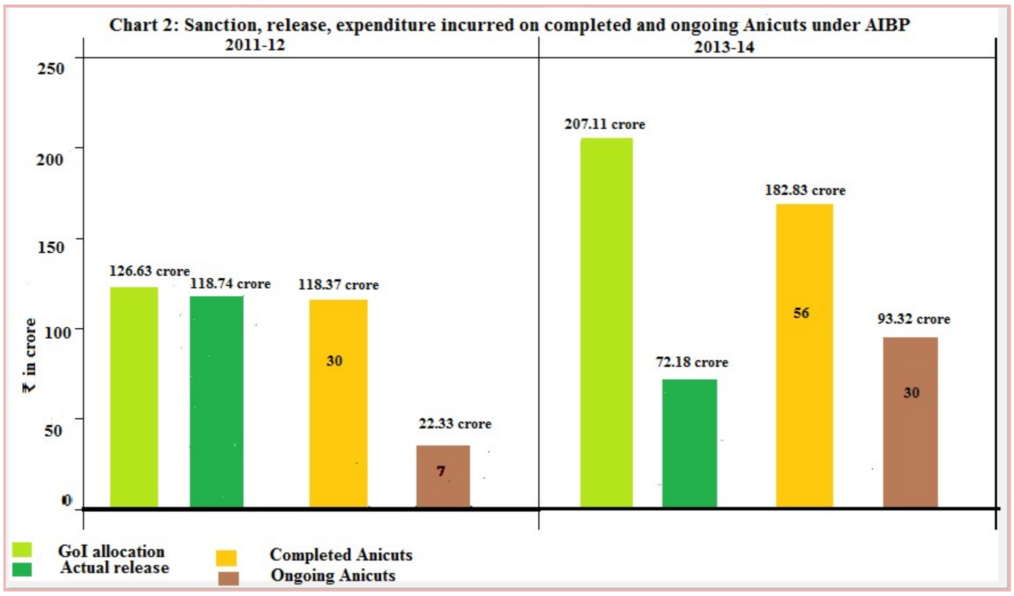
Table 2.1.2 : Details of sanction of Anicuts/stopdams and release of funds under AIBP

(₹ In crore)

Year of sanction	No. of Anicuts/ stopdam	Provision made by the State Government	Total expenditure upto March 2016	Expenditure incurred on completed Anicuts	Expenditure incurred in ongoing Anicuts	Allocation due from GoI	Allotment received from GoI	Liability for the State Government
2011-12	43	166.45	140.7	118.37 (30)	22.33 (07)	126.63 (90%)	118.74	7.89
2013-14	86	333.4	276.15	182.83 (56)	93.32 (30)	207.11 (75%)	72.18	134.93
Total	**129**	**499.85**	**416.85**	**301.20 (86)**	**115.65 (37)**	**337.74**	**190.92**	**142.82**

(Source: Information furnished by E-in-C and compiled by Audit)

[4] For the year 2011-12:- ₹ 1.14 crore*6%*4 years= ₹ 27.36 lakh and 2013-14:- ₹ 0.56 crore*6%*2 years= ₹ 6.72 lakh



Under AIBP ₹ 142.82 crore was less received by the State Government during 2011-14

It may be seen from the above that during the year 2011-12 and 2013-14, against 129 sanctioned Anicuts/stopdams, the department completed 92 Anicuts/stopdams at a cost of ₹ 301.20 crore while 37 Anicuts/stopdams could not be completed as of March 2016 despite incurring expenditure of ₹ 115.65 crore. Thus, expenditure of ₹ 416.85 crore was incurred by the department on these 129 works against which financial assistance of ₹ 337.74 crore was to be received from GoI as per the AIBP guidelines. However, GoI reimbursed only ₹ 190.92 crore resulting in short release of ₹ 142.82 crore to the State Government. The State Government claimed (between March 2015 and September 2015) reimbursement of the balance fund from GoI through Central Water Commission Bhopal, but was not provided (December 2016).

Audit further observed that the State Government entered (2013) into a Memorandum of Understanding (MoU) with Ministry of Water Resources, GoI for release of balance fund subject to completion of the incomplete works by March 2015. However, the State Government could not complete the 37 Anicuts/stopdams by March 2016 and resultantly the balance fund worth ₹ 44.11 crore was not released by GoI. In addition, the balance fund worth ₹ 98.71 crore against the completed 92 Anicuts/stopdams was also not released by GoI for which no reasons were on record.

During exit conference the Secretary stated (December 2016) that once the work is started, the contractors have to do the work and payment needs to be made to the contractors accordingly. The Secretary further stated that less grant have been received from GoI and efforts were being made for reimbursement of the remaining amount.

Fact remains that the State Government could not complete the construction works to get the reimbursement against 37 Anicuts/stopdams as per the MoU.

2.1.7.3 Irregular claim of NABARD expenses from AIBP

As per para 4.8 of AIBP guidelines, it is the responsibility of the State Government to ensure that there is no overlapping of the works undertaken in the Minor Irrigation Schemes and other Schemes of Central and State Government.

Scheme already completed with loan assistance from NABARD was again included in AIBP by suppression of facts

Construction of Dhourabhata Anicut in Dhamtari district was completed (June 2013) at a cost of ₹ 2.51 crore from the NABARD fund. However, the CE, Mahanadi Godawari Basin, Raipur based on a proposal from EE, WRD division, Dhamtari claimed (February 2014) reimbursement of the expenditure under AIBP from GoI on the ground that the work was completed under NABARD as a loan and therefore, this was again included under AIBP as a grant.

However, E-in-C requested (June 2016) the State Government to drop the work from the AIBP.

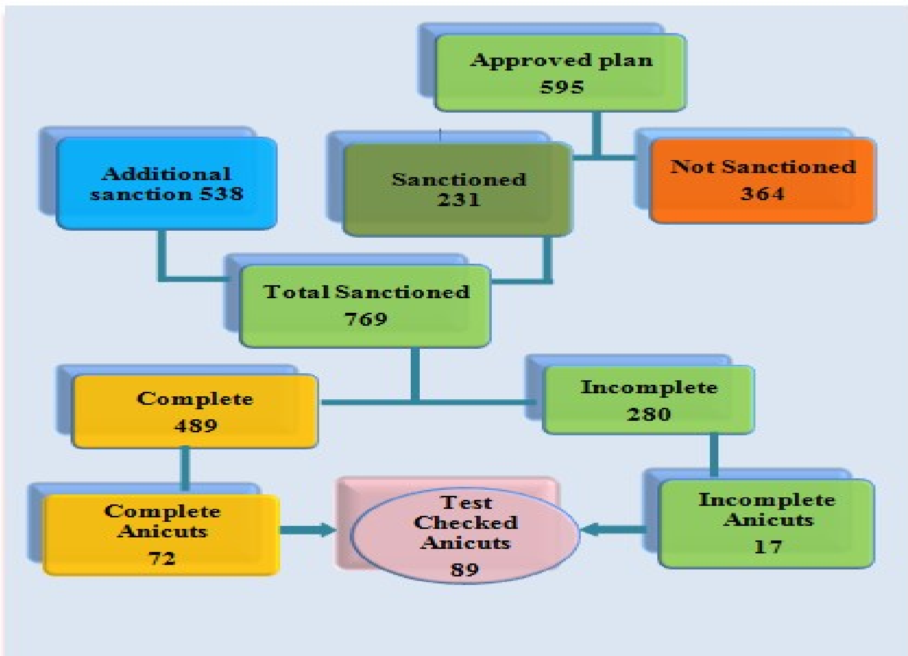
Thus, the scheme already completed from NABARD was again included in AIBP and reported to GoI in 2014 for getting reimbursement in violation of AIBP guidelines and suppression of facts.

During exit conference the Secretary accepted the audit observation and stated (December 2016) that work was completed under NABARD and no expenditure was incurred under AIBP.

2.1.8 Execution of work

As per the work plan, 595 Anicuts were planned for construction within seven years (i.e. up to 2012) of which only 231 Anicuts have been sanctioned for construction during 2005-16 while 364 Anicuts have not been taken up for construction. Further, 538 additional Anicuts were sanctioned de-novo by the department totaling 769 Anicuts. Of this, 489 Anicuts (64 *per cent*) were completed while remaining 280 Anicuts (36 *per cent*) could not be completed.

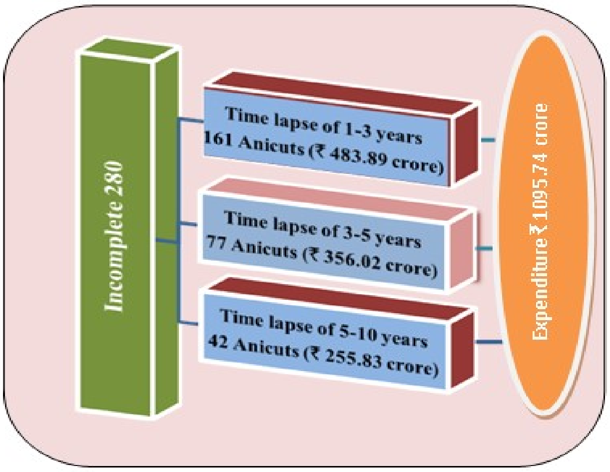
To verify the construction and utilisation of the Anicuts, audit selected 72 completed Anicuts and 17 incomplete but under-construction Anicuts located in seven districts spread over the three regions viz. Northern Hills, Bastar Plateau and Chhattisgarh Plain for review as shown through the flow diagram below.



2.1.8.1 Unfruitful expenditure of ₹ 1095.74 crore on incomplete Anicuts

Expenditure of ₹ 1095.74 crore on 280 incomplete Anicuts was unfruitful

During 2005-06 to 2015-16, WRD sanctioned construction of 769 Anicuts. It was noticed that 489 Anicuts were completed while 280 Anicuts estimated at ₹ 1537.37 crore could not be completed even after lapse of more than one to 10 years as of January 2017 despite incurring an expenditure of ₹ 1095.74 crore up to March 2016. This included 161 Anicuts (58 *per cent*) estimated at ₹ 773.98 crore not completed in one to three years despite spending ₹ 483.89 crore, 77 Anicuts (28 *per cent*) estimated at ₹ 461.20 crore not completed in three to five years after spending ₹ 356.02 crore and 42 Anicuts (14 *per cent*) estimated at ₹ 302.19 crore not completed in five to 10 years even after incurring expenditure of ₹ 255.83 crore. The delays were mostly on reasons of land disputes, demand for compensation by land owners, *naxal* menace, labour problems, slow progress of works by contractors, incessant rains etc. as noticed from the records of 89 sampled Anicuts. On these 280 incomplete Anicuts, WRD could not get any benefit from the investment as these Anicuts could not fulfill the objectives of irrigation, n*istari*, drinking use or ground water recharge. Hence, the expenditure of ₹ 1095.74 crore on these Anicuts proved unfruitful. However, Government neither took effective steps to ensure completion of these Anicuts by addressing the bottlenecks to realise the benefits nor undertaken any assessment of the physical damages to the old foundations and structures of the Anicuts, particularly the 119 Anicuts which were incomplete for more than three to 10 years due to onslaught of weather, erosion with passage of time etc. involving an expenditure of ₹ 611.85 crore. Thus, completion of the Anicuts in all respects and realisation of benefits from these seems a remote possibility.



(a) Findings in 17 sampled Anicuts

Scrutiny of records of 17 out of 89 sampled Anicuts (as per information provided by the department) revealed that 10 Anicuts were completed during September 2013 to May 2016. Of these, two Anicuts (Dhourpur Garuadih and Samdil) were completed within stipulated periods while eight Anicuts[5] were completed between May 2014 and July 2016 with delays ranging from 10 to 39 months on grounds of extra works, absence of approach roads, physical obstructions by local people, heavy water in the sources on which the constructions of Anicuts were to be done etc. as detailed in **Appendix-2.1.2**.

The remaining six Anicuts (out of 17 selected) could not be completed despite expenditure of ₹ 23.12 crore and lapse of 12 to 28 months beyond stipulated

[5] Ameri, Amladih, Balood, Jaleshwar, Kaneri, Koni, Nandeli bhata and Ranijhap Anicuts

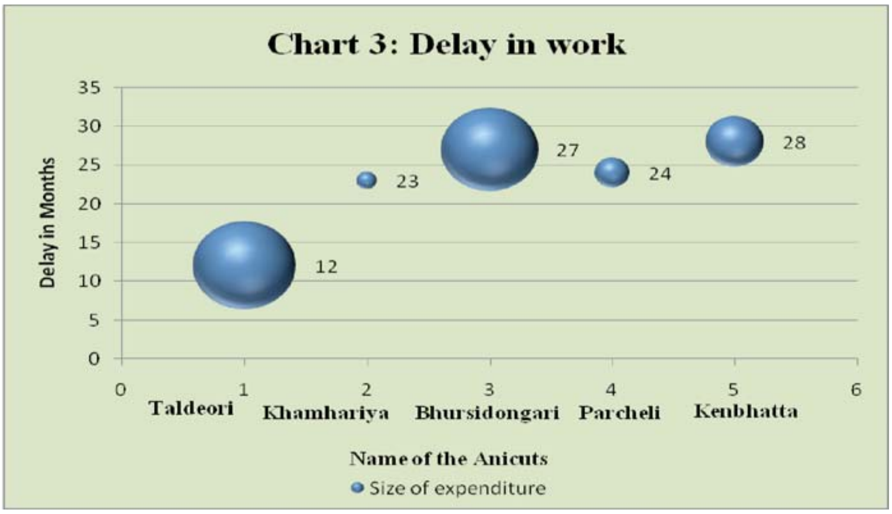
periods while in respect of one Anicut, though the civil work was completed, the gates were not installed to complete it in all respect which is discussed separately in paragraph 2.1.8.7. The reasons for the delays in completion are as shown below:

Table 2.1.3 : Details of selected works not completed

(Amount in crore ₹)

Name of the Anicut/date of Work order	Stipulated period of completion/ completed upto	Delay in work as of 07/2016	Reasons for delay	Contract amount	Upto date expenditure
Taldeori Anicut (WRD, Janjgir-Champa) No.-09/2013	21 months including rainy season upto-06/2015	12 months	Demand for payment of compensation by villagers for land acquisition not met	23.45	9.77
Khamhariya Anicut (WRD, Bemetara) No.-09/2013	10 months including rainy season upto-07/2014	23 months	Protest by villagers led to FIR but further action not on record	2.90	0.36
Bhursidongari Anicut (WM Dam-1, Rudri Dhamtari) No.-11/2012 and 03/2013	12 months including upto-11/2013 and 03/2014	27 months	*Naxal* affected forest area, acute labour problem and unexpected heavy rain put the work on hold	10.45	8.68
Parcheli Anicut (WRD, Dantewada) No.-07/2013	11 months including rainy season upto-06/2014	24 months	*Naxal* and unexpected heavy rain	2.14	1.15
Kenbhatta Anicut (WR dn. 6, Shakti, Janjgir-Champa) No.-05/2013	10 months including rainy season upto-02/2014	28 months	Slow progress of work	3.67	3.16
Chatapara Anicut 1 (WRD, Kota, Bilaspur)	Neither administrative approval, nor technical sanction was granted for Chatapara Anicut 1.				
Rajouti Anicut (WRD No.1, Ambikapur	Although the civil work was completed, the gates were not installed to complete it in all respect. Discussed separately in paragraph 2.1.8.7				
Total					**23.12**

(Source-Information furnished by the divisions and compiled by audit)



As could be seen from the above, though an amount of ₹ 23.12 crore was incurred by the State Government, the works could not be completed for the disputes on account of reasons mentioned in the table. However, Government did not take effective steps even after 28 months to resolve the bottlenecks in the construction. As a result, the intended benefits could not be realised defeating the very purpose of construction of the Anicuts.

During exit conference (December 2016), the Secretary accepted the fact and stated that necessary instructions would be issued to complete the ongoing works. However, the Secretary could not give any justification for not effectively intervening to resume the works by addressing the impediments.

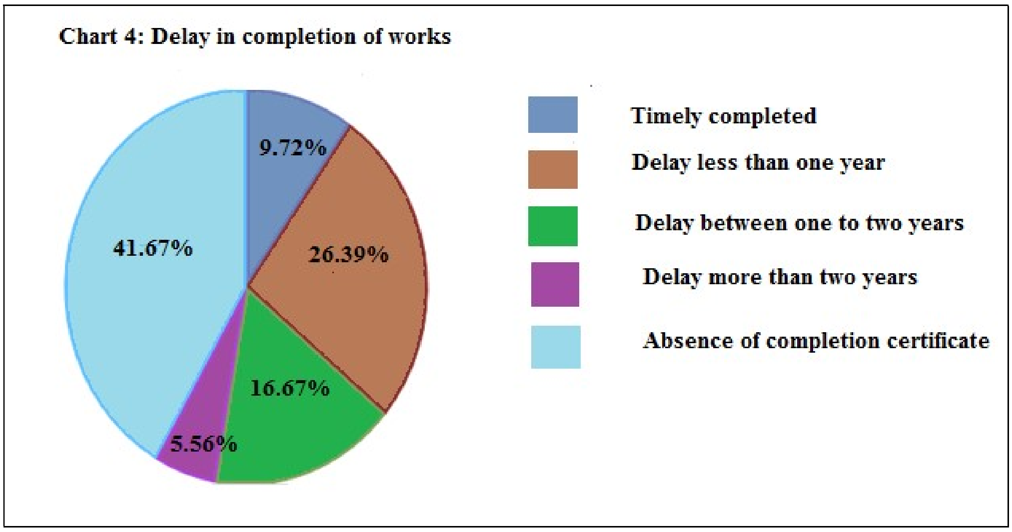
2.1.8.2 Inordinate delays in completion of 65 sampled Anicuts

According to clause 4.3.2 of the agreement, the time allowed for carrying out works as mentioned in the tenders should be strictly observed by the contractor. The contractor should pay as compensation an amount equal to one *per cent* or such smaller amount as decided by EE/SE on the amount of the estimated cost of the unperformed work, for every day of delay subject to maximum of eight *per cent* of the estimated cost. Further, clause 4.3.5.1 of the agreement provides extension of time for the delays on the part of the Government. The delays in completing the 72 out of 89 sampled Anicuts against their stipulated periods of completion are as given below:

Table 2.1.4 : Details of delay in completion of work

Name of the WRD divisions	No. of selected completed Anicuts	No. of Anicuts completed within stipulated period	No. of Anicuts completed within one year after the stipulated period	No. of Anicuts completed between one-two year after stipulated period	No. of Anicuts completed more than two years after stipulated period	No. of Anicuts whose completion dates could not be verified due to absence of completion certificates
Kharung, Bilaspur	24	2	10	2	2	8
WRD, Kota	5	0	2	1	1	1
WRD, Pendraroad	5	1	2	1	0	1
WRD, Marwahi	1	0	0	0	0	1
WRD, Bemetara	10	2	1	3	1	3
WM Dn., Janjgir Champa	3	0	2	1	0	0
WRD, Janjgir Champa	1	0	0	0	0	1
WRD, Kondagaon	13	0	0	1	0	12
WRD, Dantewada	2	0	0	2	0	0
WRD, Dhamtari	2	1	0	1	0	0
MRP Dam Dn-2, Dhamtari	2	0	0	0	0	2
WRDn.1, Ambikapur	4	1	2	0	0	1
Total	**72**	**7**	**19**	**12**	**04**	**30**

(Source: Information furnished by the divisions and compiled by Audit)



Out of 72 selected Anicuts, 65 were not completed within the stipulated periods which included delay of one to two years in 31 Anicuts and more than two years in four Anicuts

As could be seen from the table and chart, out of selected 72 Anicuts, only seven Anicuts were completed within the stipulated period while 65 Anicuts were not completed on time reportedly on the grounds of availability of water in rivers or *nallas* preventing construction works, *naxalite* and labour problems. These are further discussed below:

- Thirty-one Anicuts were delayed between one and two years while four Anicuts by more than two years of their stipulated periods of completion. It was noticed that 12 out these 35 Anicuts were awarded to five contractors[6] who delayed the construction works between two and 36 months. Awarding construction works of more than one Anicut to one contractor may be a reason for delay in completion of the works. In the remaining 30 Anicuts, the delays could not be ascertained as no completion certificates were found in records.

- It was noticed in case of Siltara Borenda Anicut (Dhamtari district) that extension was granted upto February 2012 whereas the work was completed in June 2012 and final payment (June 2012) was made without deducting any penalty. But records relating to extension of time for remaining four months was neither found in the division nor made available to audit.

During exit conference the Secretary stated (December 2016) that serious efforts were being made to avoid delays in completion of works. Fact remains that action for the delays in the form of deduction of penalty, though mandated and even after reported by audit were not taken.

2.1.8.3 Unauthorised execution of work

As per WD Manual, revised administrative approval (AA) of the competent authority should be obtained when the expenditure exceeds or is likely to exceed the amount approved by more than 10 *per cent*. Further, the amount of the detailed estimate must not exceed the amount included in the expenditure sanction. Besides, DPR of the scheme should also include a certificate of the EE of the concerned division that the cost of the estimate of the scheme is based on detailed estimate and would not increase by more than 10 *per cent*.

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6 Three Anicuts each were awarded to two contractors while two Anicuts each were awarded to three contractors

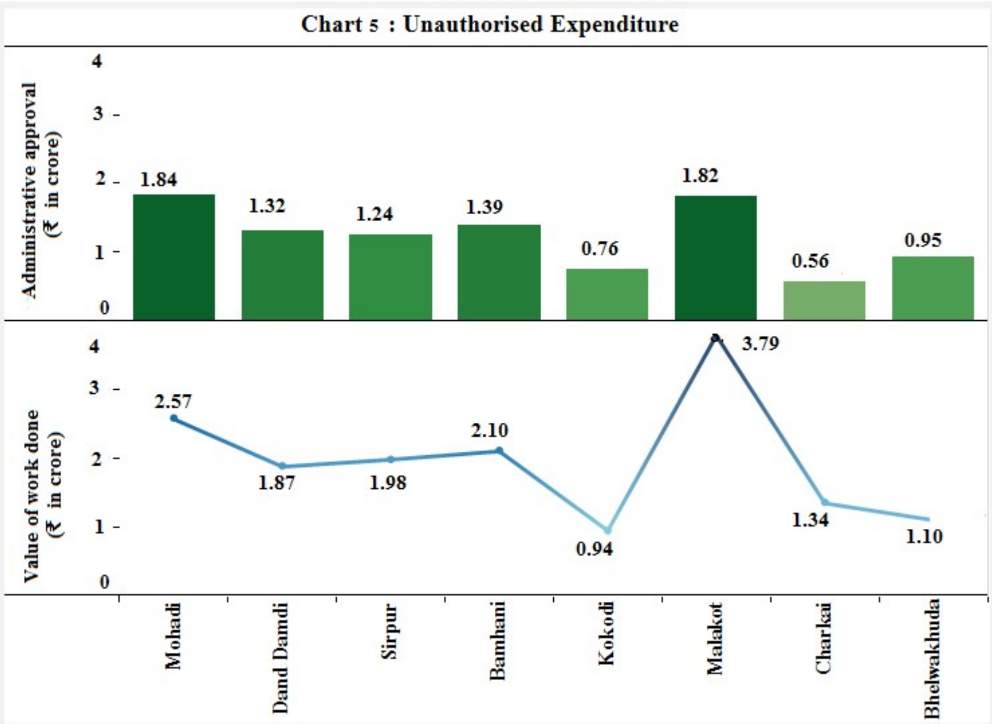
Scrutiny of records of the EE, WRD divisions Kota, Pendra road, Kondagaon and Dhamtari, revealed that out of 72 completed Anicuts, in eight Anicuts, the construction cost increased between ₹ 0.15 crore and ₹ 1.97 crore over the AAs as detailed below:

Table 2.1.5 : Details of unauthorised expenditure in construction of Anicuts

(₹ In crore)

Sl. No.	Name of the divisions	Name of Anicut	Value of AA	Value of work done	Excess value of work done over AA (percentage)	Completion as per date of final payment
1	WRD, Kota	Mohadi	1.84	2.57	0.73 (40)	30/03/2010
2	WRD, Pendra road	DandDamdi	1.32	1.87	0.55 (42)	17/10/2010
3	WRD, Kondagaon	Sirpur	1.24	1.98	0.74 (60)	14/01/2011
4	WRD, Kondagaon	Bamhani	1.39	2.10	0.71 (51)	2011-12
5	WRD, Kondagaon	Kokodi	0.76	0.94	0.19 (25)	05/03/2009
6	WRD, Kondagaon	Malakot	1.82	3.79	1.97 (108)	01/01/2010
7	WRD, Kondagaon	Charkai	0.56	1.34	0.78 (140)	19/08/2011
8	WRD, Dhamtari	Bhelwakhuda	0.95	1.10	0.15 (15)	20/04/2009
Total			**9.88**	**15.69**		

(Source: Information furnished by the divisions and compiled by Audit)



From the above table and graph, it can be seen that in two cases, the expenditure on the Anicuts increased by 15 to 25 *per cent* whereas in the remaining six cases, the expenditure on the Anicuts increased by between 40 and 140 *per cent* of the AA. Although these eight works were completed between the year 2009 and 2012 after incurring expenditure of ₹ 15.69 crore against the sanctioned amount of ₹ 9.88 crore, revised AA were not accorded for regularising the excess expenditure of ₹ 5.82 crore over the AA by the State Government though required in the WD Manual.

During exit conference, E-in-C accepted the audit observation and stated (December 2016) that show cause notices have been issued to the concerned officials and further action would be taken.

2.1.8.4 Delay in obtaining revised AA

During scrutiny of records of 72 selected Anicuts, it was noticed that in four cases the cost of Anicuts were more than both technical sanction (TS) as well as the AA. It was also observed that there were delays in obtaining revised AAs ranging from 12 months to 15 months as mentioned below:

Table 2.1.6 : Details of delay in obtaining Revised AA (₹ in crore)

Sl. No.	Name of the Anicut	Value of AA / date	Value of TS / date	Value of work done	Value of revised AA / date	Delay in revised AA from TS/AA in months
1	Khutighat (Bilaspur)	4.36 (08/2008)	5.42 (09/2008)	5.70	5.61 (09/2009)	12 (TS)
2	Khaijhiti (Kota)	2.34 (08/2008)	3.40 (09/2008)	3.44 (08/2011)	3.66 (03/2010)	18 (TS)
3	Bangloor (Dantewada)	1.03 (09/2008)	2.18 (06/2009)	2.18 (03/2013)	2.19 (10/2010)	15 (TS)
4	Siltara Borenda (Dhamtari)	1.02 (08/2007)	2.72 (12/2009)	1.86 (06/2012)	2.72 (11/2009)	26 (AA)

(Source: Information furnished by the divisions and compiled by Audit)

From the above it can be seen that in case of Khutighat Anicut the TS of ₹ 5.42 crore was accorded in the month September 2008 against the AA of ₹ 4.36 crore, however, revised AA was obtained from the Government in September 2009. Similarly in case of Khaijhitti and Bangloor Anicuts, revised AAs were obtained after 18 and 15 months of approval of TS respectively. Further in case of Siltara Borenda Anicut, revised AA though necessary due to increase in the estimated cost, was granted only after 26 months of AA. This indicates that not only TS were accorded more than the AA but also there were inordinate delays in obtaining the revised AAs ranging from 12 to 26 months.

During exit conference the Secretary stated (December 2016) that many a times the compliance of observations made by Finance department in DPR takes time and thereby causes delay in obtaining revised AA. However, Secretary could not justify the reasons for inordinate delays in the cases reported by audit.

2.1.8.5 Execution of work without adhering to the stipulated standards for quality control

(a) Execution of work without quality control tests

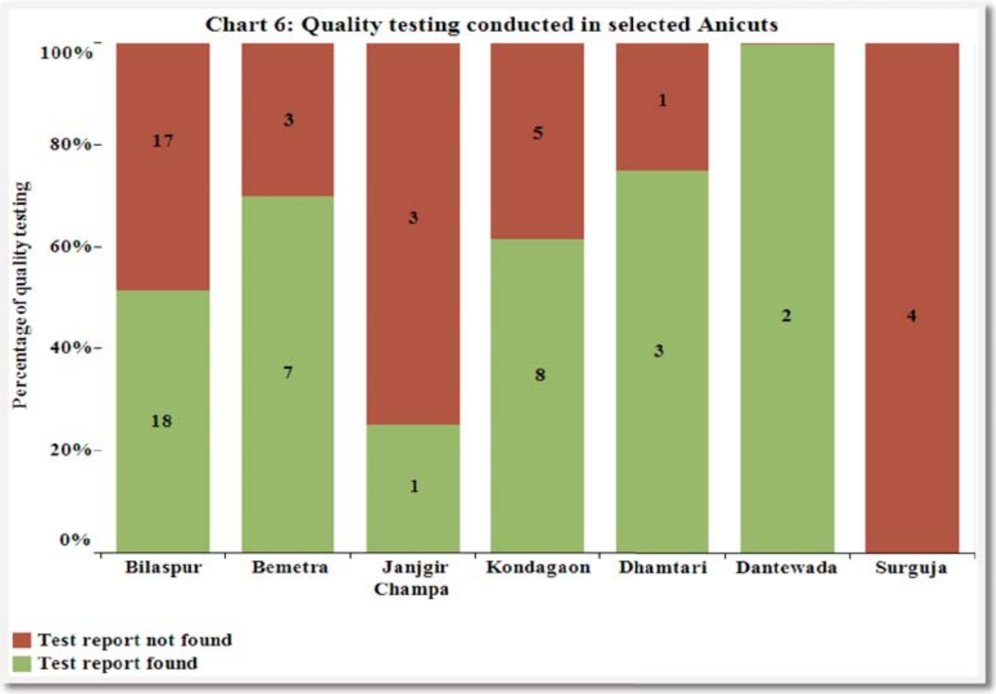
As per paragraph 3 (a) of chapter 42 of Unified Schedule of Rates (USOR), the test on concrete samples will be taken up on the basis of priority fixed by the officer in-charge of the laboratory. Further, testing of cubes of concrete samples shall be invariably done on due date and test report is to be sent within two days.

During scrutiny of records of 72 selected Anicuts, it was observed in 39 Anicuts that samples of concrete cubes were sent for quality testing and test reports found on records are as detailed below:

Table 2.1.7: Details of quality testing conducted in selected Anicuts

Sl. No.	Name of the District	No of Anicut	No of Anicuts with test reports	No of Anicuts whose test reports were not found
1	Bilaspur	35	18	17
2	Bemetra	10	7	3
3	JanjgirChampa	4	1	3
4	Kondagaon	13	8	5
5	Dhamtari	4	3	1
6	Dantewada	2	2	0
7	Sarguja	4	0	4
	Total	**72**	**39**	**33**

(Source-Information furnished by the divisions and compiled by audit)



It can be seen from the above table and chart that in 39 Anicuts quality testing reports were furnished to audit whereas in 33 Anicuts (46 *per cent*), no quality testing report of concrete cubes were found on records.

As per test reports of 39 Anicuts provided to audit, the quality of material utilised in construction of Anicuts was as per prevailing standards. However, in the absence of quality test reports of 33 Anicuts, the quality of material used by the contractor confirming to the grades as per agreement and workmanship could not be ascertained. Consequently some Anicuts were found damaged during joint physical verification as discussed in succeeding paragraph.

(b) Use of cement and steel without ascertaining the quality standards

Clause 2.21.2 of the agreement provides that Ordinary Portland Cement (OPC) of ISI 269/1969 should be purchased by the contractor from the original producer having capacity of 450 MT per day and the steel required for the work should be brought from Steel Authority of India (SAI) or Primary Re-maker of SAI or Iron and Steel Company and is as per prescribed specification and quality. The quantity of steel procured at site by the contractor should be tested time to time and a record is to be maintained.

Scrutiny of records of 12 selected divisions revealed that in contravention of the above provision, the contractors engaged for the construction of 72 Anicuts did not produce bills/invoices for procurement of OPC from original producer. Further, the contractors also did not produce any evidence of having purchased steel from the SAI or authorised re-maker of SAI or Tata Iron and Steel Company (TISCO). Besides, the test reports of cement and steel from original producers were also not obtained in these 72 sampled Anicuts. From the invoices made available to audit, it was observed that only name of contractor, quantity and rate of material were mentioned in the invoices. The invoices did not contain specification as per agreement. Hence, payments for cement and steel in the works were made to the contactors without meeting the contract obligations.

In the absence of quality test reports and invoices, audit could not get any assurance that materials procured and used by the contractors confirmed to the grade as per agreement. Audit observed during joint physical verification that some Anicuts were damaged and this could be a direct consequence of not using the required grade of cement and steel as discussed in succeeding paragraph.

During exit conference the Secretary accepted the audit observation and stated (December 2016) that proper steps for ensuring the quality of cement and steel utilised in the construction of Anicuts would be taken and required quality control certificates would also be collected. The Secretary also instructed the concerned officials for obtaining strength test report of steel and cement utilised in damaged Anicuts.

2.1.8.6 Loss to the Government due to damaged Anicuts

There were losses of ₹ 3.22 crore to the Government due to damages to three Anicuts

AA of ₹ 7.59 crore for construction of Kabonga Anicut, Mainpur Anicut and protection wall of Badgaon stopdam were accorded by the State Government during 2011-12. The works were completed between June 2013 and March 2014 by the contractors and final payment of ₹ 4.49 crore were made (March 2014). Scrutiny of records of WRD division, Kondagaon revealed the following:

(a) The middle structure of Kabonga Anicut was damaged (November 2015) within 19 months of its completion. The reasons for damages as reported (November 2015) by the SE, Indrawati Project, Jagdalpur circle were due to movement of heavy loaded vehicle over the Anicut for transportation of construction materials for their use in the bridge under construction on the downstream. Subsequently, the loss was reported as ₹ 1.80 crore.

The site was physically verified (June 2016) by the Audit team and it was found that 50 *per cent* of middle part of the structure and Diaphragm wall was damaged. Further, quality testing and invoices/bills for procurement of steel and cement from original producers were not on records. As such there was no quality assurance of construction materials and workmanship. Hence, the reasons of damage could not be pinpointed to traffic load.

(b) Scrutiny of records of Mainpur Anicut revealed that quality test records, invoices of the steel and cement as required under contract provision was not provided to audit. Further, the Anicut was inspected (November 2015) by the flying scout which observed absence of execution of bank protection work, key wall and filling foundation around masonry, wing wall/return wall and bear body wall besides damages to the structure during rainy season (2015) which resulted in loss of ₹ 1.24 crore to the Government. The damages in the structure of the Anicut defeated the objective.

(c) Similarly, joint physical verification of Sirpur and Badgaon stopdams revealed cracks in the main structure besides improper fixation of gates of Sirpur stopdam. Further, the protection wall of Badgaon stopdam costing ₹ 17.64 lakh was totally damaged as shown in the photographs taken during joint physical verification below:

Photographs of damaged Kabonga Anicut (16 June 2016) and Badgaon stopdam (21 June 2016) constructed in Kondagaon

Thus, the damages in the structures of Anicut and stopdam not only defeated the very purpose of construction of Anicut to store water for *nistari* and agricultural use as well as increase in ground water level but also caused a loss of ₹ 3.22 crore to the Government.

During exit conference the Secretary stated (December 2016) that action was being taken against the concerned officials and contractors as in case of Kabonga, Mainpur and Badgaon Anicuts and concerned officials have been suspended. The Secretary further stated that in all the above cases the quality of steel and cement would be tested. However, actions against the contractors were not yet taken (January 2017).

2.1.8.7 Unfruitful expenditure of ₹ 3.66 crore due to absence of gates

Unfruitful expenditure of ₹ 3.66 crore was noticed due to absence of gates

AA of ₹ 4.35 crore was accorded by the State Government (September 2010) for construction of Rajouti Anicut in Ambikapur. The Anicut envisaged creation of 98 hectares of irrigation potential besides the purpose of *nistari* etc. TS of ₹ 4.64 crore was accorded (December 2010) by CE, Hasdeo Basin, Bilaspur. The work was awarded (March 2012) to a contractor for ₹ 3.40 crore for completion in 11 months. The work was completed (June 2013) at a cost of ₹ 3.66 crore.

Scrutiny revealed that though there was provision for fixing of 12 gates in the estimate sanctioned by CE, the same was neither included in the contract nor in the Notice Inviting Tender (NIT). As a result, no gates were fixed to store the water. During joint physical verification (July 2016) of this Anicut, it was noticed that there were no gates in the Anicut even after lapse of three years of completion of the Anicut as shown in photographs below:

Photographs of Rajouti Anicut constructed (Sarguja district) in Mand river (13 July 2016)

Thus, construction of Anicut without gates to stop the flow of water defeated the very purpose of its construction resulting in expenditure of ₹ 3.66 crore unfruitful.

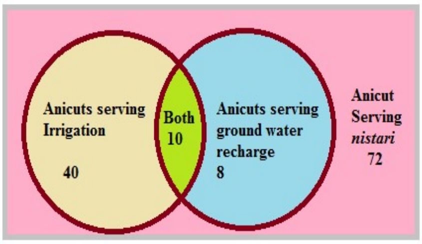
During exit conference the Secretary accepted the fact and stated (December 2016) that provision of gates was made in sanctioned estimate and it would be installed.

The reply is not acceptable as the gate is an integral part of Anicut to regulate and store water and as such, it was the responsibility of the department to install gates as per the scope of TS in synchronisation with the completion of the civil work. Failure to ensure this defeated the objective.

2.1.9 Utilisation of Anicuts

In the work plan, emphasis was given for construction of Anicuts/stopdams to fulfill the needs of growing population of the State. The purpose of construction of Anicuts was to increase the ground water level, agricultural production and to make available water for drinking, industrial and *nistari* purpose. Utilisation of selected completed Anicuts was assessed by joint physical verification of these Anicuts with concerned AEs/SEs and by conducting beneficiary surveys. Results are as below-

2.1.9.1 Results of beneficiary survey of Completed Anicuts



In seven selected districts, joint physical verification of 72 completed Anicuts along with survey of 720 (10 beneficiary of each Anicut) beneficiaries of nearby villages was conducted by the audit team with the department officials. During the survey, it was observed that only 10 Anicuts[7] could serve all the purposes envisaged in the work plan such as ground water recharge, agriculture and *nistari* etc. as shown in the diagram. The other findings are as follows-

[7] Amagohan, Amanara, Bhawradih, Nirtu, Rahtator and Urtum (Bilaspur), Angaboda, Kokodi and Palli (Kondagaon) and Sonewara (Dhamtari).

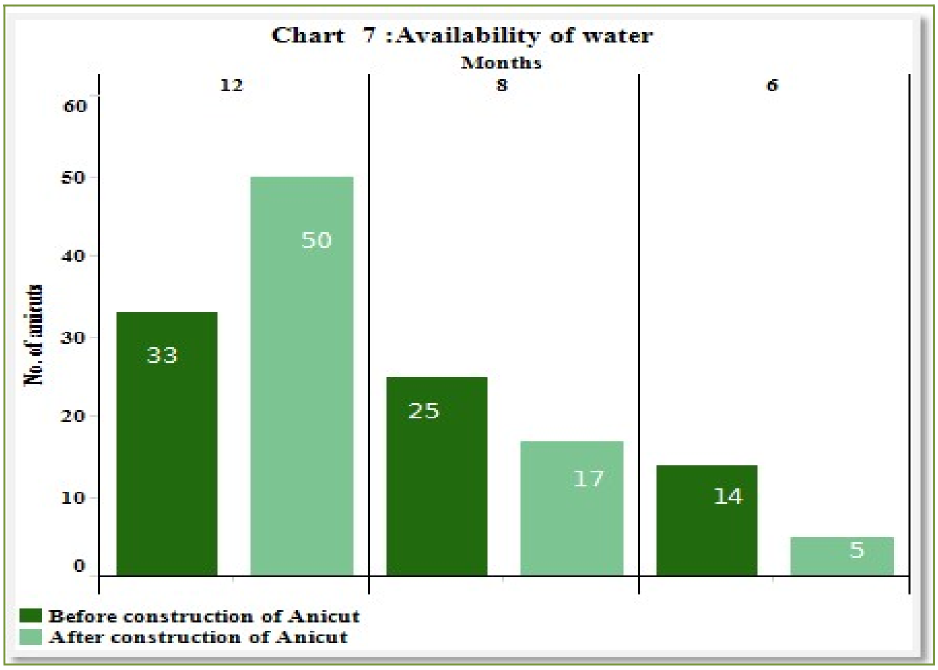
(a) Availability of water in Anicuts

Out of 72 Anicuts, 59 Anicuts were constructed on rivers and 13 Anicuts were constructed on *nallas*. Of the 59 Anicuts constructed on rivers, 37 Anicuts were constructed over perennial rivers while 22 were over seasonal rivers as detailed in **Appendix-2.1.3**. The availability of water in these 72 Anicuts are as detailed below:

Table 2.1.8 : Details of availability of water in selected Anicuts

No. of selected Anicuts	No. of Anicuts constructed on rivers		No. of Anicuts constructed on *nalla*	Availability of water (in months)					
				Before construction (R-river and N-*nalla*)			After construction (R-river and N-*nalla*)		
	Perennial	Not-perennial		12	8	4-6	12	8	4-6
72	37	22	13	33 (R-30) (N-03)	25 (R-23) (N-02)	14 (R-06) (N-08)	50 (R-45) (N-05)	17 (R-12) (N-05)	5 (R-02) (N-03)

(Source-Information collection from beneficiaries and compiled by audit)



Out of 72 Anicuts, in 22 Anicuts availability of water was only for six to eight months

It can be seen from the above table that before construction of the 72 Anicuts, water was available for 12 months in 33 sources, eight months in 25 sources and only four to six months in the remaining 14 sources. After construction of the Anicuts, it was observed that the availability of water for 12 months increased to 50 sources, an addition of 17 sources achieving the goal of round the year availability of water. However, 22 sources which had only six to eight months water and Anicuts were constructed over them to increase the availability of water throughout the year failed to deliver the mandate as these 22 Anicuts (31 *per cent*) still continue to have water only for six to eight months thereby defeating the purpose of construction of the Anicuts for *nistari*, agricultural use and ground water recharge.

Thus, the construction of Anicuts seems to not have materially affected the storage of water in the Anicuts selected in our sample and the objective of ground water recharge seemed largely not achieved.

During exit conference the Secretary stated (December 2016) that the Anicuts were constructed on the *nallas* which were not perennial. The reply confirmed the fact that the selections of Anicuts were done without adhering to the selection criteria enumerated in the work plan. However, Government did not take any follow up action to address the post construction impediments by engaging suitable domain experts.

(b) Utilisation of water from Anicuts

Government could not ensure utilisation of water for irrigation from the constructed Anicuts

DPRs of Anicuts provides that irrigation potential would be created by lift irrigation i.e. own arrangement of cultivators. Accordingly in 72 selected Anicuts, 2724.30 acres cultivable land of 720 beneficiaries was to be irrigated. Of these, there was no scope of irrigation in 274.72 acres cultivable land of 90 beneficiaries as water could not be stored in nine Anicuts as reported in paragraph 2.1.9.3. Thus, irrigation could be done throughout the year only through 50 Anicuts and partially through 13 Anicuts by the villagers. It was noticed that 630 beneficiaries have 2449.58 acres of cultivable land in the command areas of these Anicuts. However, during survey it was stated by 441 of 630 beneficiaries that they had not been using the water of Anicuts for irrigation due to more distance of agricultural land from Anicuts, excessive height of banks in nearby areas of Anicuts, absence of electrification and pumps and lack of financial resources. Whereas 189 out of 630 beneficiaries having 909.36 acres of cultivable land stated that they could do irrigation in only 506.01 acres land. Thus, only 21 *per cent* (506.01 acres) of total cultivable land (2449.58 Acre) of the 720 beneficiaries was irrigated from the Anicut water which defeated the very purpose of construction of these Anicuts. However, Government did not intervene to arrange electric connections, canal network to take the water to fields etc. or to make alternative arrangements to extend the utility of the Anicuts to the actual beneficiaries.

During exit conference the Secretary stated that Government has been trying to provide electricity to the farmers by establishing solar power units near some Anicuts. However, plans to resolve the other bottlenecks were not furnished by the Secretary.

(c) Increase in area for cultivation of *Rabi* (other than rain fed) crops

There was 11 *per cent* increase in area of cultivation of *Rabi* crops in the command area of test checked Anicuts

One of the objectives of construction of Anicuts is to store water mainly for irrigation of *Rabi* crops. During beneficiary survey it was found that before construction of 63 Anicuts (out of 72 selected Anicuts), *Rabi* crop was cultivated in 191.40 acres only by 119 beneficiaries whereas after construction of Anicuts, 36 *per cent* of the cultivation area (260.65 Acre) for *Rabi* crops was increased. However, in comparison to total cultivation (2449.58 Acre) the increase was only 11 *per cent* which was achieved by spending ₹ 208.12 crore.

During exit conference the Secretary stated (December 2016) that in Bastar district, area of cultivation for *Rabi* crops has been increased. However, efforts have been made to increase the area of *Rabi* crops in other districts of State. However, road map to do this was not furnished by the Secretary of the department.

2.1.9.2 Status of ground water recharge in nearby Anicuts

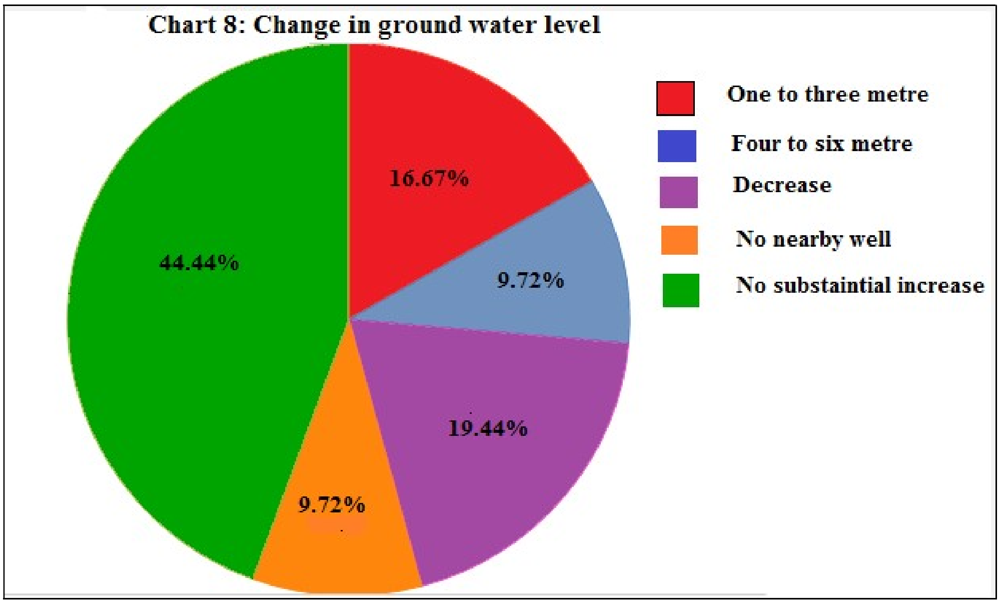
Central Ground Water Board (CGWB), North Central Chhattisgarh Region, Raipur monitors the water levels in the State four times a year through a network of 709 number of observation wells (both dug wells and piezometers). Water quality is also assessed once in a year. The generated data from these observation wells are compiled, analysed and presented in the form of reports from time to time and circulated to various Central and State Government departments.

The wells of CGWB situated at shortest distance nearby the 72 selected Anicuts were identified as per latitude and longitude of that area. During analysis of ground water level, measurement taken by CGWB during 2011-15 and the details of increase or decrease (**Appendix-2.1.4**) in ground water level are as detailed below:-

Table 2.1.9 : Details of ground water level in selected Anicuts

No. of Anicuts	Increase in ground water level		No substantial increase	Decrease in ground water level	Nearest well not found
	4 to 6 meter	1 to 3 meter			
72	07	11	33	14	07

(Source: information furnished by the CGWB and compiled by audit)



After construction of 72 selected Anicuts, increase in ground water level were noticed in only 18 (25 *per cent*) nearby wells

It can be seen from the above that increase was noticed only in seven wells (10 *per cent*) and slight increase was noticed in 11 wells (15 *per cent*) whereas no increase was noticed in 33 wells (46 *per cent*). Further in 14 wells there was decrease in ground water level which ranged from 0.26 to 3.9 metre below ground level (mbgl).

Thus, even after construction of Anicuts significant increase in the ground water level was not noticed which defeated one of the objectives of construction of Anicuts.

During exit conference the Secretary stated (December 2016) that digging of large number of tubewells could be the reason for decrease in ground water level. However, Government did not take any initiatives to ascertain the reasons by engaging domain experts for ensuring remedial measures.

2.1.9.3 Unfruitful expenditure of ₹ 8.68 crore on Anicuts

Construction of 72 selected Anicuts were administratively approved for ₹ 245.12 crore by the State Government between 2005-06 and 2012-13. These were completed at a cost of ₹ 208.12 crore between 2007-08 and 2014-15.

The beneficiary survey confirmed that although nine Anicuts were constructed, water could not be stored throughout the year defeating the purpose of *Nistari*, agriculture and ground water recharge. This resulted in unfruitful expenditure of ₹ 8.68 crore

Audit conducted (May to July 2016) joint physical verification and observed that five Anicuts were dry for six to eight months. The survey with 50 beneficiaries of these five Anicuts[8] also confirmed failure in creation of planned irrigation potential on the ground that the availability of water stored in these Anicuts or flows in concerned rivers/*nallas* on which these Anicuts were constructed lasts for only four to six months i.e. only in rainy season. As such, the villagers of nearby villages could not get the proposed benefits from construction of these Anicuts.

Similarly, joint physical verification of four Anicuts constructed between 2007-08 and 2008-09 in Sarguja districts (Bulga, Dadgaon, Changori and Lichirama) revealed that no gates were fixed. Therefore water could not be retained. The beneficiaries reported to audit that initially the gates were fixed in these Anicuts but were subsequently damaged since last three to four years. Thereafter, neither repair and maintenance were done nor any new gates were installed in these Anicuts as shown in the photographs taken during joint physical verification.

Photographs of Otenda (12 June 2016) and Bulga (12 July 2016) Anicut (Kondagaon and Sarguja district)

It is thus evident that the deficiencies pointed above prevented the storage of water for *nistari*, drinking and agriculture uses. Besides, increase in ground water level of the nearby areas could not be achieved in these nine Anicuts. The expenditure of ₹ 8.68 crore (**Appendix-2.1.5**) incurred on these Anicuts thus remained unfruitful.

It was also confirmed from the ground water level data furnished by Central Ground Water Board (CGWB), North Central Chhattisgarh Region, Raipur that the ground water level had decreased in four wells (-0.26 to -1.96 mbgl) situated nearby the four Anicuts[9] while no substantial changes were noticed in

8 Hathkera, Kavaiya, Savantpur, Tipannalla and Otenda

9 Bulga (-0.26), Changori (-0.26), Dadgaon (-0.77) and Lichirama (-1.96)

three wells adjacent to three Anicuts[10]. In Savantpur Anicut, ground water level has increased (6.2 mbgl) whereas increase/decrease in ground water level data of Kavaiya Anicut was not made available to audit.

During exit conference the Secretary accepted the fact and stated (December 2016) that the provision of gates/shutters would be made. However, factors which led to damage of the gates preventing the use of the Anicuts were not investigated by the department.

2.1.10 Monitoring Mechanism and Evaluation

As per clause 1.002 of WD Manual, Irrigation department is responsible for carrying out the maintenance of minor irrigation schemes. Accordingly, provision for repair and maintenance of constructed Anicuts/stopdams should be made to retain the structure for fulfillment of the objectives. Further, manpower should be deployed for opening and closing the gates of Anicuts before and after rainy season so that the structure of Anicut is not damaged during heavy rainfall or heavy flow of water as well as to store water for *nistari* and agriculture use. Evaluation study also needs to be conducted either by the department or by any third party with domain expertise to ascertain whether the objectives of construction of Anicut are achieved. Further, as per AIBP guidelines, evaluation shall be carried out for completed Minor Irrigation schemes by the State Government through independent agency. The following are observed:

2.1.10.1 Management of water supply from Anicuts

Management of water supply from Anicuts was not established by the Government

Scrutiny of records of E-in-C office and 12 selected divisions revealed that WRD remains the owner of the Anicuts and the beneficiaries who are the end users are not involved in managing the water stored in Anicuts. Although the DPRs of the Anicuts provides that irrigation potential would be created by lift irrigation by the cultivators, Government did not ensure arrangement of electric connections, canal network to take the water to fields etc.

In the absence of management of water supply from Anicuts either by the department or joint management by the stake holders or by forming water users association, the end users are deprived of getting the actual benefit of the Anicuts as they do not have any means to take water from the Anicuts to their fields for irrigation besides facing problems from absence of electrification, pumps and lack of financial resources etc.

Thus, government has not been able to extend the actual benefit of the Anicuts to the end users in the absence of management of water supply from the Anicuts.

2.1.10.2 Provision of funds for repair and maintenance

Scrutiny of records of 72 selected Anicuts/stopdams revealed that no funds for repair and maintenance of constructed Anicuts were provided. In the absence of funds, gates were not properly closed in nine Anicuts[11] due to damages. As a result, water could not be stored for *nistari* and agriculture uses as well as one of the objective to store water to increase ground water was also defeated.

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[10] Hathkera (0.45), Tipan *nalla* (0.00) and Otenda (0.8)

[11] Amora, Angaboda, Badgaon, Bamhani, Malakot, Otenda, Parsada, Rahtator and Sirpur

It was stated by all the 720 beneficiaries that neither was there any system for cleaning of water stored in Anicuts nor were these cleaned by the Gram Panchyats or by any other agency. As a result, in 18 Anicuts[12], silts/*jalkumbhi* was deposited and gates were blocked by silt. Further in absence of cleaning of water stored in Anicuts it was not hygienic for drinking or *nistari* use.

During exit conference the Secretary appreciated the audit observation and stated (December 2016) that correspondence with finance department is being done for obtaining allotment of fund for repair and maintenance of Anicuts.

2.1.10.3 Deployment of manpower for maintenance and operation of Anicuts

For the maintenance and operation of the 72 selected Anicuts, it was observed in audit that no man power was deployed. As a result, in two Anicuts i.e. Hathkera and Palli the gates were permanently closed with cement concrete due to which there is risk of damages to structures of Anicuts in case of accumulation of excess water due to heavy rainfall etc. Further, in nine Anicuts, gates were not properly closed and resultantly water could not be stored for intended purpose.

During exit conference the Secretary accepted the fact and stated (December 2016) that no separate manpower is engaged for maintenance and operation of Anicuts.

2.1.10.4 Evaluation study not conducted after completion of Anicuts

As per paragraph 5.2.3 of AIBP guideline, evaluation is to be carried out for completed minor irrigation schemes by the State Government through independent agency.

Scrutiny revealed that though guideline under AIBP was issued, no evaluation study was conducted by the department to ascertain if the constructed Anicuts fulfilled the intended objectives. Hence, the achievement of intended purposes could not be ascertained from records.

During exit conference the Secretary stated (December 2016) that steps would be taken for conducting Evaluation study as per AIBP guidelines for ascertaining the achievement of construction of Anicuts.

2.1.11 Conclusion

The State Government was ill prepared to execute comprehensive, planned and effective Anicut system. In the absence of a Master Plan which is pending at Government level for 15 years, 595 Anicuts were planned in the year 2005 based on the toposheet only. Resultantly, the department did not stick to the plan and left aside 364 planned Anicuts and instead sanctioned additional 538 Anicuts but again without adhering to the conditions of selection.

Due care was not taken for selecting the sites for the Anicuts as the essential data such as rainfall, crop failure, ground water level during summer and other seasons etc. required for evaluating the feasibility were neither collected nor incorporated in the DPRs. The net result is that 62 of the 72 sampled Anicuts failed to serve all the purposes as envisaged in the work plan whereas 22 (31 *per cent*) Anicuts did not have water for more than eight months.

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12 Amagohan, Amaldiha Semariya, Bamhani, Belgahna, Bhouradih, Damaidih, Dandadamdhi, Motimpur, Nandghat-Limtara, Podi, Rahtator, Ravelisandi, Sarvan Devari, Savantpura, Silpahari, Siltara Borenda, Sirpur and Urtum

Expenditure of ₹ 1095.74 crore on 280 incomplete Anicuts which could not be used for the intended purpose in more than one to 10 years was unfruitful. Further, failure of the department to resolve bottlenecks in completion of these Anicuts and to assess the damages to the old foundations and structures of the Anicuts, particularly 119 Anicuts which were not completed in more than three to 10 years raised doubt about the possibility of completion of these Anicuts in near future. In the sampled Anicuts, completion of 65 Anicuts were delayed between two and 36 months on account of labour problems, *naxalite* problems or presence of water in river or *nalla* preventing construction works. At the same time, damages to the Anicuts within 18 to 20 months of their construction, existence of Anicuts without gates and lack of maintenance made 18 out of 72 sampled Anicuts useless for the purpose.

The intended purpose of the Anicuts such as ground water recharge and irrigation during *Rabi* season were not served as out of 72 Anicuts test checked, 47 did not contribute positively to ground water recharge and 79 *per cent* of cultivable land was not irrigated due to lack of electric connection, more distance of agricultural land from Anicuts, excessive height of banks in nearby areas of Anicuts etc. However, Government did not intervene to arrange electric connections, canal network to take the water to fields etc.

The net result of all these is that after spending ₹ 1,876.07 crore on construction of Anicuts during the period 2011-16, the Government was not able to derive full benefit of the project.

2.1.12 Recommendations

Water Resource Development Policy 2012 together with preparation of Water Resource Master Plan should be finalised at the earliest for estimation of surface and ground water in the State.

Construction of new Anicuts should be taken up based on expert guidance on ground water recharge, availability of water in the streams/rivers and rain fall pattern etc.

Responsibility may be fixed on the executing authorities for faulty construction, poor quality management and deliberate neglect in maintenance.

A maintenance plan for the existing Anicuts needs to be prepared immediately in order to protect the Government assets and to optimally use the water available until a full-fledged evaluation is carried out.

Technical evaluation of all the Anicuts already constructed should be carried out to ascertain their usefulness and based on the study, further action to construct canal networks and maintain Anicuts should be taken up.

Government may consider forming water users association for management of water supply and maintenance of the Anicuts as is being done in case of *Talabs*.

SCHOOL EDUCATION DEPARTMENT

2.2 Performance Audit on Implementation of Right of Children to Free and Compulsory Education Act, 2009 (RTE Act)

Executive Summary

The Right of Children to Free and Compulsory Education Act also known as Right to Education (RTE) Act has become operative with effect from 1 April 2010 in the State. The RTE Act provides that all children in the age group of six to 14 years have a right to free and compulsory education in neighbourhood schools within three years of the enactment of the Act. Government of Chhattisgarh formulated (November 2010) rules in compliance of Section 38 of the Act termed as the Chhattisgarh Right of Children to Free and Compulsory Education (CGRTE) Rules, 2010.

A Performance Audit on the implementation of Right of Children to Free and compulsory Education in the State of Chhattisgarh for the period 2010-16 revealed the following major findings:

The State Government launched Dr. APJ Abdul Kalam Shiksha Gunavatta Abhiyan education. As per the survey conducted by the Government, only 25 *per cent* of total school achieved Grade 'A'. The balance 75 *per cent* schools were graded under 'B' to 'D', of which 12 *per cent* were placed at Grade 'D' only.

(Paragraph 2.2.6.1)

Though the Act mandates establishment of neighbourhood schools within a period of three years of enactment of the Act i.e. by March 2013, 879 habitations did not have Primary Schools (PS) and 1,231 habitations did not have Upper Primary Schools (UPS) as of March 2016. Further, habitations having schools suffered from adverse Pupil Teacher Ratio (between eight and 34 *per cent*) which coexisted with surplus teachers (between 45 and 61 *per cent*) in the State in violation of Section 25 of the Act. However, Government did not make any arrangement to address the imbalance by rationalising the availability of teachers to reach the optimal ratio within three years i.e. by March 2013 in violation of the Act. Moreover, 11,963 (20 *per cent)* teachers in the State were untrained as of March 2016 in violation of Section (23) (2) of the Act.

(Paragraphs 2.2.7.2, 2.2.8.4 and 2.2.8.5)

Although Section 9 (d) of the Act and Rule 10 of Chhattisgarh RTE Rules 2010 mandate the schools to maintain records of children up to the age of 14 years residing within its jurisdiction, the department had not maintained these vital data to ensure elementary education to every child. The enrolment of children in all PS during 2010-16 showed a decreasing trend whereas the enrollment during the same period in the private primary schools showed an increasing trend.

(Paragraph 2.2.7.3)

There were shortfalls in special training for age appropriate admission for out of school children ranging between 60 and 83 *per cent* against surveyed children requiring training in violation of Section 4 of the Act. In the test-checked schools, nine to 43 *per cent* of schools did not have basic infrastructure such as toilets, classroom, library and drinking water facilities

etc. as of March 2016 in violation of the provisions of Section 19 of the Act which prescribe for establishing infrastructure facilities within a period of three years from the commencement of Act. The provision of Section 12 (i) (c) of the Act was also not adhered to as the required percentage of admission into private schools for disadvantaged group was not fulfilled and the shortfall ranged between seven to 23 *per cent* during 2012-16.

(Paragraphs 2.2.7.5, 2.2.8.1 and 2.2.8.8)

Advances worth ₹ 166 crore released to various units for implementation of various interventions under Sarva Shiksha Abhiyan during 2010-15 were pending for adjustment as of March 2016 as these committees did not submit the expenditure reports to the Rajiv Gandhi Shiksha Mission (RGSM) for adjustment. Further, utilisation certificates for ₹ 27.19 crore were pending from State Council of Educational Research and Training and District Mission Coordinator Surguja and Mungeli as the income and expenditure of fund provided for civil works were not furnished by the training centres and Sarpanchs to whom the funds were given.

(Paragraphs 2.2.9.5, 2.2.9.4 and 2.2.10.6)

Director, Public Instruction incurred an excess expenditure of ₹ 25.29 crore in the procurement of school uniforms at higher rates over the approved rates although the same set of uniforms were purchased at the approved rates by Mission Director (MD), RGSM during the same period. Further, MD, RGSM incurred extra expenditure of ₹ 7.70 crore in the purchase of text books at higher rates. Besides, inadmissible allowance of ₹ 5.12 crore was paid to 7,217 panchayat teachers by 20 Block Education Officers in violation of Government orders.

(Paragraphs 2.2.10.1, 2.2.10.2 and 2.2.10.5)

Inadequate monitoring by the State Advisory Council and School Management Committee were noticed. Achievement survey report was submitted late and could not be used for planning purpose that year due to delayed compilation of data. The PS and UPS were not inspected as per norms by Districts Education Officers and Block Education Officers. There was shortage of 485 Block Resource Persons and 412 Cluster Resource Persons in the State.

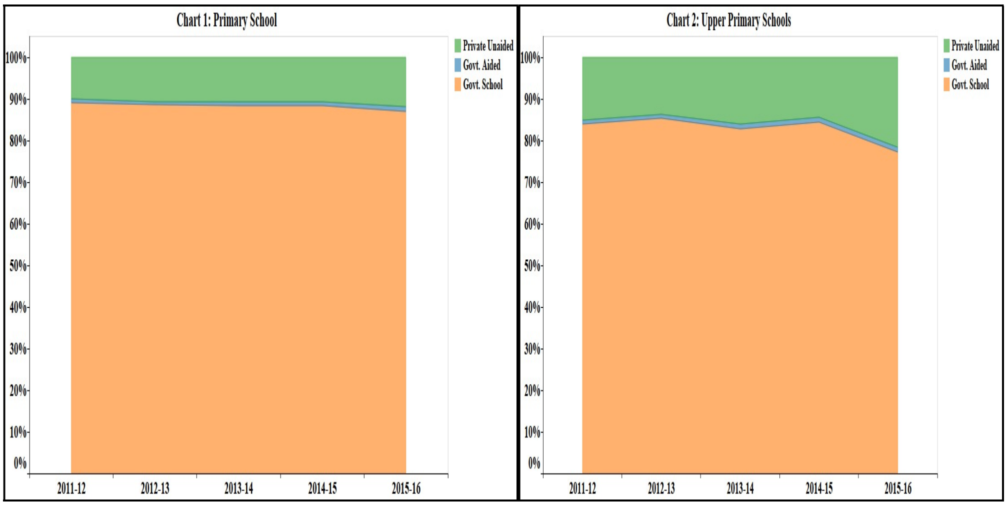
(Paragraphs 2.2.11 and 2.2.11.1)

2.2.1. Introduction

The Right of Children to Free and Compulsory Education Act also known as Right to Education (RTE) Act, has become operative in the state with effect from 1 April 2010 to make elementary education (Class I to VIII) a fundamental right of all children. The RTE Act (the Act) provides that all children in the age group of six to 14 years have a right to free and compulsory education in a neighbourhood school within three years of the enactment of the Act. Sarva Shiksha Abhiyan (SSA) is the main vehicle for implementing the provisions of the RTE Act. Government of Chhattisgarh (GoCG) in accordance with Section 38 of the Act, enacted (November 2010) the rules termed as the Chhattisgarh Right of Children to Free and Compulsory Education Rules, 2010.

As of March 2016, there were 56,119 Government, Government aided and private Primary Schools[1] (PS) and Upper Primary Schools[2] (UPS) in the State (**Appendix-2.2.1)** in which 44.57 lakh children in the age of six to 14 years were enrolled. Between 2011-12 and 2015-16, the number of government PS increased by a mere 1.36 *per cent* whereas private PS increased by 23.55 *per cent*. In case of UPS, the number of government schools have increased by only 1.78 *per cent* whereas private UPS have registered a growth of 57.89 *per cent* over the same period as shown in the charts below:

Fig: Growth of Primary and Upper Primary Schools



2.2.2 Organisational set-up

The overall responsibility for effective implementation of the Act rests with the Secretary, School Education Department (the department), GoCG who is assisted by the Director Public Instruction (DPI), the Mission Director (MD), Rajiv Gandhi Shiksha Mission (RGSM) at the State level and District Education Officer (DEO)/District Project Coordinator (DPC) at the district and Block Education Officer (BEO)/Block Resource Coordinator (BRC) at the block level (**Appendix- 2.2.2).**

For redressal of grievances, the State Government constituted (June 2010) State Commission for Protection of Child Right (SCPCR). The State Council of Educational Research and Training (SCERT) is the academic authority for laying down the curriculum and evaluation procedure.

2.2.3. Audit Objectives

Performance Audit of the Act was carried out to verify whether:

- the Act achieved its objective of making elementary education as fundamental right for all children between ages of six to 14 years within three years of enactment of the Act;
- the funds allocated were being utilised in an economic and efficient manner; and
- the Act was being implemented and monitored in a planned manner.

[1] Primary Schools (Class I to V)- 38277

[2] Upper Primary Schools (Class VI to VIII)- 17842

2.2.4. Audit Scope and Methodology

The Performance Audit (PA) was conducted during March 2016 to July 2016 covering the period 2010-11 to 2015-16. Audit test checked the records of the DPI, MD, RGSM and seven districts[3], 27 blocks (20 Rural and seven Urban) and 210 schools (183 Government and 27 Government aided Schools) (**Appendix-2.2.3).** Audit also collected information from the offices of SCPCR and SCERT. The districts were selected by Probability Proportional to Size without Replacement (PPSWOR) and the Blocks and schools in seven districts were selected on the basis of Simple Random Sampling without Replacement (SRSWOR)**.** Besides, physical verification of 210 test checked schools were also conducted.

An entry conference was held on 10 May 2016 with the Secretary, School Education Department, GoCG to discuss the audit objectives, scope and methodology and criteria of the PA and exit conference was held on 28 October 2016 to discuss the audit findings. Replies of the Secretary have been suitably incorporated at relevant places in this report. Five government and three government aided schools have not furnished the required information to audit (**Appendix-2.2.4).**

2.2.5 Audit Criteria

The audit criteria were derived from the following sources:

- Right of children to Free and Compulsory Education Act, 2009
- Chhattisgarh Right of Children to Free and Compulsory Education (CGRTE) Rules, 2010
- Scheme guidelines based on Right to Free and Compulsory Education Act, 2009, SSA Guidelines/Framework.
- Norms framed by the State Government for expenditure under RTE Act
- Various orders, notifications, circulars, instructions, Performance Reports, Management Information Reports issued by the Ministry of Human Resource Development (MHRD), Government of India (GoI) and GoCG
- Chhattisgarh Financial Code, Chhattisgarh Treasury Code and Chhattisgarh Store Purchase Rules, 2002.

[3] Balodabazar-Bhatapara , Bastar, Dhamtari, Mungeli, Raipur, Rajnandgaon and Surguja

Audit Findings

2.2.6 Quality of education in the State

2.2.6.1 Grading of schools based on quality

Only 25 *per cent* schools achieved "A" Grade in the State under Dr. APJ Abdul Kalam Shiksha Gunavatta Abhiyan

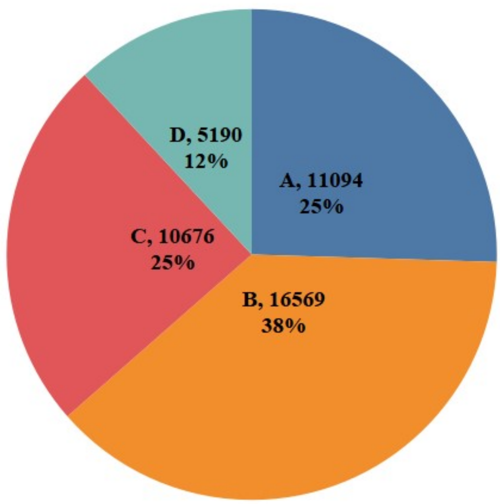
The State Government launched (September 2013) Doctor APJ Abdul Kalam Shiksha Gunavatta Abhiyan to improve the quality of education. The Government deputed officials of various departments of the State to survey the schools through questionnaires[4]. Out of total 53,269 schools in the state, 43,529 schools (82 *per cent*) were covered under the programme as of March 2015. Details are shown in **Table 2.2.1** below:

Table 2.2.1:-Statement showing grading of the schools

No. of schools	School covered	Categories[5]			
		A	B	C	D
53269	43529	11094	16569	10676	5190

(Source: - Information furnished by RGSM)

Chart 3 : Grading of the Schools under Dr. APJ Abdul Kalam Gunvatta Abhiyan



The above table and graph shows that only 25 *per cent* of the total schools have achieved Grade 'A' and two third of the schools which were placed under grades 'B', 'C' and 'D' needs improvement in quality education.

During exit conference (October 2016), Government stated that the efforts will be made to improve the quality of the schools as it is a continuous process. The fact remains that only 25 *per cent* schools were 'A' Grade schools in the State.

2.2.6.2 Impact of RTE Act in the State

As per Confederation of Indian Industry (CII) and KPMG Report on 'Assessing the Impact of Right to Education Act' in India published in March

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4 One hundred questions were prepared for valuation related to various aspects of elementary education and Grade had been assigned to schools on the basis of valuation

5 Category A, B, C and D were decided on the basis of total number of reply "yes" out of one hundreds points

2016, Chhattisgarh ranked 17 in National Assessment Survey (NAS) and 22 in Educational Development Index (EDI) among all the states. Similarly, neighbouring States like Jharkhand ranked 25th position in NAS and 35th position in EDI whereas Madhya Pradesh ranked 16th position in NAS and 28th position in EDI. This indicates that Chhattisgarh State is increasingly improving its compliance with norms of RTE Act in comparison to its peers.

2.2.7 Planning, Coverage and Implementation

2.2.7.1 Planning

The State Government prepared AWP&B from the district's plan and submitted to PAB in time

To achieve the goal of universalisation of elementary education, plan is to be prepared at the district level. The District and State Annual Work Plan are to be prepared based on the guidelines of the MHRD, GoI with reference to the Act. Preparation of Annual work plan is based on identification of problems through household survey conducted by the School Management Committee (SMC). The budget proposals under SSA are prepared in the form of Annual Work Plan and Budget (AWP&B), covering all the interventions specified in the SSA norms. The budget plans are reviewed and approved by the Project Approval Board (PAB) constituted by the MHRD, GoI.

Scrutiny of records of seven test checked districts revealed that all the districts had prepared the Annual Plans based on household survey every year and submitted reports to the State Project Office (SPO), RGSM. The State Government prepared AWP&B from districts plan and submitted to PAB in time for all these years.

2.2.7.2 Coverage of schools

Rule 6 of the CGRTE Rule, 2010 and Section 6 of the RTE Act, 2009 defines the limit of neighbourhood school, for class 1 to V, within the walking distance of one kilometre and for class VI to VIII within a distance of three kilometres from the residence. Further, Government should establish, within such area or neighbourhood where it is not so established, a school within a period of three years from the commencement of the Act.

Audit observed that out of 41,974 habitations in the State, 41,095 habitations have PS and 879 habitations were without having PS as of March 2016. At upper primary level, 40,743 habitations have UPS and 1231 habitations did not have any UPS.

As per above provision of the Act, the State Government had to complete the mapping work of existing schools and habitations without school by March 2013. But the State Government completed this exercise in March 2016 with delay of three years. Thus, there was delay in mapping of the schools which resulted in subsequent delay in assessment of requirement of schools to cover the habitations.

During exit conference (October 2016), the Secretary of the department stated that at least 10 children are required to open a new school. The habitation without PS and UPS are those where adequate numbers of children are not available. Further, the Secretary also assured to examine the reasons for delay in mapping. However, the Secretary did not provide any details of the habitations having less than ten children and as such the veracity of the reply could not be substantiated in audit.

2.2.7.3 Coverage of Children and Enrolment

As per Section 9 (d) of the Act and Rule 10 of CGRTE Rules, 2010 every local authority shall provide free and compulsory elementary education to every child and maintain records of children up to the age of 14 years residing within its jurisdiction. Child population in the age group of six to 14 years, enrolment and dropouts during the period 2010-16 are as detailed in **Table 2.2.2** below:

Table 2.2.2: Details of child population, enrolment and dropouts in the State

(Figures in number)

Year	No of children who attained the age of Enrolment of 6-14 years	No. of children enrolled	Number of dropouts	Percentage of dropouts
2010-11	NA	4637000	NA	NA
2011-12	4533143	4743000	64860	1.36
2012-13	4562631	4752000	76204	1.60
2013-14	4494411	4590000	56159	1.22
2014-15	4471088	4549000	50373	1.11
2015-16	4333179	4457000	36511	0.81

(Source: Information furnished by RGSM and compiled by audit)

The department did not have a database and a realistic position of state to ensure enrollment of all eligible children

The department furnished enrolment and dropout data but could not provide the data of children attaining the age of enrolment as it was not maintained. However, it was noticed in audit that the department had been using the data maintained by National University of Educational Planning and Administration (NEUPA) on child population attaining the age between six to 14 years based on Census 2011. This indicated that the department did not have a database of children attaining the age of six to 14 years to enroll them under elementary education in violation of the Act.

As a result of using the child population data which dates back to 2011, figures of enrolment became more than the number of children who attained the age of enrolment and thus proved unrealistic. However, the data shows declining trend of enrolment over these years except during 2011-13 which were due to inclination of children towards private schools as stated by the MD, RGSM.

The details of enrolment are shown in **Appendix-2.2.5 and 2.2.6.** Scrutiny of records in the MD, RGSM further revealed the following status of enrolment in schools:

(a) Enrolment status in the State

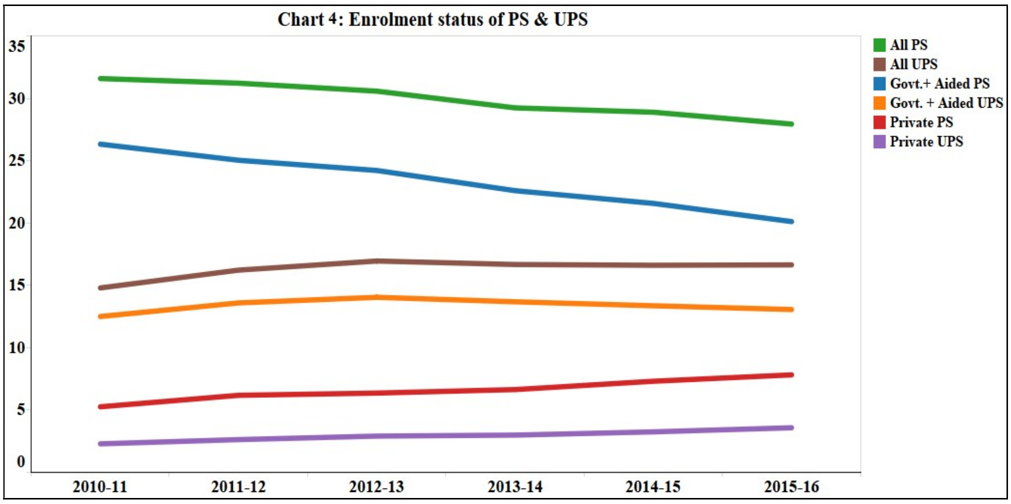
(i) The enrolment of children in all PS (including private schools) in the State decreased by 3.65 lakh (11.56 *per cent*) during 2010-16 from 31.58 lakh in 2010-11 to 27.93 lakh in 2015-16 (**Appendix-2.2.5**). The department attributed the main reason of decreasing trend of enrolment to migration of parents.

The enrolments in government schools were in decreasing trend in contrary to the private schools where it indicated an increasing trend

(ii) In case of government and government aided PS, the enrolment decreased by 6.21 lakh (23.59 *per cent*) during 2010-16 from 26.32 lakh in 2010-11 to 20.11 lakh in 2015-16. Contrary to this, in case of private PS, enrolment increased by 2.56 lakh (48.67 *per cent*) during same period from 5.26 lakh in 2010-11 to 7.82 lakh in 2015-16 (**Appendix-2.2.6).**

(iii) For all UPS (including private schools) the enrollment increased by 1.85 lakh (12.51 *per cent)* during 2010-16 from 14.79 lakh in 2010-11 to 16.64 lakh in 2015-16 while for government and government aided UPS, the enrolment increased from 12.50 lakh to 13.06 lakh during the same period and it increased by 0.56 lakh (4.48 *per cent*). So contrary to PS, enrolments in UPS are encouraging across all schools. However, in between there were occasional reversal of trend (**Appendix-2.2.6).**

(iv) Enrolment in private UPS shows steady increase by 1.29 lakh (56.33 *per cent)* during 2010-16 from 2.29 lakh in 2010-11 to 3.58 lakh in 2015-16 (**Appendix- 2.2.6)**



The Mission Director stated that the reasons for shortfall in enrolment in PS were inclination of new generation towards English medium schools and preference of parents' for private schools.

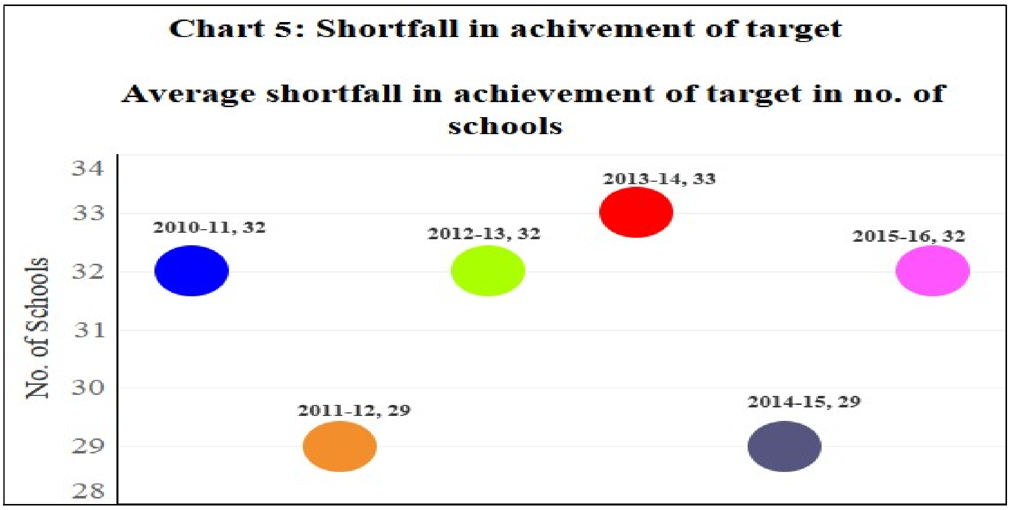
(b) Enrolment in test checked districts/schools

Targets are set for each school for enrolment each year. The target of enrolment and position of achievement in 210 test checked schools in the seven selected districts are detailed in **Table 2.2.3** below:

Table 2.2.3: Details of shortfall in target of enrolment in test checked schools

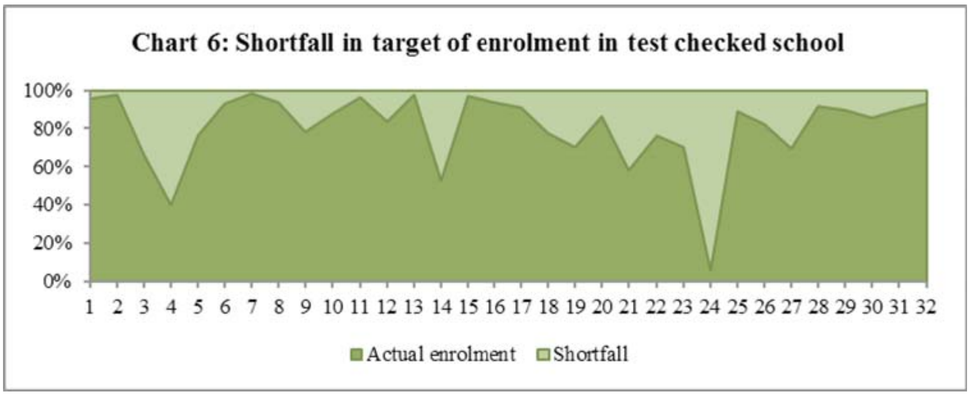
Year	Target range	Achievem ent range	Shortfall in achievement of target in no. of schools	Range (No. of children not admitted in schools)	Average Shortfall
2010-11	10-550	8-534	32	1-41	8
2011-12	8-550	4-530	29	1-64	12
2012-13	8-520	7-514	32	1-56	11
2013-14	9-500	3-455	33	1-46	11
2014-15	5-400	2-388	29	1-51	13
2015-16	9-350	2-320	32	1-67	13

(Source: Compiled by Audit from school records)



As evident from the above table and chart, out of 210 test checked schools, there was shortfall in achievement of target of enrolment in 29 to 33 schools and number of children ranging between one and 67 were not enrolled against the target fixed during 2010-16. Twenty five schools in one to five years and 15 schools in all the six years have not been able to meet the enrolment targets during 2010-16.

The shortfall in target of enrolment in the individual 32 schools in the year 2015-16 (**Appendix 2.2.7)** is shown graphically below:



During exit conference (October 2016), Government replied that the system will be developed to create database of the children attaining the age of enrolment. Fact remains that database of children have not been prepared by the department.

2.2.7.4 Retention and Dropout

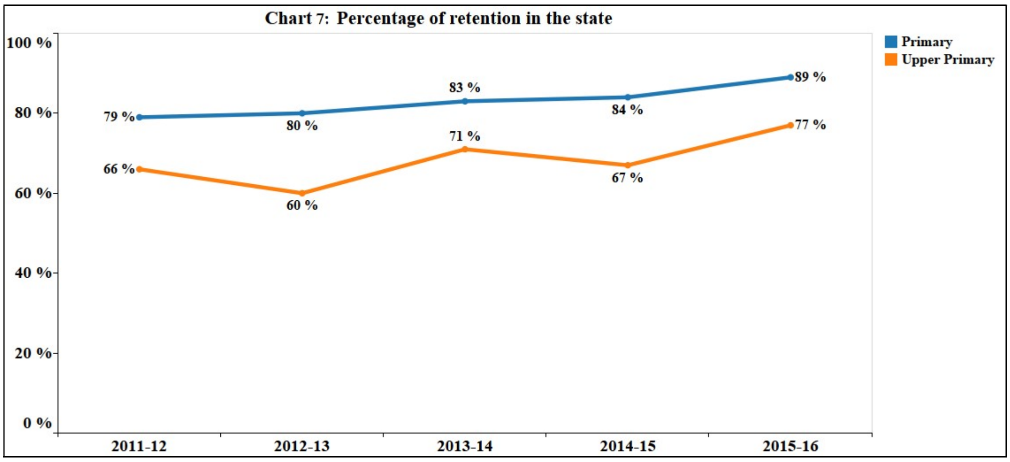
Retention of children is the number of enrolled children retained during a year in the school. The status of retention of children in PS and UPS in the State during 2011-16 is detailed in **Table 2.2.4** below:

Table 2.2.4: Statement showing details of percentage of retention in the State

(In per cent)

Schools	2011-12	2012-13	2013-14	2014-15	2015-16
Primary	79	80	83	84	89
Upper primary	66	60	71	67	77
Gap	13	20	12	17	12

(Source: Information provided by RGSM)



It can be seen from the above table that the rate of retention increased over the years during 2011-16 at primary level but was inconsistent at upper primary level.

There was less retention particularly in upper primary level in comparison to primary level and the gap in the rate with respect to primary level ranged between 12 and 20 *per cent*. Reasons for less retention resulted from dropouts, migrations and deaths as reported by MD, RGSM.

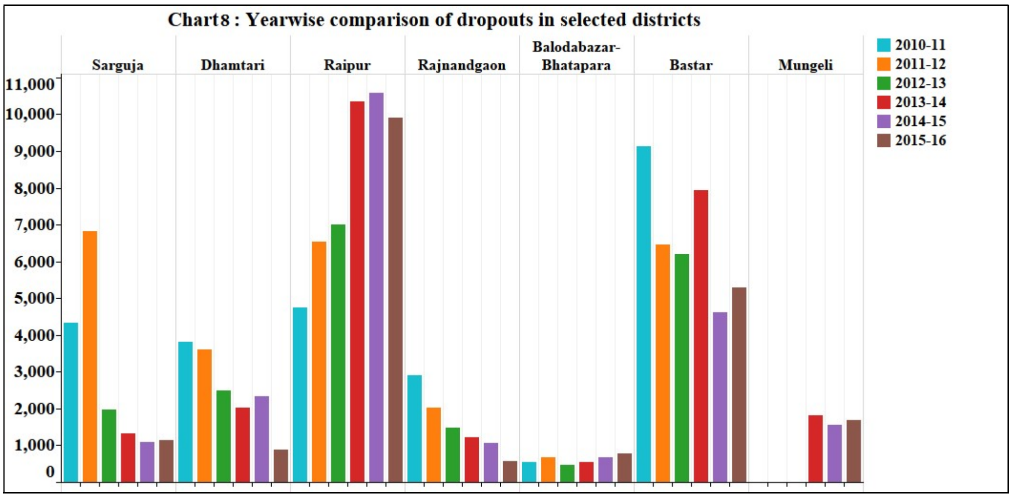
(a) Status in selected districts

The status of dropouts of children in PS and UPS in the selected districts during 2011-16 is detailed in **Table 2.2.5** below:

Table 2.2.5: Details of dropout in the selected districts
Dropout percentage increase/decrease in 2015-16 vis-à-vis 2010-11

Name of the District	Year					
	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
Surguja	4328	6821	1958	1324	1087	1145 (-74)
Dhamtari	3825	3612	2501	2027	2325	880 (-77)
Raipur	4739	6544	6990	10350	10571	9912 (109)
Rajnandgaon	2917	2033	1484	1217	1053	561 (-81)
Balodabazar-Bhtapara	554	677	461	544	686	783 (41)
Baster	9125	6457	6197	7944	4613	5290 (-42)
Mungeli	NA	NA	NA	1815	1557	1696 (-7)

(Source: Information furnished by DEOs and DPCs and compiled by audit)



In two out of seven test checked districts viz. Balodabazar-Bhatapara and Raipur the dropout rate increased by 41 *per cent* and 109 *per cent* respectively in 2015-16 in comparison to 2010-11. In contrary, in five districts[6] number of dropouts decreased and the percentage of decrease ranged between seven and 81 *per cent* in 2015-16 over 2010-11.

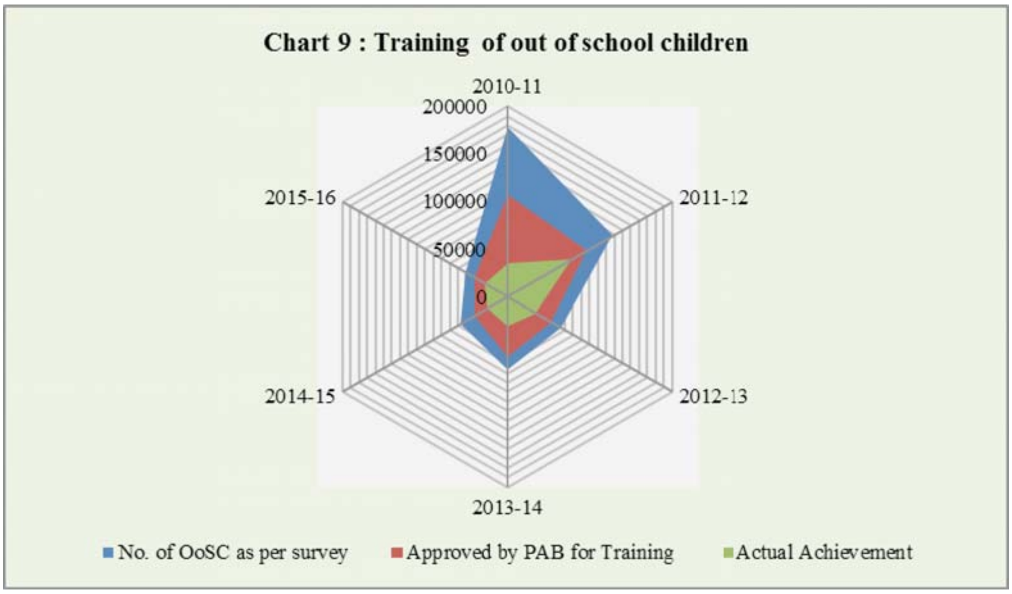
During exit conference (October 2016), Government stated that the percentage of retention will be verified and the main reason of dropout was seasonal migration of labourers with family. The fact remains that Government had not furnished any data of migration of children in support of their reply.

2.2.7.5 Training to out of school children

There was shortfall in training of out of school children against the target

As per Section 4 of the Act where a child above six years of age has not been admitted in any school or though admitted, could not complete his or her elementary education, then, he or she shall be admitted in a class appropriate to his or her age. The Act further provides for special training for age appropriate admission for Out of School Children.

Audit observed that during 2010-16, the MD, RGSM proposed training for 3.98 lakh Out of School Children in AWP&B against 5.54 lakh surveyed children which was approved by the GoI. This resulted in shortfall of training for 1.56 lakh Out of School Children which ranged between 60 and 83 *per cent* during 2010-16. The targets of the training were also not achieved and the shortfall in achievement ranged between 32 and 80 *per cent* (**Appendix-2.2.8)** during the same period.



During exit conference (October 2016), Government stated that the system would be strengthened to cover training of maximum percentage of children surveyed. The fact remains that the department had not followed the provision of the Act and planned training for less number of children without valid grounds.

6 Bastar (42), Dhamtari (77), Mungeli (7), Rajnandgaon (81) and Surguja (74)

2.2.7.6 Transport and escort allowance for children with special needs

All the physically challenged children and blind children were not covered under the transport and escort facilities

As per Section 3(3) of the Act, Children with Special Needs (CWSN) shall have the right to pursue free and compulsory elementary education. CWSN are those children who are physically challenged or having physical disabilities of different degree, kind and category. As per Rule 35.3 of Manual on Financial Management and Procurement (MFM&P) of SSA, every child with special needs should be placed in regular schools, with needed support services.

Scrutiny of the records of the MD, RGSM revealed that all the physically challenged children were not covered (14 to 67 *per cent*) under the transport facilities and blind children were also not provided (36 to 84 *per cent*) with escort facilities during 2011-16 (**Appendix-2.2.9 and 2.2.10).** The department thus, did not ensure providing basic facilities to the needy as per the Act and deprived the needy of the facility.

During exit conference (October 2016), Government stated that priorities would be fixed to cover the maximum percentage of children with disabilities under transport and escort facilities. Fact remains that all the physically challenged children were not covered under the transport facilities and blind children were not provided escort facilities without any valid ground.

2.2.8 Creation of physical and educational infrastructure facility

2.2.8.1 Physical infrastructure

As per Section 19 (2) of the Act, where a school established before the commencement of the Act does not fulfil the norms and standards specified in the schedule such as separate toilets for boys and girls, at least one classroom for every teacher, room for headmaster, barrier free access, drinking water facilities, boundary wall and playground, it shall take steps to fulfil such norms and standard at its own expenses, within a period of three years from the date of such commencement i.e. by March 2013.

Infrastructure facilities were not provided in schools in violation of Section 19 of the Act as 2,551 works remained incomplete by the completion deadline

Scrutiny of records of the MD, RGSM and DPI revealed that the time frame of three years for completion of various infrastructure facilities such as school buildings, toilets, drinking water facilities, special lavatories for disabled and headmaster's room had not been adhered to. Out of 68,879 sanctioned civil works during 2001-10, 2,551 works (four *per cent*) remained incomplete by March 2013 (**Appendix-2.2.11**). Further, out of 1.60 lakh works sanctioned during 2010-16, 20,988 works (13 *per cent*) remained incomplete as of March 2016 in the State. Incomplete infrastructures both as of March 2013 and March 2016 ranged between two and 43 *per cent* for various components (**Appendix- 2.2.12**). In the seven test checked districts, 2,638 works were incomplete as of March 2016 on which funds of ₹ 66 crore were blocked for one to 13 years.

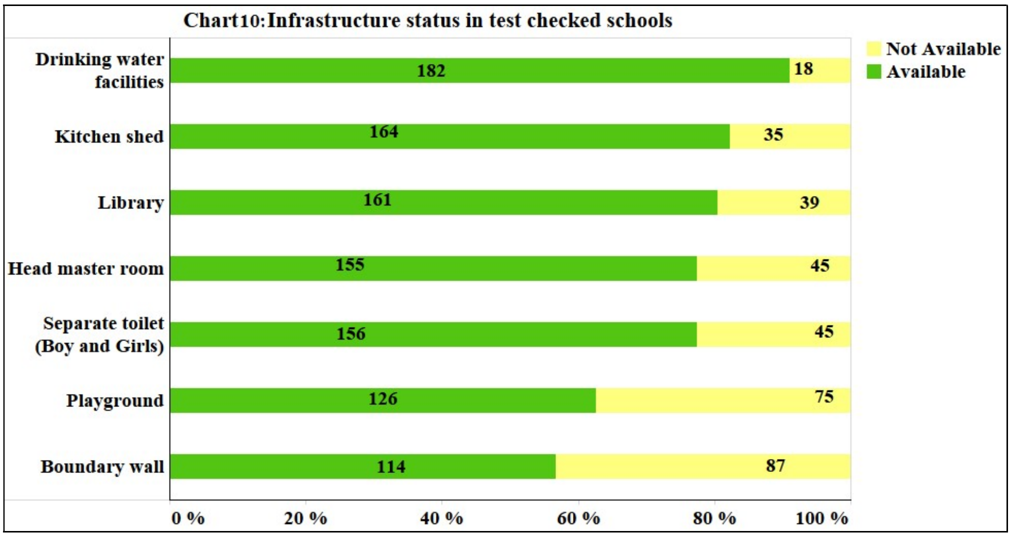
(a) Status in test checked schools

Physical verification of 210 government/ government aided schools revealed shortage of infrastructural facilities as of March 2016 as detailed in **Table 2.2.6** below:

Table 2.2.6: Statement showing details of not having infrastructure facilities in schools

Sl. No	Name of Infrastructure facility	Available	Not Available	Information not available	Percentage not available
1.	Separate toilet (Boys and Girls)	156	45	9	22
2.	Drinking water facilities	182	18	10	9
3.	Library	161	39	10	20
4.	Playground	126	75	10	37
5.	Kitchen shed	164	35	11	18
6.	Head Master room	155	45	10	23
7.	Boundary wall	114	87	9	43

(Source-Information furnished by schools and compiled by audit)



It is evident from the above table that out of 210 government/government aided schools, 18 to 87 schools had no basic infrastructural facilities ranging between nine and 43 *per cent*. Reasons included works remaining incomplete, funds misappropriated by construction agencies i.e. Panchayat Secretaries besides slow execution of works, change of construction agencies etc. as discussed in subsequent paragraphs.

During exit conference (October 2016), Government stated that funds will be arranged to complete the infrastructural facilities. The fact remains that for not completing the infrastructure by 2013 and even by 2016, the Act mandate was violated.

2.2.8.2 Unfruitful expenditure of ₹ 19.82 crore on incomplete boundary walls

678 boundary wall works were not completed as of March 2016 in five sampled districts despite incurring expenditure of ₹ 19.82 crore

The State Government sanctioned (2010-16) construction of 9,130 boundary walls in PS and UPS, out of which 7,417 boundary walls (81 *per cent*) were completed, 1,482 (16 *per cent*) were in progress and 231 (three *per cent*) had not been started for want of fund as of March 2016.

In the five out of seven sampled districts, Government sanctioned ₹ 39.55 crore[7] for construction of boundary walls in 678 schools during 2010-13 and

[7] Balodabazar-Bhatapara - ₹ 12.88 crore, Bastar - ₹ 13.69 crore, Dhamtari - ₹ 1.08 crore, Raipur- ₹ 10.50 crore and Rajnandgaon- ₹ 1.40 crore

released first installment of ₹ 19.82 crore[8]. The works were to be completed within three months from the date of sanction. However, it was noticed in audit that the construction of the boundary walls could not be completed as of October 2016 as the second and final installments were not released. On these incomplete boundary walls, Government incurred an expenditure of ₹ 19.82 crore which proved unfruitful as of October 2016.

During exit conference (October 2016), Government confirmed that the boundary wall works were not completed as second installment was not released by the GoI. Government further stated that these would be completed by arranging funds from other sources. However, Government did not mention any time frame within which these would be completed although more than three to five years had gone by since completion periods of these works were over.

2.2.8.3 Preparation of School Development Plan

As per Rule 4 of CGRTE Rules, 2010, the SMC shall prepare a School Development Plan (SDP) at least three months before the end of the financial year in which it is first constituted under the Act. The SDP shall be a three year plan comprising three annual sub plans. The SDP shall contain the estimates of class-wise enrolment for each year, requirement of the number of additional teachers including head teachers, subject teachers and part time instructors, physical requirement of additional infrastructure and equipment over the three year period, entitlements of children such as free text books and uniforms, and any other additional financial requirement for fulfilling the responsibilities of the school under the Act.

SMCs had not prepared SDP in 75 out of 210 schools during 2010-16

During physical verification of 210 test checked schools, it was noticed that 75 SMCs (36 *per cent*) had not prepared any SDP during 2010-16 due to lack of awareness. It was further observed that out of the above 75 schools, five schools were without Head Masters' room, 15 schools did not have separate toilets, six schools were without drinking water facility, 24 schools lack playground and 31 schools were without boundary walls. This indicated that these schools have not prepared SDP and as such, implementation of the Act was not ensured.

During exit conference (October 2016), Government stated that every school will be insisted to prepare SDP. However, Government did not provide any justification for failing to prepare the SDP by the SMCs during the period reported upon in violation of the Act.

2.2.8.4 Pupil Teacher Ratio

As per Section 25 of the Act, Government shall, within three years from the date of commencement of the Act, ensure that the Pupil-Teacher Ratio (PTR) i.e. one teacher for each 30 children in class I to V and one teacher for each 35 children in class VI to VIII, is maintained in each school.

Pupil Teacher Ratios were not maintained in schools according to norm

Scrutiny of records of the MD, RGSM and DPI revealed that the specified PTR was not maintained in both primary and upper primary schools. While

[8] Balodabazar-Bhatapara - ₹ 6.44 crore, Bastar - ₹ 6.85 crore, Dhamtari - ₹ 0.54 crore, Raipur-₹ 5.25 crore and Rajnandgaon- ₹ 0.74 crore

adverse PTR was between eight and 27 *per cent* in PS, it was between 16 and 34 *per cent* in UPS during 2011-16 (**Appendix-2.2.13).**

At the same time, 22 *per cent* to 45 *per cent* PS had surplus PTR ranging between 9,236 and 17,739 surplus teachers while 46 *per cent* to 61 *per cent* UPS had surplus PTR ranging between 5,683 and 8,227 surplus teachers during 2011-16. Thus, adverse PTR coexists with surplus PTR in the State. However, Government did not make any arrangement to address the imbalance by rationalising the availability of teachers to reach the optimal ratio within three years i.e. by March 2013 in violation of the Act. The breach of desired PTR in PS and UPS continued unabated till 2015-16 in the State for continued lack of intervention by the Government under the Act as shown in the charts below:

Chart 11: PS with adverse PTR and surplus teacher in 2015-16

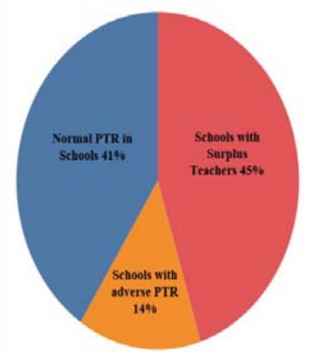
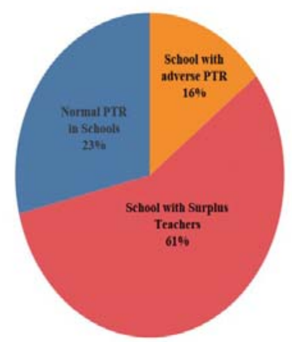


Chart 12 : UPS with adverse PTR and surplus teacher in 2015-16



(a) Status in test checked schools

In 210 test checked schools, PTR was noticed less in 24 PS (11 *per cent*) and 20 UPS (10 *per cent*) while in 25 PS (12 *per cent*) and 57 UPS, there were surplus teachers as of March 2016. Thus, in the selected schools audit also noticed that adverse PTR coexists with surplus teachers against the basic objective of the Act.

During exit conference (October 2016), Government stated that action would be taken as per the provision of the Act. The fact remains that the department failed to comply with the provision of the Act to achieve the desired PTR in more than three years of expiry of deadline.

2.2.8.5 Training of untrained teachers

11,963 teachers were untrained in the State in government schools

As per Section 23(2) of the Act, all teachers not possessing the minimum qualifications at the time of commencement of the Act, shall acquire such minimum qualifications within a period of five years from the commencement of the Act.

In the State, 45,223 teachers in primary level and 15,924 teachers at upper primary level (total 61,147 teachers) were untrained as of April 2012. National Council for Teacher Education (NCTE) accorded (May 2012) approval to the State Government to conduct training programme for 45,223 untrained teachers working in primary level. The untrained teachers working at upper primary level had been asked by SCERT to acquire professional qualification before 2015 through Open Distance Learning (ODL) mode programmes run by Indira Gandhi National Open University, State Open

University or any other Open University. This included two years Diploma in Elementary Education programme in ODL-cum-contact mode to be offered by the State and implemented by SCERT.

Scrutiny of records in the offices of the MD, RGSM, DPI and SCERT revealed that 11,963 (20 *per cent*) out of 61,147 untrained teachers in the State (6,111 teachers of Government/Government aided PS, and 5,852 teachers in government UPS) remained untrained as of March 2016 even though five years period expired in 2015.

Further, in seven test checked districts, 3,633 (nine *per cent*) out of 40,851 teachers remained untrained as of March 2016. In the 210 test checked schools, 61 teachers (seven *per cent*) in 39 schools (19 *per cent*) were found untrained. Hence the objective of imparting training to the untrained teachers could not be achieved by the State within the timeline. However, it was not done till October 2016.

During exit conference (October 2016), Government stated that extension of another five years has been sought for from GoI to complete the training process. Fact remains that Government failed to provide training to the teachers even after lapse of five years from the commencement of Act.

2.2.8.6 Educational qualifications of teachers in private schools

1,525 teachers were untrained in selected 145 private schools under the selected test checked districts

Scrutiny of records of DEOs and BEOs of seven test checked districts revealed that out of 2,594 teachers appointed in 145 private schools, 1,069 (42 *per cent*) teachers were trained and 1,525 teachers (59 *per cent*) were untrained as of March 2016. This indicated that the private schools also run with untrained teachers and their percentage was much higher than government schools (nine *per cent*) in selected districts.

During exit conference (October 2016), Government stated that steps would be taken to de-recognise the schools with unqualified teachers in a planned manner. However, no roadmap to do this along with timeline was furnished to audit.

2.2.8.7 Observance of working days/instructional hours in schools

Two to 21 UPS out of 210 test checked schools did not observe the working days during 2010-16

Schedule of Section 19 and 25 of the Act prescribes minimum of 200 working days for PS and 220 working days for UPS.

In physical verification of 210 test checked schools it was noticed that required working days were observed in PSs but not in UPSs. The year-wise number of UPS which had not observed the norms for working days are detailed in **Table 2.2.7** below:

Table 2.2.7: Details of UPS which did not observe norms for working days

School	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
UPS	21	16	20	8	2	5

(Source: Compiled by Audit from school records)

The above table shows that during the period 2010-16, UPS ranging from two to 21 did not observe the working days as per the norms.

During exit conference (October 2016), Government stated that working days were not observed by the UPS due to local reasons and steps will be taken to ensure observance of maximum working days as per norms. The fact remains that the Act provisions during the period reported upon were not adhered to.

2.2.8.8 Status of implementation of reservation in private schools

The required percentage of admission into the private schools for disadvantaged groups was not fulfilled

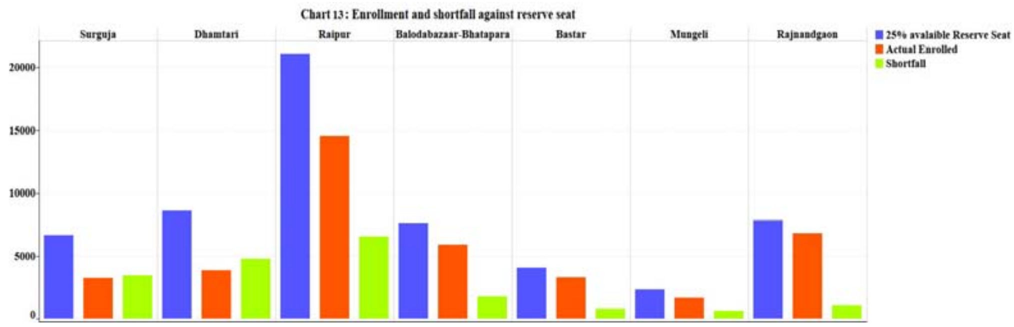
Section 12 (1) (c) of the Act stipulates that private schools shall admit children from weaker Sections and disadvantage[9]groups in class I to the extent of at least twenty-five *per cent*, of the strength of that class in the neighbourhood schools and provide free and compulsory elementary education. As per the Government's order (September 2012) cost fixed per child for PS is ₹ 7,650 per annum and for UPS is ₹ 12,050 per annum including uniform and text books.

(A) Scrutiny of records in DPI revealed that the required percentage of admission into the private schools for disadvantaged groups was not fulfilled and the shortfall ranged between seven and 23 *per cent* during 2012-16.
Findings in test check of records in selected districts are shown in **Table 2.2.8** below:

Table 2.2.8: Statement of enrolment of children under disadvantage group

District	Schools	Total number of Reserved Seat	Actual number of admission	Shortage of admission in number	Percentage of deficit
Balodabazaar-Bhatapara	262	7606	5841	1765	23
Bastar	131	4050	3275	775	19
Dhamtari	175	8602	3822	4780	56
Mungeli	124	2333	1692	641	27
Raipur	863	21084	14554	6530	31
Rajnandgaon	297	7820	6798	1022	13
Surguja	189	6648	3226	3422	51

(Source-Information provided by DEOs and DPCs and compiled by audit)



It can be seen from the above table and chart that the shortage of children for admission under disadvantage group and weaker Section in the selected districts ranged between 641 and 6,530 and the percentage of deficit to required percentage (25 *per cent*) of enrolment ranged between 13 and 56 *per cent.*

The DEOs replied that the reasons of shortage were absence of children under the disadvantaged category within the prescribed neighbourhood under the

9 Child belonging to Scheduled Castes (Article 341 and 342), Scheduled Tribe, a child with 40 *per cent* disability and a child whose parents are having certificate of Recognition of Forest Rights

Act. However, Government did not provide any information about the steps it had taken to spread awareness among the children belonging to the above category to take admission in the private schools.

(B) Audit further observed that DPI allotted funds worth ₹ 34.99 crore for the years 2010-11 and 2011-12 in 2012-13 for reimbursement of education cost of children admitted in private schools. Thus, reimbursements were not made timely (**Appendix-2.2.14).**

DPI stated (July 2016) that the reimbursement of fees were not made timely as the committee constituted at the Government level delayed examination and fixation of the rate of reimbursement of fee.

(C) In the seven test checked districts, the following irregularities were noticed:

- In Surguja district, out of allotment of ₹ 5.70 crore during 2010-16, ₹ 2.87 crore was not distributed and was deposited in the bank account while ₹ 91.94 lakh was retained in the Personal Deposit Account.
- In DEO Mungeli, an amount of ₹ 6.14 lakh was found undisbursed and was laying in the bank account as of March 2016.
- DEO, Bastar diverted ₹ 6.02 lakh and incurred expenditure on organising pravesh mela (January 2016) in schools.

During exit conference (October 2016), Government stated that steps will be taken to expand the jurisdiction of every private school so that the required percentage of admission is ensured. Further, in respect of diversion of funds and blockage of funds, it was stated that action will be taken after examination. However, the timeline within which these actions would be taken was not intimated to audit.

2.2.8.9 Provisions of the Act not adhered to by private schools

As per Rule 15 (1) (b) of CGRTE Rules, 2010, no school shall be run for profit by any individual, group or association of individuals or any other persons. The Government issued (April 2012) direction to all the Collectors and DEOs to examine the Income and Expenditure Statement furnished by private schools to assess whether the schools run on principle of no profit- no loss and action is to be initiated against the schools not adhering to the rules.

Audit observed in the office of the DEO, Raipur that four schools had shown excess income of ₹ 8.47 crore in their Income and Expenditure Statement for the years 2012-15 (**Appendix-2.2.15)** which was against the principle of no profit-no loss as per the Rule. However, neither any mechanism was established by the department to prevent such malpractices by the private schools nor any action had been initiated against the concerned schools for violating the norms as of October 2016.

In the exit conference (October 2016), Government stated that the rule position about this would be examined. The reply was not acceptable because there was no valid reason for not initiating action against such schools for more than two to three years.

2.2.9 Financial Management

2.2.9.1 Funding pattern

There was short release of ₹ 5,787 crore against ₹ 13,379 crore approved by Project Approval Board

Till the year 2014-15, funding pattern of the programme between the Central and the State Governments was in the ratio of 65:35 and from the year 2015-16 it was revised to 60:40. The method of funding was also changed in 2013-14. Till 2013-14, the approved amount of fund was released directly by the Central/State Government to State Implementing Society (RGSM) under SSA. From the year 2014-15 onwards, the central share is released to the State which in turn releases it along with the state share to the MD, RGSM for implementation of the approved activities. The State Project Office (RGSM) distributes funds to DPCs, BRCs and SMCs for further disbursement under various interventions.

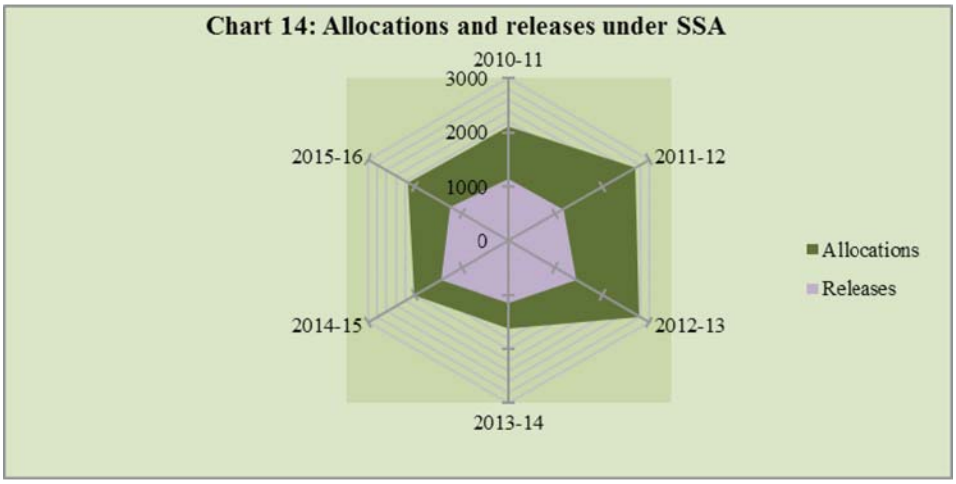
SSA is the vehicle for implementation of the provision of the RTE Act and budget is allocated under SSA. The details of budget allocations and releases during 2010-16 are shown in **Table 2.2.9** below:

Table 2.2.9: The details of budget allocations and releases during 2010-16

(₹ in crore)

Year	Allocations			Releases			Percentage of Release against the Allocation		
	GoI	State	Total	GoI	State	Total	GoI	State	Total
2010-11	1375	740	2115	736	392	1128	54	53	53
2011-12	1752	943	2695	739	430	1169	42	46	43
2012-13	1819	979	2798	959	484	1443	53	49	52
2013-14	1057	569	1626	767	392	1159	73	69	71
2014-15	1297	699	1996	927	514	1441	71	74	72
2015-16	1289	860	2149	622	630	1252	48	73	58
Total	**8589**	**4790**	**13379**	**4750**	**2842**	**7592**	**55**	**59**	**57**

(Source: Information provided by RGSM and compiled by Audit)



It can be seen from the above table and chart that ₹ 7,592 crore was released by GOI and the State Government against ₹ 13,379 crore approved by the PAB. This resulted in short release of ₹ 5,787 crore (43 *per cent*) during 2010-16. The department replied that short release of fund was mainly due to short release of central share and proportionate release by State Government accordingly.

2.2.9.2 Budget Estimates and Expenditure

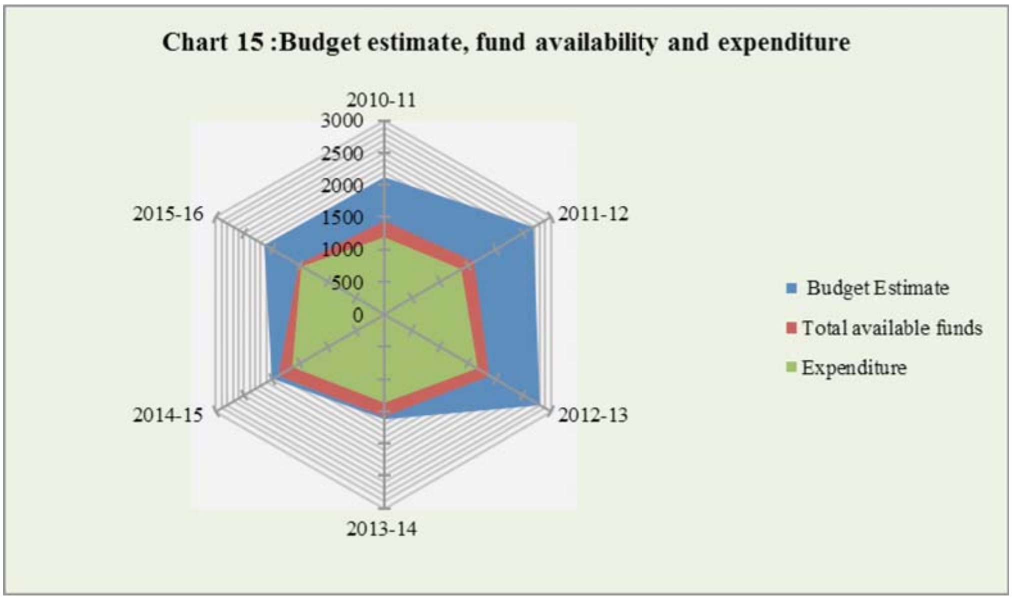
The position of budget estimates, releases and expenditure during 2010-16 is shown in **Table 2.2.10** below:

Table 2.2.10: Details of budget estimates, funds released and expenditure

(₹ *in crore*)

Year	Budget Estimate	Actual release (Col 5+6)	Opening Balance	GoI release (*Per cent*)	State Release (*Per cent*)	13th Finance commission	Others	Total (Col 4+5+6+7 +8)	Expen-diture
1	2	3	4	5	6	7	8	9	10
2010-11	2115	1128	168	736(65)	392(35)	136	18	1450	1185
2011-12	2695	1169	265	739(63)	430(37)	154	28	1351	1375
2012-13	2798	1443	241	959(66)	484(34)	174	30	1647	1671
2013-14	1626	1159	217	767(66)	392(34)	194	16	1369	1356
2014-15	1996	1441	230	927(64)	514(36)	200	29	1670	1640
2015-16	2149	1252	260	622(50)	630(50)	0	17	1269	1478
Total	**13379**	**7592**		**4750(63)**	**2842(37)**	**858**	**138**	**8756**[10]	**8705**

(Source: Information furnished by RGSM and complied by Audit)



It may be seen from the above table that:

41 to 74 *per cent* of total expenditure was spent on payment of salaries to teachers

- During 2015-16, the release of the state share was 50 *per cent* against the prescribed limit of 40 *per cent*. During 2010-15, the central share ranged between 63 and 66 *per cent* against the requirement of 65 *per cent* and the state share between 34 and 37 *per cent* against the requirement of 35 *per cent*. Thus, the obligations were not discharged by both the GoI and the State Government as per norms as mentioned in paragraph 2.2.9.1.
- During 2010-15, the State Government received ₹ 858 crore as grant under 13th Finance Commission. The entire amount was spent on payment of salaries to teachers although these were to be utilised for other recurring expenditure. The payment under this head ranged between 41 and 74 *per cent* of the total expenditure during 2011-16.

[10] Opening balance was included only for the financial year 2010-11

During exit conference (October 2016), Government stated that State released its share according to Central release and GoI had not released the approved amount by PAB. The reply was not acceptable as the State Government had not released its share according to approved AWP&B.

2.2.9.3 Delay in release of grants

The department released funds with a delay of up to eight months

The MFM&P under SSA stipulates that GoI would release funds directly to the State Implementing Societies in two installments in April and September in each financial year. Further, as per Rule 91.2 of MFM&P, the State should issue its share in agreed ratio of assistance within 30 days of the receipt of the central share as per the approved sharing arrangement.

Audit observed in DPI that the department released funds with a maximum delay of up to eight months during 2010-16 thereby causing delay in availability of funds at each level of implementation.

During exit conference (October 2016), Government stated that delay will be regularised in future. However, no justification for the delay for the period reported upon was given.

2.2.9.4 Pending Utilisation Certificates

Utilisation certificate for ₹ 17.50 crore were not submitted by the SCERT

Scrutiny of records of the MD, RGSM revealed that ₹ 49.90 crore was released to the SCERT under different components of SSA during 2013-14 and 2014-15 for implementation of the programme. Against this, SCERT submitted utilisation certificates (UCs) for ₹ 32.40 crore and UCs for ₹ 17.50 crore were pending (March 2016) as detailed in **Table 2.2.11** below**:**

Table 2.2.11: Details of pending Utilisation Certificate

(₹ in crore)

Head	Amount released	UCs Received	Pending UCs
Research Methodology	0.06	0.03	0.03
Master Trainers	1.25	1.09	0.16
Training of untrained teacher	48.59	31.28	17.31
Total	**49.90**	**32.40**	**17.50**

(Source: Information furnished by RGSM)

It can be seen from the above table that UCs for ₹ 17.50 crore were not submitted by the SCERT as it did not receive the Income and Expenditure Statement from training centres. However, RGSM had not made any correspondences till May 2016.

During exit conference (October 2016), Government stated that SCERT will be directed to submit UCs with immediate effect. The fact remains that UCs were not submitted even after lapse of one to two years of receipt of fund.

2.2.9.5 Pending adjustment of advances under SSA

As per Rule 74.1 of MFM&P, all funds released to the districts and sub-district level units are initially classified as advances and accordingly mentioned in the books of accounts. Further, Rule 75.1 of MFM&P prescribes time limit of one month after the close of the financial year for submission of accounts.

Advance of ₹ 166 crore released to various units were pending for adjustment

Scrutiny of records of MD, RGSM revealed that advances of ₹ 166 crore released to BRCs, CRCs and SMCs etc for implementation of various interventions under SSA during 2010-15 were pending for adjustment as of

March 2016 as these committees did not submit the expenditure reports to the RGSM for adjustment.

During exit conference (October 2016), Government stated that adjustment of advances will be carried out. The fact remains that advances had not been adjusted within the prescribed time limit in violation of Rule 75.1 of MFM&P.

2.2.10 Irregularities in procurement

2.2.10.1 Excess expenditure of ₹ 25.29 crore in procurement of uniforms

Norms for intervention under SSA framework provide free distribution of uniforms to students for class I to VIII within a ceiling of ₹ 400 per two sets per child in a year. The State Government has two agencies viz. DPI and RGSM for procuring and distribution of uniforms to the students. DPI procured uniform at the rate fixed by the Gramodyog Department (GD).

DPI incurred an excess expenditure of ₹ 24.19 crore in the procurement of uniforms

(i) Audit noticed that DPI incurred an expenditure of ₹ 102.24 crore on procurement and distribution of 39,02,743 sets of uniforms (18,86,266 sets for boys and 20,16,477 sets for girls) for children in PS and UPS in 2014-15 and 2015-16 at the rate of ₹ 454 per boy and ₹ 512 per girl in PS for two sets of uniforms (size 20 inches to 26 inches). Similarly, the rate of procurement was ₹ 588 per boy and ₹ 656 per girl (size 28 inches to 34 inches) in UPS. Thus, DPI incurred an excess expenditure of ₹ 54 per boy and ₹ 112 per girl in PS and ₹ 188 per boy and ₹ 256 per girl in UPS for two sets of uniforms. In contrary, during the same period, MD, RGSM procured the same sets of uniforms within ceiling of ₹ 400 per two sets.

Hence, two different types of rates were applied by DPI and RGSM in implementation of the same scheme under one management. As a result, DPI procured the uniforms at an excess cost of ₹ 24.19 crore (**Appendix-2.2.16).**

DPI stated that the School Education Department implemented the uniform scheme as per rate fixed by State Government whereas the rate applied under SSA was fixed as per GOI guideline. The reply was not acceptable as purchases made at higher rates when lower rates were available and also procured by another arm of the same department led to excess expenditure.

Avoidable expenditure of ₹ 1.10 crore were made in procurement of uniforms

(ii) Likewise, DPI also decided to procure uniforms from GD in 2011-12 with a condition of paying 75 *per cent* advance along with the supply order. The rates fixed per set of uniform were ₹ 205.50 (size 20 inches to 26 inches) and ₹ 262.00 (28 inches to 34 inches) effective from July 2010. GD revised the rates to ₹ 256 and ₹ 328 per set with effect from October 2011.

Scrutiny revealed that DPI placed (August 2011) supply order for procurement of 2,00,164 sets of uniforms but 75 *per cent* advance payment, as agreed, was not made to GD to avail the prevailing rate. Also, no condition was imposed on the supplier to deliver the uniforms at the rate prevailing at the time of issue of the supply order. As a result, when the supplies were made in February 2012, DPI made a payment of ₹ 5.55 crore at higher rate of October 2011. Thus, the DPI could not suitably secure the benefit of lower rate available at the time of issuing the supply orders which would have facilitated the purchase at only ₹ 4.45 crore. This resulted in avoidable expenditure of ₹ 1.10 crore (**Appendix- 2.2.17**). DPI confirmed that the guideline of providing advance payment of 75 *per cent* was not adhered to while GD delayed the supply of uniforms and raised bills at rates effective from October 2011 resulting in avoidable payment of ₹ 1.10 crore.

In the exit conference (October 2016), Government stated that the issue of quality and cost would be examined for purchases made by both DPI and SSA. However, Government neither gave any justification on the reply of DPI who accepted purchases at higher rates and making avoidable payments by not adhering to the purchase guidelines.

2.2.10.2 Extra expenditure of ₹ 7.70 crore on free distribution of text books

RGSM incurred an extra expenditure of ₹ 7.70 crore on procurement of text books at higher rate than admissible

As per Rule 9 of CGRTE Rules, 2010, children (class I to VIII) attending a school established, owned or controlled by Government shall be entitled to free text books and uniforms.

As per norms for intervention under SSA framework, GoI fixed ₹ 150 per child in PS and ₹ 250 per child in UPS for providing text books to children. In case a state partially subsidises the cost of text books being supplied to children in the elementary classes, then the assistance under the SSA would be restricted to that portion of the cost of the books which was being borne by the children, subject to the overall ceiling stipulated above.

Scrutiny of records of MD, RGSM revealed that Chhattisgarh Text Book Corporation (CTBC) supplied text books to 26,27,818 numbers of children (Class VI to VIII) during 2012-13 to 2015-16 at the price ranging from ₹ 256 to ₹ 317 per child. On the above supplies, RGSM incurred an expenditure of ₹ 73.40 crore against the admissible ceiling of ₹ 65.70 crore at ₹ 250 per child. Thus, procuring books at higher prices resulted in extra expenditure of ₹ 7.70 crore (**Appendix-2.2.18**).

During exit conference (October 2016), Government stated that the norms will be followed in future. The fact remains that the extra expenditure proved a burden on the State exchequer as the amount had to be met from the state budget for which neither action was taken nor contemplated to fix accountability.

2.2.10.3 Irregular payment of ₹ 80.45 lakh on procurement of furniture

DPC Surguja paid ₹ 80.45 lakh irregularly to the firms for procurement of furniture

Audit observed that DPC, Surguja placed (February/March 2011) supply orders worth ₹ 2.35 crore to 10 firms for supply of 7,495 tables and benches for UPSs and made payment of ₹ 2.70 crore. The payment included Value Added Tax (VAT) for ₹ 34.58 lakh which was not deducted from the supplier's bills in violation of the provision of Section 27 of the VAT Act (**Appendix-2.2.19**). Further, the concerned firms had also not submitted any certificate of payment of VAT. Thus, the payment of VAT by DPC to the supplier instead of deducting it was irregular.

Audit also observed that ₹ 45.87 lakh (**Appendix-2.2.20**) was paid between April 2011 and July 2011 to four firms for supply of 2,532 tables and benches in 499 UPS. However, the concerned suppliers did not supply (July 2016) the tables and benches to the schools but no action had been initiated against the suppliers (July 2016). Thus, payment without verifying the receipt of the items was irregular.

Hence, DPC, Surguja made irregular payment of ₹ 80.45 lakh by violating the norms and failing to exercise necessary due diligence.

During exit conference (October 2016), Government stated that the matter will be examined and action will be initiated against the concerned officials/agencies. The fact remains that action against the suppliers had not been initiated even after lapse of five years.

2.2.10.4 Irregular procurement of computers worth ₹ 3.29 crore under Computer Aided Learning Programme

Irregular payment of ₹ 3.29 crore were made to firms in procurement of computers

PAB sanctioned (October 2010) ₹ 9.00 crore for 18 districts of the State for good infrastructure under Computer Aided Learning Programme (CAL). As per the sanction, 288 UPS were to be developed under CAL with Large Format Display (LFD) computers.

Scrutiny of records of MD, RGSM revealed that supply order was issued (October 2010) to a firm registered under Director General of Supplies & Disposal (DGS&D) rate contract for supply of 246 units of computer equipment for schools at the rate of ₹ 1,26,500 per unit for a total cost of ₹ 3.29 crore.

However, another firm supplied (October 2010) the computers and received payment of ₹ 3.29 crore (February 2011). Interestingly, the RGSM neither terminated the contract of the firm with whom it entered into the contract nor placed any supply order to the other firm. The second firm was also not registered under DGS&D rate contract. Thus, procurement of computer equipment worth ₹ 3.29 crore from the other firm was irregular.

The Mission Director stated that (May 2016) that the second firm was an authorised dealer of the first firm to whom supply order had been placed and in exit conference (October 2016), Government stated that the matter will be examined.

Reply was not acceptable because the first firm had reported to the department that the second firm was not it's authorised agent and as such the computers purchased from the firm without any contract was irregular. The department had not taken any action against the MD who not only subverted the contract conditions but also made false deposition of facts.

2.2.10.5 Inadmissible payment of allowances of ₹ 5.12 crore to panchayat teachers

Allowances worth ₹ 5.12 crore were paid to panchayat teachers in contrary to the government orders

As per Panchayat and Rural Development Department order (May 2013) Panchayat Shikshakarmi who successfully completed eight years of service will draw pay scale equivalent to regular teachers. Further, the State Government clarified (December 2013) that Panchayat teachers are not entitled for other allowances except dearness allowance.

Audit noticed that out of 27 test checked BEOs, in 20 BEOs 7,217 Panchayat teachers, who successfully completed eight years of service were paid ₹ 5.12 crore as house rent, medical, stagnation and other allowances during the period May to December 2013 in contrary to the above orders resulting in an inadmissible payment of ₹ 5.12 crore.

During exit conference (October 2016), Government stated that as per rules appropriate action will be taken against the concerned teachers. However, Government did not give any justification for not taking or contemplating action against the BEOs involved in payment of inadmissible allowances to teachers even after lapse of three years.

2.2.10.6 Misappropriation of ₹ 9.69 crore

₹ 9.69 crore could not be recovered from Sarpanchs of GPs provided for civil works in Surguja and Mungeli districts

Scrutiny of records in DPC, Mungeli revealed that ₹ 74.76 lakh was released to Sarpanchs of Gram Panchayats (GPs) in 2007-10 for 39 civil works which included construction of additional class rooms, PS buildings etc. However, the works were incomplete (March 2016). Although, proposal for registering cases for Revenue Recovery had been issued against the Sarpanchs in 2011-12, the amount had not been recovered even after lapse of four years as of October 2016.

Similarly, DPC Surguja, released ₹ 8.94[11] crore to Sarpanchs of GPs for construction of 274 civil works during 2005-09, 2010-11 and 2012-13. It was observed that the Sarpanchs had not submitted (July 2016) UCs of the released amounts even after lapse of three to 11 years.

The DPC, Surguja stated (July 2016) that the funds had been misappropriated by the construction agencies and Revenue Recovery Certificate (RRC) had been issued to recover the amount. Further, DPC, Mungeli stated (July 2016), that RRC for 39 works had been registered for recovery of ₹ 74.76 lakh. The efforts to recover the amounts have been made at Janpad and Government levels.

During exit conference (October 2016), Government stated that efforts would be made to recover the amount. The fact remains that no criminal action was initiated by the department for misappropriation of Government money against the defaulters. Moreover, recovery made, if any, even after issue of RRCs had not been intimated (December 2016).

2.2.11 Management, Monitoring and Evaluation

There were shortfall in conducting meetings by SAC and SMC while less number of inspections were made by DEOs and BEOs. Posts of BRPs and CRPs were vacant

The Act entrusts responsibility on the School Education Department of the State Government for providing schools, infrastructure, trained teachers, curriculum and teaching/learning materials. It also envisages monitoring mechanism, right from the State Advisory Council (SAC) and SCPCR at the state level to SMC at school level. The detailed position of inspection, monitoring and posting is shown below in **Table 2.2.12**

11 In the year 2005-09 sanctioned amount of ₹ 6.46 crore for 194 works and in the year 2010-11 and 2012-13 of ₹ 2.48 crore for 80 works

Table 2.2.12: Position of inspection, monitoring and posting

Sl. No.	Monitoring Institution	Function	Monitoring done
1	State Advisory Council (SAC)	As per Section 34 of the RTE Act, the State Government should constitute SAC. Further, the procedures for transaction of business of the council mandates meeting regularly, at such time as the chairperson thinks fit. However, a gap of three months shall be maintained between its last and the next meeting.	The State Government constituted SAC (March 2012) after two years of the enactment of the Act. Further, only two meetings (February 2014 and February 2015) were conducted during 2010-16 in place of 16 meetings resulting in a shortfall of 14 meetings. Reduced number of meetings limits the opportunity to discuss core issues of the committee.
2	State Commission for Protection of Child Rights (SCPCR)	Constituted (June 2010) to redress the complaints registered in the Commission as per Section 31 of the Act.	Out of 451 registered cases, 443 cases were disposed off and eight cases were pending as of March 2016. Thus, the disposal of cases were satisfactory.
3	District Education Officer (DEO)	As per Rule 16 of Chhattisgarh Education Code, the DEO shall inspect all UPS in the district once in a year and shall maintain inspection register.	The position of inspection conducted by the DEOs in the seven test checked districts are as below: Surguja–Seven to nine *per cent* (2012-16); Bastar - Four to seven *per cent* (2010-16); Dhamtari –Eight to ten *per cent* (2010-14); Raipur- 17 to 30 *per cent* (2013-16); Mungeli, Balodabazar-Bhatapara and Rajnandgaon had not submitted information to audit. Thus, the monitoring through the inspection of schools were impaired.
4	Bock Education Officer (BEO)	As per Rule 16 of Chhattisgarh Education Code, the BEO shall inspect schools at least two times in a year and shall maintain inspection register.	Out of 27 test checked BEOs, in 17 BEOs two to 89 *per cent* of schools had not been inspected during 2010-16 and inspection registers were also not maintained. Thus, the monitoring was deficient.
5	School Management Committee (SMC)	Rule 3 (5) of the CGRTE Rules, 2010 provides that the SMC shall meet at least once a month and the minutes and decisions of the meetings shall be properly recorded.	Out of 210 test checked schools, in 178 schools (85 *per cent*) SMC meetings were not conducted as per norms during 2010-16. In 103 to 141 schools, attendance of SMC members was less ranging from one to 14 than the required number. Thus, the mandate of SMC was not fulfilled.
6	Block Resource Person (BRP)	The State Government fixed six BRP in each Block Resource Centre (BRC) to coordinate in all academic matters besides monitoring and supervision at block levels.	The State Government sanctioned 900 posts of BRPs for 150 BRCs against which 415 BRPs (46 *per cent*) were working in the State with a shortfall of 485 BRPs (54 *per cent*). Thus, the mandate of posting six BRPs in each BRC was not complied.
7	Cluster Resource Person (CRP)	To coordinate in all academic matter, supervision and organise training programme	Against sanctioned posts of 2,703 CRPs in 150 BRCs, 2,291 CRPs were posted resulting in a shortfall of 412 CRPs (15 *per cent*). This limits the availability of CRPs which defeats the objective.

It may be seen from the above table that adequate number of meetings and inspections were not conducted at different levels and there were vacancies against the sanctioned posts. This limits the availability of required inputs to the department to assess the effectiveness of the implementation of the Act and to take remedial and necessary measures to make the Act more effective.

During exit conference (October 2016), Government stated that management and monitoring will be improved and action will be taken for filling up the vacant posts.

2.2.11.1 Delayed submission of achievement survey report

The achievement survey reports were not submitted in time

The SCERT shall submit the achievement report of the children on different subjects highlighting the different areas needing improvement along with its suggestions by April of each financial year so that the suggestions could be addressed and included while formulating annual plan. As per direction issued by the GoI, MHRD, time line should be followed to ensure completion of the achievement survey. GoI released ₹ 81 lakh for conducting achievement survey by the SCERT in 2013-14 and ₹ five lakh in 2014-15.

Scrutiny of records of MD, RGSM and SCERT revealed that the SCERT conducted assessment survey of learning level of class III, V and VII grade students in 2013-14 and submitted (October 2015) the report to RGSM. SCERT also submitted the assessment survey report of learning level of class II students for the year 2014-15 in November 2015. On these works, SCERT incurred an expenditure of ₹ 56.56 lakh.

However, due to delay in submission of the reports, the suggestions therein were not considered for highlighting the areas needing improvement for inclusion in the AWP&B 2013-14. This defeated the very purpose of conducting surveys and the expenditure of ₹ 56.56 lakh was rendered unfruitful.

During exit conference (October 2016), Government stated that a time frame for submission of report will be made compulsory. Fact remains that no action was taken or contemplated for the delay without any valid ground.

2.2.11.2 Internal Audit

Internal audit system was not established in RGSM

As per Rule 104.3 of MFM&P of SSA, the State Implementing Society which is RGSM should introduce proper internal audit system and strengthen checks of the in-house internal audit system to ensure proper utilisation of funds approved in AWP&B. Rule 3(7) of CGRTE Rules, 2010, prescribes that any money received by the SMC for the discharge of its functions under the Act, shall be kept in a separate account and be audited annually.

Scrutiny of records of the MD, RGSM and its subordinate offices revealed that internal audit system was not established in the society. The RGSM conducted audit of the expenditure incurred by the SPO and DPCs by appointing Chartered Accountants every year. Audit of the years 2010-11 to 2014-15 had been completed and audit of accounts for the year 2015-16 was under process (March 2016). Out of 210 test checked schools, in 110 (52 *per* *cent*) schools audit of accounts of the SMCs were not being undertaken annually.

During exit conference (October 2016), Government stated that the Mission Director will strengthen the internal audit by appointing a separate auditor. The fact remains that there was no internal audit wing working in the department.

2.2.12 Conclusion

Though the State has started taking steps for full implementation of RTE, it had not been able to fully comply with important sections of the Act as of March 2016 as mentioned below:

The State Government launched Dr. APJ Abdul Kalam Shiksha Gunavatta Abhiyan education. As per the survey conducted by the Government, only 25 *per cent* of total school achieved Grade 'A'. The balance 75 *per cent* schools were graded under 'B' to 'D', of which 12 *per cent* were placed at Grade 'D' only.

In the State, 879 habitations did not have a school despite completion of nearly seven years of implementation of the Act. Further, as on March 2016, 1,231 habitations did not an Upper Primary School (UPS) also.

The enrolment of children in all Primary Schools (PS) during 2015-16 decreased by 11.56 *per cent* when compared with that for year 2010-11 due to inclination of new generation towards English medium schools and preference of parents' for private schools.

Out of seven test-checked districts, the dropout rate of children increased by 41 *per cent* to 109 *per cent* in two districts during 2010-11 and 2015-16. In respect of five districts, the dropout rate decreased by seven *per cent* to 81 *per cent* during 2010-11 and 2015-16. However, the dropout rate of children for the State decreased from 1.36 *per cent* (2011-12) to 0.81 *per cent* (2015-16).

There was shortfall in special training for age appropriate admission for out of school children ranging between 60 and 83 *per cent* against surveyed children requiring training.

During 2011-16, only 14 per cent to 67 per cent of physically challenged children were not provided transportation facilities whereas 36 *per cent* to 84 *per cent* of blind children were not provided escort facilities due to shortage of funds.

Physical verification of 210 schools revealed that 22 *per cent* of schools did not have separate toilets for boys/girls, 20 *per cent* schools did not have libraries and there are no playgrounds in 43 per cent of schools.

Required Pupil Teacher Ratio (PTR) was not maintained in the schools. While adverse PTR ranged between eight and 34 *per cent* in the schools during 2011-16, there were surplus PTR to the extent of 22 *per cent* to 61 *per cent*. Thus, adverse PTR coexists with surplus PTR in the State and both the conditions are indicative of failure of the Government to address this mismatch within three years i.e. by March 2013 in violation of the Act.

As of March 2016, 20 *per cent* of the teachers in primary/upper primary schools remained untrained.

As per norms under Sarva Shiksha Abhiyan, Government of India fixed a ceiling of ₹ 150 and ₹ 250 per child for providing text books to children in PS and UPS respectively. However, the Rajiv Gandhi Shiksha Mission in the State provided text books at ₹ 256 to ₹ 317 per child during 2012-16.

Out of two agencies of the State Government engaged in purchase of uniforms, one agency purchased uniforms at a rate higher than the other one resulting in excess payment.

Financial irregularities such as misappropriation of fund worth ₹ 9.69 crore, unadjusted advances worth ₹ 166 crore, payment of inadmissible allowance of ₹ 5.12 crore to panchayat teachers, etc. were also noticed.

2.2.13 Recommendations

The department should open schools in the habitations not having either PS or UPS based on the habitation mapping done by the department in 2016. The department should also maintain a database of children in the age group of six to 14 years to target the Out of School Children for mainstreaming.

The PTR as envisaged in the Act should be ensured by redistributing the imbalance besides adopting other measures. Further, training to the untrained teachers should be given on a priority basis.

Review all infrastructure plans and work out a time bound programme for their completion so as to improve quality in schools and minimise dropout rates.

Procurement decisions regarding text books and uniforms must be reviewed in order to effect economy in procurement.

Supervision and monitoring should be strengthened for implementation of all the sections of the Act which have not been adhered to and reported upon.

PANCHAYAT AND RURAL DEVELOPMENT DEPARTMENT

2.3 Performance Audit on Pradhan Mantri Gram Sadak Yojana

Executive Summary

With an objective of providing all-weather access to unconnected habitations in rural areas, Government of India (GoI) announced a programme called Pradhan Mantri Gram Sadak Yojana (PMGSY) on 25 December, 2000 by acknowledging the expected socio-economic benefits to the rural population. During the period 2011-16, Chhattisgarh provided connectivity to 2,588 numbers of habitations. However, 581 numbers of habitations were still left out (November 2016) from the rural road network.

The Performance Audit (PA) of PMGSY for the period 2011-16 revealed major shortcomings as mentioned below:

As per the programme guidelines, all habitations with population above 500 (250 in case of hills, deserts and tribal areas) were to be provided all-weather rural roads by the end of 10th plan period (March 2007). However, in Chhattisgarh as of March 2016 seven *per cent* of the eligible habitations still do not have all-weather rural roads.

(Paragraph 2.3.7.1)

While annual targets were not fixed during the period from 2011-15, the available funds could not be spent during years 2011-12, 2012-13 and 2013-14. Spending efficiency for these years was very low and ranged between 17 *per cent* and 55 *per cent*. Lack of fixing of targets and low spending efficiency are the key reasons for habitations still left unconnected.

(Paragraphs 2.3.7.2 and 2.3.9.1)

The primary focus of the PMGSY is to provide all-weather road connectivity (with necessary culverts and cross-drainage structure), which can be used in all the seasons of the year. In disregard, bridges were not constructed on roads passing through the intervening *nala* or river due to which all-weather road connectivity could not be provided to the targeted habitations having population of 7635 while expenditure of ₹ 23.29 crore incurred on these roads remained unproductive.

(Paragraph 2.3.7.7)

The rural roads constructed under the PMGSY are required to meet the technical specification and geometric design standards of Indian Road Congress (IRC): Special Publication (SP): 20-2002 which recommends that the carriage width of rural roads may be restricted to three meters, where the traffic intensity is less than 100 motorised vehicles per day (MVPD). However, road works were executed with higher carriage width of 3.75 metres instead of three metres even when the traffic intensity was less than 100 MVPD causing an additional expenditure of ₹ 9.09 crore.

(Paragraph 2.3.7.4)

Although six packages having 30 road works valued ₹ 53.06 crore could not be completed within stipulated periods and the works valuing ₹ 31.15 crore were leftover by the contractors, the department did not rescind their contracts immediately upon completion of the stipulated periods. As a result, the revised estimates of balance works were increased from ₹ 31.15 crore to ₹ 52.37 crore. Thus, subsequent revision of estimate escalated the cost of these packages by ₹ 21.22 crore.

(Paragraph 2.3.10.2)

Although PMGSY Accounts Manual and Works Department Manual, mandates measurements by a Sub Divisional Officer or any other subordinate authorised by the Executive Engineer, Chhattisgarh Rural Road Development Agency entrusted the work of supervision, measurement and quality checks valued ₹ 18.17 crore to a Consultant who recorded inflated measurements resulting in excess payment of ₹ 8.03 crore.

(Paragraph 2.3.10.3)

The road works were not inspected as per the norms laid down in the programme guidelines. There were shortfalls of 203 inspections by State Quality Monitor (SQM) and 139 inspections by National Quality Monitor (NQM). This included nil inspection for 44 roads by SQM and 139 roads by NQM.

(Paragraph 2.3.11.1)

2.3.1 Introduction

Pradhan Mantri Gram Sadak Yojana (PMGSY) was launched on 25 December, 2000 with the objective to provide all-weather road access to eligible unconnected habitations in rural areas with a population of 500 persons and above (Census 2001). In the tribal (Schedule V) areas and selected tribal and backward districts, habitations with a population of 250 persons and above were to be connected. At the time of inception of programme in Chhattisgarh, 10647 habitations were unconnected out of which 9150 (1556 habitations having population more than 1000, 4239with population of 500 and above and 3355 habitations having population 250-499) were sanctioned for connectivity upto March 2016. Of this, during 2011-12 to 2015-16, 2588 habitations were connected by constructing 7866.24 km of road length incurring an expenditure of ₹ 2826 crore. As of March 2016,679 eligible habitations (19 of 1000 and above, 244 of 500-999 and416 of 250-499) out of total sanctioned habitations still remain unconnected through all-weather roads in Chhattisgarh State.

2.3.2 Organisational structure

Ministry of Rural Development (MoRD), GoI assisted by National Rural Road Development Agency (NRRDA), is the prime authority and the coordinating Ministry to frame the policy and guidelines for implementation of the programme.

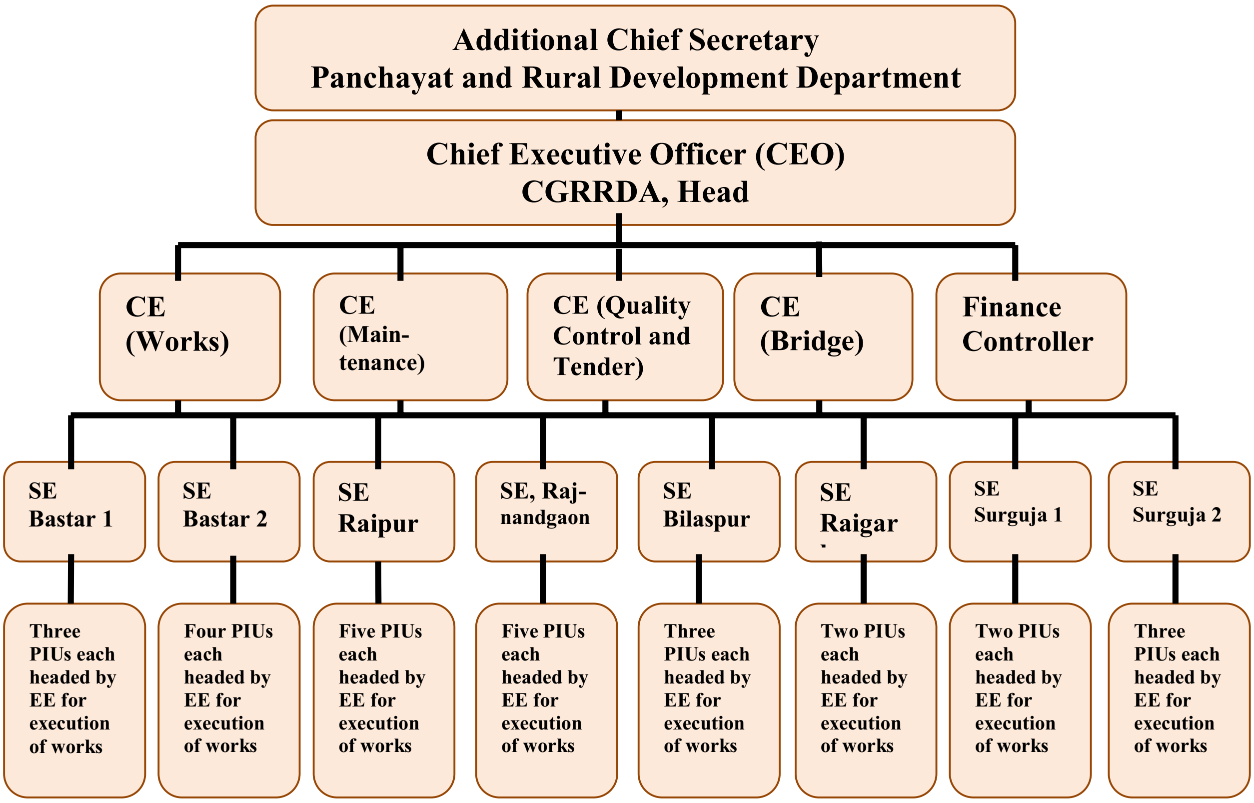
The planning and implementation of the programme is the responsibility of the State Government.

The Government of Chhattisgarh constituted (February 2003) Chhattisgarh Rural Road Development Agency (CGRRDA) and registered (March 2003) it as a society for implementation of PMGSY under Panchayat and Rural Development Department (P&RDD).

CGRRDA is headed by Chief Executive Officer (CEO) who is assisted by four Chief Engineers and one Finance Controller.

At the field level, the construction of road works are executed through 18 Programme Implementation Units (PIUs) upto March 2015 which were divided into 27 PIUs in April 2015. Each PIU is headed by an Executive Engineer (EE).

The organisational chart is shown below:-

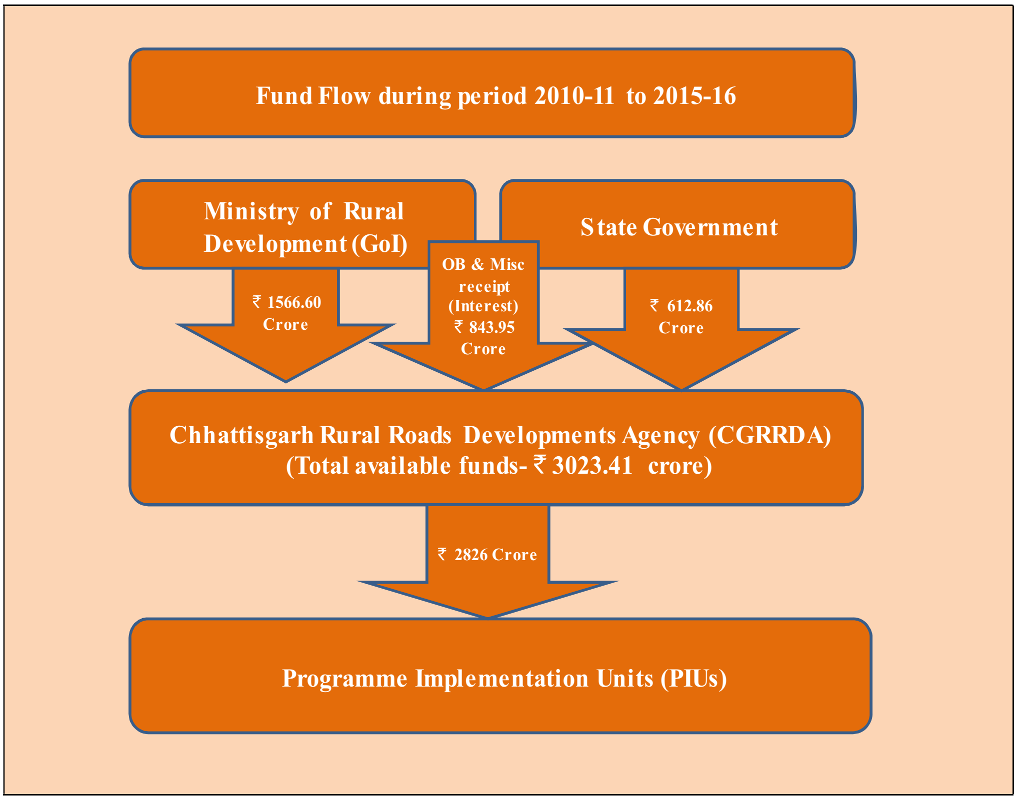


2.3.3 Funding pattern

The Ministry releases funds for the projects to the Chhattisgarh Rural Road Development Agency (CGRRDA) in two instalments. The first instalment amounts to 50 *per cent* of the approved value of projects and the release of second instalment (equal to the balance due on the cost of the awarded works) is subject to utilisation of 60 *per cent* of the available funds and completion of at least 80 *per cent* of the road works awarded in the year previous to the preceding year and 100 *per cent* of the awarded works of all the years preceding that year. Further, the CGRRDA releases the funds to PIUs for execution of works.

Available funds are the funds available with CGRRDA on 1 April of the financial year (including interest accrued) plus the amount of instalment released, if any, during the financial year. All costs due to time over run, arbitration/judicial award and tender premium shall be borne by the State Government.

The following flowchart depicts fund flow under PMGSY:-



2.3.4 Audit Objectives

The objectives of the Performance Audit (PA) were to ascertain whether:

- the systems and procedures in place for identification/preparation of Core Network as well as District Rural Road Plan were adequate and conform to the programme provisions;
- the methodology of selection of roads was appropriate;
- the financial management was effective and the works were executed economically, efficiently and effectively; and
- the existing monitoring system and quality control mechanism was adequate and effective for achieving the desired objective.

2.3.5 Audit Scope,Methodology and Sampling

The PA was conducted for the period 2011-12 to 2015-16 covering six[1] districts (bifurcated to nine districts) out of 18 districts (bifurcated to 27 districts). The PIUs were the primary auditee units for execution of the works. The districts were selected from all the three geographical locations of the State on the basis of a detailed sampling plan. This included selection of 25 *per cent* of the districts from each part of the State by Probability Proportional to Size without Replacement method with size measure as total PMGSY expenditure during the last five years. The details of six selected districts are as under:

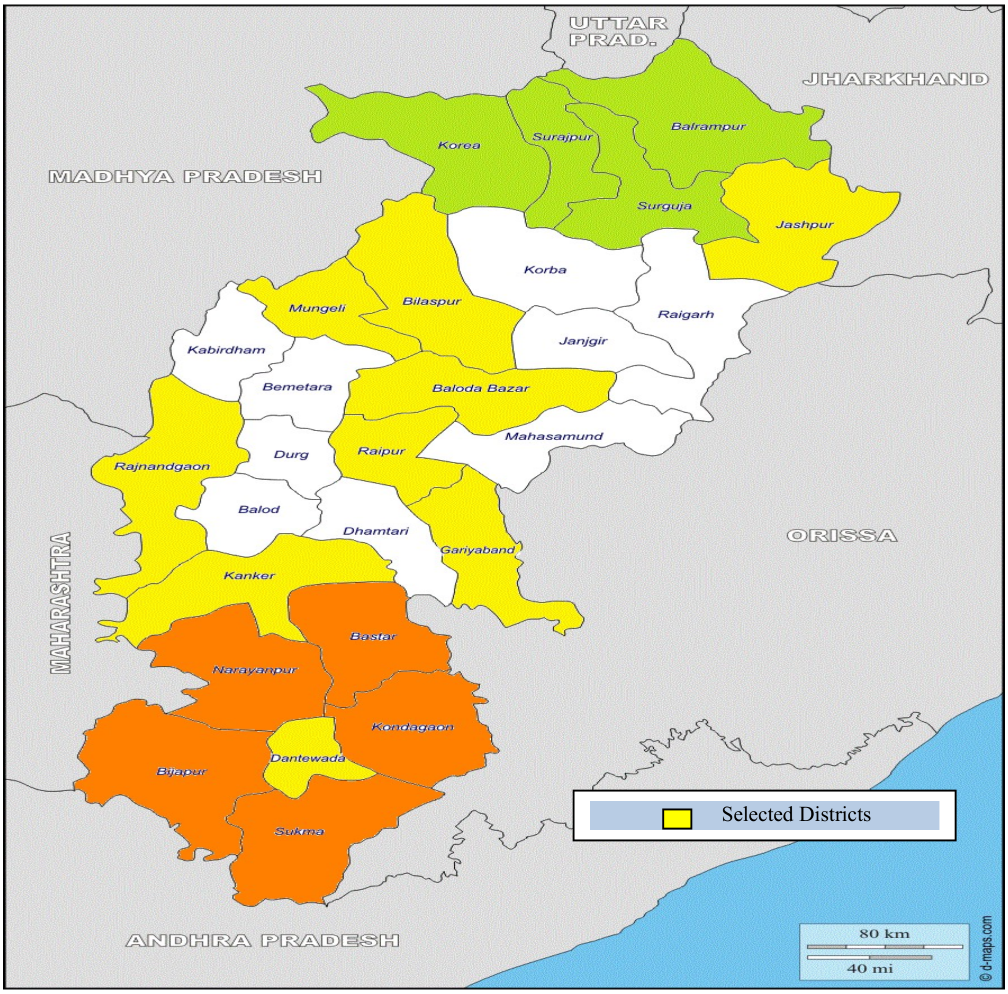
[1] Raipur, Bilaspur, Rajnandgaon, Jashpur, Dantewada and Kanker

Table 2.3.1:-Details of selected districts

Northern Hills[2]		Chhattisgarh Plains[3]		Bastar Plateau[4]	
1	Jashpur	1	Bilaspur (Bilaspur and Mungeli)	1	Kanker
		2	Raipur (Raipur, Balodabazar and Gariyaband)	2	Dantewada
		3	Rajnandgaon		

Further, 25 *per cent* of total packages of road works in each district were selected based on Simple Random Sampling without Replacement method. The details of number of packages selected by audit in selected districts are indicated in **Appendix-2.3.1.**

An entry conference was held in January 2016 to discuss the audit objectives, criteria, methodology and coverage with Additional Chief Secretary, Panchayat and Rural Development Department (P&RDD), Government of Chhattisgarh (GoCG). Audit was conducted during April to July 2016 in offices of Chief Executive Officer (CEO), CGRRDA and EEs of the PIUs of six test checked districts. An exit conference was held with the Additional Chief Secretary of the department in October 2016 to discuss the audit findings. The replies furnished by the department have been suitably incorporated in the Report.



2 Number of districts in Northern Hills - 3 old / 5 new
3 Number of districts in Chhattisgarh Plains-10 old / 15 new
4 Number of districts in Bastar Plateau-5 old / 7 new

2.3.6 Audit Criteria

The audit criteria were sourced from the following:

- Guidelines of the programme and subsequent amendments issued by the Ministry of Rural Development, GoI and Department of Rural Development, GoCG;
- Operational Manual, Accounts Manual, Rural Road Manual (RRM) etc. of PMGSY;
- Annual Reports/Instructions/Guidelines issued by NRRDA;
- Circulars/instructions issued by the Department of Rural Development, GoI.

Audit Findings

2.3.7 Planning

The Core Network showing the existing and proposed road network system in the districts for connecting the unconnected habitations as shown in Comprehensive New Connectivity Priority List (CNCPL) and Comprehensive Upgradation Priority List (CUPL) through all-weather roads were prepared(February 2005)by CGRRDA.

Deficiencies noticed in selection of roads, preparation of Detailed Project Report (DPR) etc. are commented below:

2.3.7.1 Status of connectivity of habitations

There are 679 eligible habitations remaining unconnected even after 15 years of the commencement of the programme

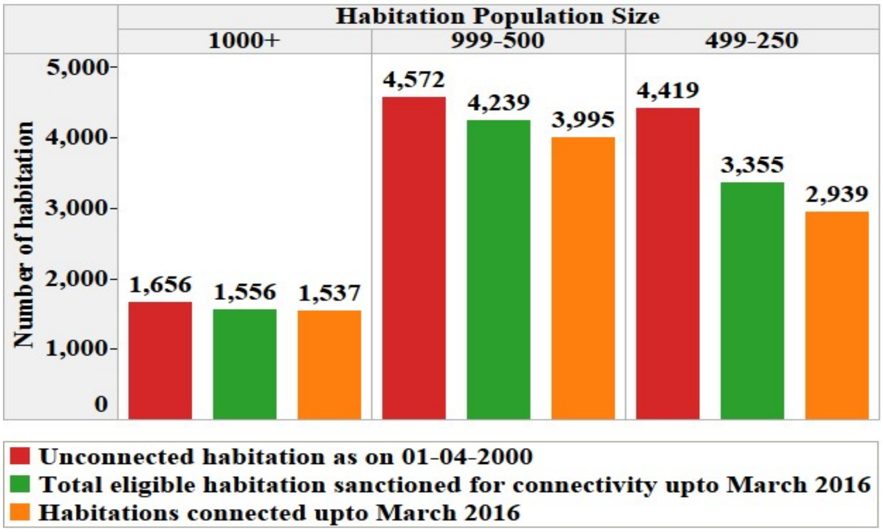
The main objective of the programmeis to provide connectivity to eligible habitations by all-weather road connectivity. The PMGSY also provides upgradation of existing roads but this is not central to the programme.

The position of the habitations connected and unconnected in the state as of March 2016 is as under:

Table 2.3.2: Position of connected and unconnected habitations

Particulars	Population			
	1000+	999-500	Eligible 499-250	Total Eligible
Unconnected habitations as on 01-04-2000 (Nos.)	1656	4572	4419	10647
Total eligible habitations sanctioned for connectivity upto March 2016 (Nos.)	1556	4239	3355	9150
Habitations connected upto March 2011 (Nos.)	1404	2994	1485	5883
Habitations connected upto March 2016 (Nos.)	1537	3995	2939	8471
Balance unconnected habitations - eligible under PMGSY as on March 2016 (Nos.)	19	244	416	679
Percentage of habitations unconnected out of sanctioned (Nos.)	***1***	***6***	***12***	***7***
Habitations covered during 2011-16 (Nos.)	133	1001	1454	2588

(Chart 1): Position of connected and unconnected habitations



From the above table it can be seen that one *per cent* of habitations with population above 1000, six *per cent* of the habitations having population between 999 and 500 and 12 *per cent* of the habitations having population between 499 and 250 were lying unconnected as on March 2016. Thus, seven *per cent* of the total sanctioned eligible habitations were still to be connected by all-weather roads even after 15 years of the commencement of the programme.

During exit conference (October 2016), the ACS stated that all habitations have been connected with all-weather road as on date, except few roads. The reply was not based on facts as CGRRDA in its reply (November 2016) to audit had stated that 581 eligible habitations were still to be connected by all-weather roads.

2.3.7.2 Target and achievement

No targets were set during the period from 2011-12 to 2014-15

The details of year wise physical targets and achievements for connecting the habitations of the State during 2011-12 to 2015-16 are as under:

Table 2.3.3: Year-wise physical targets and achievements

Year	Target		Achievement		Percentage of achievement	
	Habitations	Length (in km)	Habitations	Length (in km)	Habitations	Length
2011-12	No target was set		376	1053.65	-	-
2012-13	No target was set		311	1024.08	-	-
2013-14	No target was set		425	1292.05	-	-
2014-15	No target was set		915	2648.15	-	-
2015-16	1239	3657.58	561	1848.31	45	51
Total			**2588**	**7866.24**		

(Source: Information provided by CGRRDA)

As can be seen from the above table, no targets were fixed during the period from 2011-12 to 2014-15. Fixing the target commenced in 2015-16. During year 2015-16, physical achievement of targets in terms of number of habitations was 45 *per cent* while in terms of length of road constructed it was 51 *per cent.* Absence of target during 2011-15 and slow progress in 2015-16 indicated poor implementation of the programme.

During exit conference (October 2016), the ACS stated that every year CGRRDA sought sanction of roads from NRRDA to execute within that year. Approval of the same had already been obtained and the same may be treated as target. The ACS further stated that since 2015-16, CGRRDA had started to set the targets to be achieved.

2.3.7.3 Giving priority to upgradation work over new connectivity

Para 2.2 of the PMGSY guidelines clearly stipulates that the upgradation (to prescribed standards) of the existing roads in those districts would be taken up only where all the eligible habitations of the designated population size have been provided all-weather road connectivity since upgradation is not central to the programme.

During scrutiny of records of six selected districts, audit noticed in three districts[5] that in five packages having 16 roads, upgradation works were sanctioned (2007-09) and executed by CGRRDA even before taking up the works of new connectivity of 127 roads available in these districts. These works were completed between April 2011 and January 2015 incurring an expenditure of ₹ 33.87 crore in violation of the programme guidelines. The details are shown in the **Appendix-2.3.2**.

While accepting the audit observation during exit conference, the ACS stated that initially upgradation works were also taken up with the new connectivity irrespective of the districts. The ACS, however, assured that in future upgradation works would be taken up only after completion of new connectivity of respective district.

2.3.7.4 Extra cost of ₹ 9.09 crore due to construction of wider link roads than admissible

Roads with low traffic intensity were executed with higher carriageway width resulting into extra cost of ₹ 9.09 crore

The rural roads constructed under the PMGSY are required to meet the technical specification and geometric design standards given in the RRM of the Indian Roads Congress (IRC). Para 2.6.4 of IRC: SP: 20-2002 recommends that the carriage width for rural roads may be restricted to three meters, where the traffic intensity is less than 100 motorised vehicles per day (MVPD) and traffic is not likely to increase due to situation, like, dead end, low habitation and difficult terrain conditions.

Test check of records in PIUs of selected packages in six districts revealed that 80 link[6] road works estimated at ₹ 125.66 crore were executed with higher carriageway width of 3.75 metres even when the traffic intensity were less than 100 MVPD. On this excess width of 0.75 meters, an additional expenditure of ₹ 9.09 crore were incurred by the concerned EEs of the PIUs as detailed in **Appendix-2.3.3**.

[5] Raipur, Bilaspur and Rajnandgaon

[6] Link Routes are the roads connecting a single Habitation or a group of Habitations to Through Routes or District Roads. Link Routes generally have dead ends terminating on a habitation

While accepting the audit observation during exit conference, the ACS stated that in future width of the roads would be designed in accordance with the volume of the traffic as specified in the guidelines of PMGSY.

2.3.7.5 Irregular execution of work

Irregular execution of work was done by compromising the required specification to obtain sanction under PMGSY

Renewal work of Charoda to Dondekala in 2.5 km length was sanctioned (January 2016) for ₹2.71 crore by CGRRDA. The work was awarded (February 2016) to a contractor by EE, PIU, Raipur for ₹ 2.05 crore. The contractor completed the work in November 2016 and received payment of ₹ 1.71 crore.

Audit observed that the DPR of the work recommended execution by 60 mm Dense Bituminous Macadam (DBM) and 25 mm Semi Dense Bituminous Concrete (SDBC). However, the DPR was not approved and an estimate with changed specification of 60 mm Bituminous Macadam (BM) and 20 mm Mixed Seal Surfacing (MSS) was sanctioned by CGRRDA on the ground that DBM and SDBC were not part of PMGSY specification. However, the surveyed traffic intensity (five Million Standard Axle) and California Bearing Ratio (3.17) of subgrade also mandated execution of the work by 60 mm DBM with 25 SDBC as per IRC 37.

Hence, approval of the estimate was in violation of the established norms while execution of work worth ₹ 1.71 crore which included BM and MSS works worth ₹ 67.58 lakh on the basis of such estimate was irregular.

The department, interalia, stated (November 2016) that because DBM and SDBC were not part of PMGSY specification, BM and MSS were provided and executed. During exit conference (October 2016) the ACS stated CGRRDA had not submitted the revised DPR at the time of audit but the same would be provided to audit.

Reply of the department was not acceptable because as per the traffic census (CVPD[7] -1275) DBM and SDBC were to be executed and if PMGSY specification did not permit execution of DBM and SDBC as required, the road work should not have been taken up under PMGSY but through other agencies like PWD etc. Besides, the revised DPR was also not provided to audit (December 2016).

2.3.7.6 Extra cost of ₹ 2.25 crore due to execution of OGPC and seal coat instead of MSS work

Renewal work was carried out with costlier item resulting in extra cost of ₹ 2.25 crore

As per Clause 512.1.1 of Ministry of Road Transport and Highways (MoRTH) specification, execution of MSS shall consist of preparation, laying and compaction of mix seal surfacing material of 20 mm thickness composed of graded aggregates premixed with bituminous binder on the previously prepared surface in accordance with the requirements of these specifications to serve as a wearing course. Further, longevity of the MSS course is longer than the life of the Open Graded Premix Carpet (OGPC) and seal coat.

Audit noticed that in five[8] out of six selected districts (PIUs), renewal works were carried out in 45 roads between April 2015 and January 2016 by OGPC

[7] Commercial Vehicle PerDay

[8] Raipur, Bilaspur Rajnandgaon, Dantewada and Kanker.

and seal coat instead of MSS which is not only suitable for renewal works but also economical and lasts longer. This resulted in avoidable extra cost of ₹ 2.25 crore as detailed in **Appendix2.3.4**.

While accepting the audit observation during exit conference, the ACS directed CGRRDA to prepare DPRs for renewal works as per the recommendations of audit.

2.3.7.7 Unproductive expenditure of ₹ 23.29 crore on roads without bridges over intervening rivers and *nalas*

Bridges were not constructed over *nalas* or rivers passing through the roads resulting in failure to provide thorough connectivity while expenditure of₹ 23.29 crore on such roads remained unproductive

The objective of PMGSY is to provide All Weather Road (AWR) connectivity to all unconnected habitations having population of above 1,000 by the end of March 2003 and to habitations having population of 500 to 999 (including habitations in tribal and hilly areas having population 250 to 499) by the end of March 2007.

Audit observed in three[9] out of six selected districts that eight roads passed through *nalas* or rivers but no bridge works were executed due to which the connectivity to targeted habitations could not be provided. Out of the eight bridges required, Government sanctioned (February 2014) one bridge and the rest seven bridge works were at the proposal stage as of December 2016. However, during joint physical verification (June 2016) of the road (T02 KULI KUKDA – BASAHA, Package CG 0268) in Bilaspur district conducted by audit with the officials of the PIU Bilaspur for which sanction of bridge work was accorded, it was noticed (photo alongside) that the road was completed (March 2014) even before commencement of construction of the bridge defeating the objective of extending the connectivity to Basaha habitation as of June 2016.

Missing link-Kulikuda to Basaha road of Bilaspur

Thus, as a result of failure to construct the bridges, expenditure of ₹ 23.29 crore incurred on these roads as detailed in **Appendix-2.3.5** proved unproductive for four to 10 years as these roads could not provide all-weather connectivity to the targeted habitations having a total population of 7635.

While accepting the audit observation during exit conference, the ACS stated that sanction of one bridge has been obtained from NRRDA and sanctions of remaining bridges were at proposal stage.

2.3.7.8 Faulty preparation of DPR and loss due to washed out approach of road

During joint physical verification (May 2015) of the road T02 (Dhurrabandha to Pousari) in Raipur district audit found that one side approach of a hume pipe culvert was washed out due to heavy rains which had been inspected (August 2014) by Sub Divisional Officer (SDO) of PIU, Raipur. It was

[9] Raipur, Bilaspur and Rajnandgaon

mentioned in the Inspection Report that the road was damaged due to flood. As per IRC SP 13, guidelines for design of small bridges and culverts, essential design data viz. highest flood level, rainfall data, catchment area, cross section should be collected before designing.

During scrutiny of DPR, it was noticed that data of highest flood level, annual rain fall which were essential for designing of culvert were not mentioned. This prevented assessment of proper discharge of water causing damage to the approach road. To address this, an estimate for additional vented cause-way at RD 2830 meter (7x1000 mm) valued ₹ 82.58 lakh was prepared and submitted to the Collector, Balodabazar. Audit noticed that the estimate was again prepared without any discharge calculation. However, it had not been sanctioned (October 2016). As a result, the breach in the approach road could not be repaired and the all-weather road connectivity could not be restored.

While accepting the audit observation during exit conference, the ACS stated that in future DPRs of culverts and causeways would be prepared with all safety measures as specified. Fact remains that no action was taken or contemplated against the engineers who prepared and approved faulty DPR causing the damage.

2.3.8. Inappropriate selection of roads

2.3.8.1 Road not completed due to absence of forest clearance

As per clause 6.9.2 of operations manual of PMGSY, ecologically sensitive areas like national parks, wildlife and bird sanctuaries and reserve forests should be avoided during selection of roads.

Road passing through sanctuary was selected and consequently left incomplete due to absence of forest clearance defeating the objective of providing AWR connectivity to population above 500

Audit observed that DPR for the construction of road from Devpuri to Thakurdiya (0 to 20.9 km) was prepared by a Consultant in 2012-13 after detailed survey. In the DPR, the Consultant mentioned that 14.9 km of the road falls in Barnawapara sanctuary. Despite this, Government sanctioned the road work which included bituminous work for construction. The road was to connect 13 habitations with population of 3399. The construction work was awarded (August 2014) to a contractor at a cost of ₹ 8.92 crore for completion of the work by September 2015.

Audit further observed that the department sought (August 2014) clearance from the Forest Department for construction of the road which was granted only for the initial patch of six km not coming under sanctuary. The department completed (February 2016) this stretch at a cost of₹ 2.11 crore.

The completed road connected only two habitations having population less than 500 which was against the governing criterion for taking up AWR only above population of 500 under PMGSY while the rest 11 habitations could not be taken up for connectivity (October 2016) though planned for. Thus, sanction of bituminous work in sanctuary area in violation of Forest Act defeated the objective of providing AWR connectivity to population above 500.

During exit conference the ACS stated that as this road passes through the sanctuary and hence could not be completed in entirety. The ACS further stated that some incidental habitations situated alongside the road had been connected except other incidental and targeted habitations. The reply confirmed improper selection of the road which defeated the PMGSY objective of providing AWR only above population of 500.

2.3.8.2 Avoidable extra burden of ₹ 5.16 crore to the State Government due to construction of roads by other state agencies

Roads of core network of PMGSY were executed by other state agencies resulting into burden to State exchequer to the tune of ₹ 5.16

The Government of Chhattisgarh issued (July 2009) an order that roads covered under PMGSY would not be constructed by the other state agencies.

Audit noticed that in four[10] out of six selected districts, five roads selected in the core network to be constructed under PMGSY were constructed by the other state agencies viz. Public Works Department and Mukhya Mantri Gram Sadak Yojana (MMGSY) at a cost of ₹5.16 crore, although, MMGSY and PMGSY are under the overall control of P&RDD.
Thus, construction of the roads under the core network of PMGSY by the other state agencies from state budget resulted into avoidable extra burden of ₹ 5.16 crore to the State Government as detailed in **Appendix-2.3.6.**

While accepting audit observation during exit conference, the ACS stated that some habitations had been connected by the other state agencies, even though these roads were part of core network. The ACS further stated that an instruction had been issued by the department to other agencies, not to construct PMGSY roads without obtaining NOC.

However, the ACS could not explain the reasons for failing to adhere to the departmental instructions to prevent taking up construction of PMGSY roads by other departments of the State Government. This also indicated coordination deficits among various departments of the Government causing avoidable burden to the State exchequer.

2.3.9 Financial Management

2.3.9.1 Huge closing balances at the end of the year

As per PMGSY guidelines, the Ministry releases the funds for the projects to CGRRDA in two instalments. Details of the receipts and expenditure of the fund by CGRRDA during 2011-16 are as under:

Table 2.3.4: Details showing the huge closing balances at the year end

(₹ in crore)

Year	Opening Balance	Receipts	Miscellaneous Receipts	Total receipt during the year	Total available fund	Total expenditure	Percentage of utilisation	Closing Balance
1	**2**	**3**	**4**	**5 =(3+4)**	**6**	**7**	**8**	**9**
2011-12	547.09	812.56	27.15	839.71	1386.80	230.22	17	1156.58
2012-13	1156.57	26.23	110.31	136.54	1293.11	277.03	21	1016.08
2013-14	1016.08	66.00	102.69	168.69	1184.77	655.93	55	528.84
2014-15	528.84	348.31	43.05	391.36	920.20	917.21	99	2.99
2015-16	2.99	926.36	13.66	940.02	943.01	745.61	79	197.40
Total		**2179.46**	**296.86**	**2476.32**	**3023.41**[11]	**2826.00**		**197.40**

(Source: As per information provided by CGRRDA)

10 Bilaspur, Jashpur, Rajnandgaon and Dantewada

11 Opening Balance + Total Receipt = Total Fund
547.09 + 2476.32 = 3023.41

Chart 2: Funds available and expenditure incurred

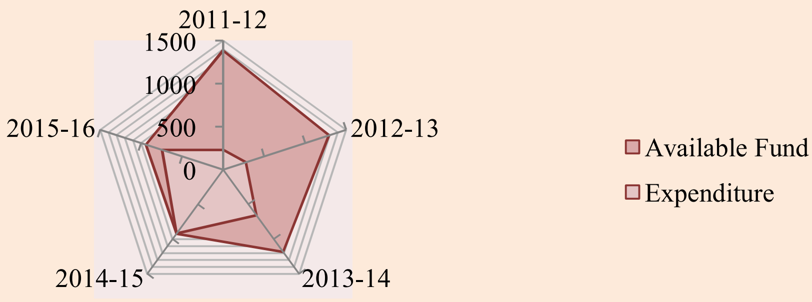
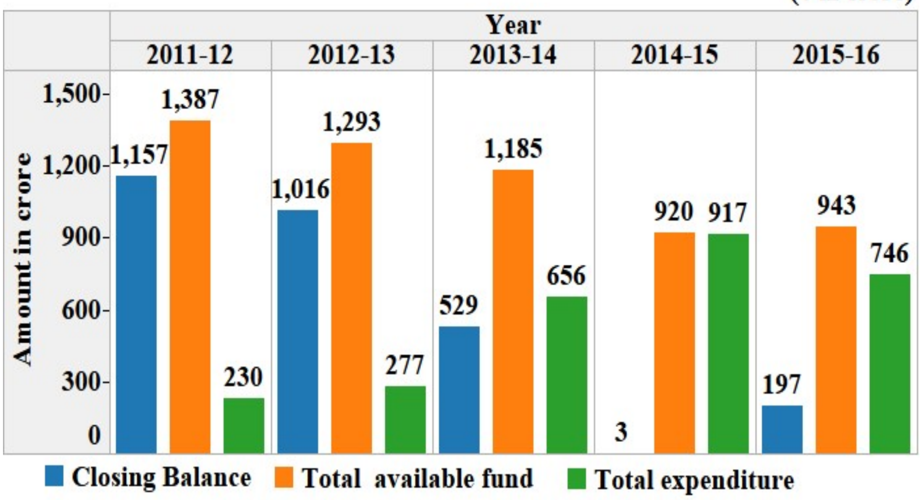


Chart 3: Closing balances at year end

(₹ in crore)



It could be seen from the above table that utilisation of funds ranged between 17 *per cent* and 99 *per cent* during 20011-16. Spending efficiency was significantly low during the period 2011-12 and 2012-13 resulting into closing balances during years 2011-12, 2012-13 and 2013-14. This shows that the department could not spend the available funds for intended purposes and extend benefits to the targeted people. The closing balances for 2011-12 and 2012-13 were as high as 83 *per cent* and 79 *per cent* of the available funds respectively.

2.3.9.2 Claim of interest of₹ 3.32 crore not recovered from State Bank of India

As per MoU on banking arrangement for funds under PMGSY, tripartite agreement (August 2004) among State Bank of India (SBI), CGRRDA and NRRDA should be drawn. As per clause 4 (viii) and (ix) of the tripartite agreement, the PMGSY funds should be automatically invested as fixed deposit for maturity of one year in excess of ₹ 25 lakh in the programme fund and interest is payable from the date of investment to the date of encashment without deducting any charges for early encashment.

Audit noticed that as per report of the Chartered Accountant, SBI had not followed the tripartite agreement for which CGRRDA claimed(June 2015) ₹ 29.89 crore as interest loss upto March 2015 against which the bank deposited (June 2016) an amount of ₹ 26.58 crore and requested (June 2016) to waive the balance amount of ₹ 3.32 crore. However, the amount of ₹ 3.32 crore was neither waived nor recovered (October 2016).

While accepting audit observation during exit conference, the ACS stated that claim of interest is to be recovered from the SBI and directed the CGRRDA to issue notice for payment of outstanding claim. However, recovery, if any had not been informed to audit (December 2016).

2.3.9.3 Loss of ₹ 1.63 crore due to failure to avail income tax exemption on interest earned

As the CGRRDA is a registered society and working as non-profit organisation, it is exempted from payment of income-Tax under Clause 12A of the Income Tax Act, 1961.

Audit noticed that the banks deducted income tax worth ₹ 1.63 crore on the interest earned by the CGRRDA on the funds provided by the Government as shown below:

Table 2.3.5: Details of income-tax deducted by the bank

Financial Year	Income tax deduction by bank (in ₹)
2011-12	No deduction
2012-13	14,11,075.00
2013-14	14,93,498.00
2014-15	1,33,47,960.00
2015-16	No deduction
Total	**1,62,52,533.00**

(Source: Information provided by CGRRDA)

Although CGRRDA is exempted from paying Income Tax, the department did not take up the matter with banks in time to ensure that no such deductions are made. Subsequently, through the ITR-V for assessment year 2013-14 to 2015-16 the department claimed refund of income tax worth ₹ 1.63 crore but the same is awaited (October 2016).

While accepting the audit observation during exit conference, the ACS stated that income tax exemption is to be recovered and for this, CGRRDA has been directed to submit refund claim to the Income Tax Department. However, recovery, if any made, had not been intimated to audit (December 2016).

2.3.10. Execution of works

2.3.10.1 Delay in completion of work and penalty of₹4.49 crore not recovered from the contractors

Recovery of ₹4.49 crore of liquidated damage from defaulting contractors for delay in execution of works was notmade

The PMGSY guidelines (para 13.1) envisaged that the projects sanctioned are to be executed by PIUs and completed within a period of 12 months from the date of issue of the work order including rainy season. In case the period for execution is likely to be adversely affected by monsoon or other seasonal factors, the time period for execution may be suitably determined while approving the work programme, but shall not exceed 12 calendar months in any case.

Audit examination of 131 selected packages revealed inordinate delays in completion of 82 packages ranging between one and 129 months as detailed in **Appendix-2.3.7.** The reasons included land disputes (11), delay in forest clearances (02), heavy rain (22), naxal activities (32) and other reasons (15).

Of this in six packages, there were delays ranging between one and half months to 76 months **(Appendix-2.3.8)** for which no extension of time was sanctioned. Due to delayed execution of these works, ₹ 8.48 crore was to be recovered as liquidated damages against which ₹ 3.99 crore was recovered while ₹ 4.49 crore of liquidated damages remained unrecovered (October 2016) from the contractors.

During exit conference, the ACS accepted the audit observation and stated that balance amount of penalty would be recovered at the earliest under intimation to audit. However, recovery if any made, had not been intimated to audit (December 2016).

2.3.10.2 Cost over-run of ₹ 21.22 crore

Delay in rescinding the incomplete works resulted into cost overrun of ₹ 21.22 crore

In three districts[12] out of six test checked districts Audit observed that the work of construction, upgradation and maintenance of rural roads of six packages valued ₹ 53.06 crore under PMGSY were awarded to different contractors. The works were to be completed within 12 months including rainy season. The contractors could not complete the work valued ₹ 31.15 crore within stipulated time period and despite given time extension of 10 to 15 months. Resultantly, the works were rescinded (November 2008 to January 2015) under penal clause by the EEs of respective PIUs after partial execution of works for ₹ 21.90 crore. The balance works amounting ₹ 31.15 crore left incomplete by the contractors were awarded to other contractors at a total

12 Raipur, Bilaspur and Jashpur

contract amount of ₹ 52.37 crore. This resulted in cost overrun of ₹ 21.22 crore **(Appendix-2.3.9)**.

During exit conference, while accepting the observation, the ACS stated that in future work would be timely rescinded for failure of contractors to adhere to the work programme to minimise the cost overrun.

The fact remains that delay in work was attributable to the contractors. The CGRRDA gave time extensions to the contractors ranging from 10 months to 15 months before rescinding the contracts leading to cost overrun.

2.3.10.3 Irregular award of work of supervision, quality checks and recording the measurements amounting to ₹ 18.17 crore resulted in excess payment of ₹ 8.03 crore

Inflated recording of measurement by the Consultant resulted in excess payment of ₹ 8.03 crore to the contractors

As per para 11.2.8 of PMGSY Accounts Manual and clause 4.034 of Works Department Manual, measurements should be ordinarily taken by an SDO or any other subordinate authorised by EE. Further, as per clause 4.040 of Works Department Manual, the EE must frequently check the measurements taken by his subordinate officials subject to check up of measurements of at least 10 *per cent* of final bills paid during the month.

Audit noticed that in contravention of the above provision, the CGRRDA awarded the work of supervision, quality checks and recording the measurement etc. to a Consultant in Bilaspur district for ₹ 18.17 crore.

Scrutiny of records at PIU, Bilaspur (Mungeli) further revealed that works of construction, upgradation and maintenance of rural roads under PMGSY for the packages number CG 0251 and CG 0246 were awarded (May 2007 and June 2007 respectively) to two contractors for ₹ 11.15 crore and ₹ 7.91 crore respectively. The works were to be completed within 12 months.

It was noticed that the Consultant recorded (June 2008 and April 2009) measurement of ₹ 12.10 crore against the actual value of work done for ₹ 4.07 crore for these packages. This resulted in excess payment of ₹ 8.03 crore to the contractors due to inflated measurement recorded in the MBs.

Further, no quality checks were also carried out by the Consultant. The EE, PIU, Bilaspur lodged (January 2009) an FIR against the Consultant and contractor while a Revenue Recovery Certificate (RRC) has been issued (October 2012) against the contractor for recovery. However, recovery has not been made (October 2016) while engagement of the Consultant was discontinued.

While accepting the audit observation during exit conference, the ACS directed CGRRDA to take action against the contractors and the Consultant to recover the amount of excess payment. The ACS also directed CGRRDA to intimate Asian Development Bank (ADB) to black list the defaulting Consultant.

In this regard it would be pertinent mention here that based on Audit Report of the PMGSY-Central Review the Ministry of Rural Development, GoI has sought (November 2016) the details of action taken by the State Government in this case.

Thus, award of the work of supervision, quality checks and recording the measurement etc. to consultant against the PMGSY guidelines without ensuring a mechanism to get these verified by the EEs of PIUs before making payment resulted in excess payment to the contractors.

2.3.10.4 Liquidated damage worth ₹4.99 crore not recovered from defaulting contractors

The PMGSY guidelines (para 13.1) envisaged that the projects sanctioned are to be executed by PIUs and completed within a period of 12 months from the date of issue of the work order including rainy season.

Recovery of ₹ 4.99 crore were not made from the contractors who did not carry out the maintenance work of the roads during defect liability period

Further, as per clause 44 of the agreement, the contractor shall pay liquidated damages to the Employer at the rate per week or part thereof as stated in the contract data for the period the completion date exceeds the intended completion date. Liquidated damages at the same rate shall be withheld if the contractor fails to achieve the milestones prescribed in the contract data. The total amount of liquidated damages shall not exceed the amount defined in the contract data. The employer may deduct liquidated damages from the payments due to the contractor. Payment of liquidated damages shall not affect the contractor's other liabilities. Liquidated damage (at the rate of 10 *per cent* maximum) under clause 44 of General Conditions of Contract was to be recovered. Further, cost of maintenance/repair of the roads incurred by the CGRRDA under performance guarantee period is also to be recovered from defaulting contractors.

Scrutiny of records of EE, PIU, Balodabazar revealed that in three packages (CG 1449, CG 1457 and CG 1466) the contractors did not carry out the maintenance work of the roads during defect liability period and left the works. As a result of not maintaining the roads during defect liability period, an amount of ₹ 4.99 crore as defect liability, liquidated damage and interest on mobilisation advance was to be recovered. Of this, ₹ 3.68 crore was available with the department in the form of security deposit, performance guarantee and miscellaneous deposit. The difference amount of ₹ 1.31 crore was to be recovered from defaulting contractor. However, no amount had been recovered or adjusted as of December 2016. Details are shown in **Appendix-2.3.10**.

During exit conference (October 2016) the ACS stated that out of total recoverable amount of ₹ 4.99 crore, ₹ 3.68 crore had already been adjusted and for remaining ₹ 1.31 crore, RRC would be issued against the defaulting contractor to recover the amount. Reply of the ACS was not based on facts as audit collected the status of recovery in December 2016 and observed that neither contractor's due of ₹ 3.68 crore available with the department was adjusted nor balance amount of ₹ 1.31 crore was recovered.

2.3.10.5 Execution of lesser number of bridges/cross drainages and short distance roads

(i) Execution of lesser number of Cross Drainage(CD) works

During joint physical verification of 28 roads **(Appendix-2.3.11)** in six selected districts, it was noticed that in case of 16 roads, 45 out of the 87 CDs/culverts approved in the DPRs were not constructed while constructing the roads indicating preparation of faulty DPRs. The number of less executed CD works varied from one to 10in each road as detailed in **Appendix-2.3.12**.

During exit conference, the ACS accepted the audit observation and directed CGRRDA to keep 10 *per cent* extra as security money before finalisation of the work so that in case of variation between estimation and execution, excess payment, if any made, to the Consultants who prepared the DPRs could be recovered.

(ii) Execution of short distance roads

Audit noticed during joint physical verification of 12 out of 28 roads in six selected districts that only 50 out of the 56 km of roads proposed in the DPRs had been constructed and road works were finalised without executing remaining six km of roads. However, these roads connected the targeted habitations and did not extend beyond the habitation. The details of such roads are shown in **Appendix-2.3.13**.

During exit conference, the ACS accepted the audit observation and directed CGRRDA to keep 10 *per cent* extra as security money before finalisation of the work so that in case of variation between estimation and execution, excess payment, if any made, to the Consultants who prepared the DPRs could be recovered.

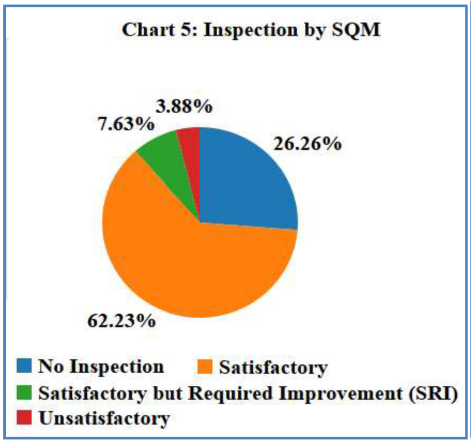
2.3.11 Quality Control, Monitoring and Evaluation

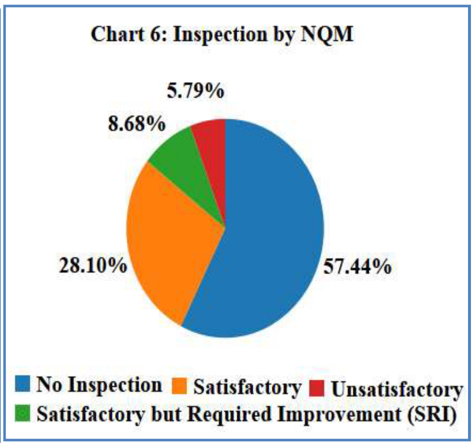
2.3.11.1 Shortfall in conducting the prescribed number of inspections by SQM/NQM

There were shortfalls in conducting prescribed number of inspections by SQM and NQM

As per provisions of para 11.5 of Operations Manual of PMGSY, the second tier of quality management will function from the State Rural Road Development Agencies (SRRDA) and would be headed by the State Quality Coordinator (SQC). The SQC shall draw up programmes for inspection by State Quality Monitors (SQMs) in such a way that every work is inspected at least three times. Further, each road should be inspected by NQM at least one time.

During scrutiny of records of selected packages, it was noticed that 255 road works were completed between March 2006 and March 2016. Thus, for these completed road works, total 773 inspections by SQM and 242 inspections by NQM were to be carried out, against which 570 inspections and 103 inspections were carried out by SQM and NQM respectively. Out of these, 124 tests were found 'unsatisfactory' and 'satisfactory but required improvement (SRI)' by NQM and SQM. Against which 120 ATR have been submitted by the respective PIUs while in four cases no information has been provided by the department. Further, there was shortfall of 203 inspections in case of SQM while 139 inspection in case of NQM. This included no inspection by SQM in case of 44 roads. Details are given in **Appendix-2.3.14.**





Thus, the provision of Manual was not complied and there were inadequate inspections to monitor and ensure the quality of the roads constructed.

During exit conference the ACS accepted the audit observation and stated that prescribed number of inspections was being conducted by SQM.

2.3.11.2 Provision of data entry of information relating to maintenance and renewal of roads was not made

During scrutiny of Online Management, Monitoring and Accounting System (OMMAS) data of selected PIUs, it was observed that for maintenance and renewal work of roads neither data entry was made nor any information uploaded as the OMMAS software was not updated to facilitate this work. Resultantly, the benefits of OMMAS could not be realised.

While accepting the audit observation during exit conference, the ACS stated that a separate module for data entry relating to maintenance and renewal of roads was being developed by the NRRDA. At present it is able to capture the data for accounting purposes only and is under expansion for accommodating other data related to maintenance and renewal of roads.

2.3.12 Conclusion

The performance audit brought out glaring deficiencies in planning, execution and quality control. Though the department improved its spending efficiency from a low 17 *per cent* in 2011-12 to 79 *per cent* in 2015-16 and connected more villages gradually during this five year period, there remained issues which hampered achieving the objectives of full connectivity which are mentioned below:

In the State, 581 numbers of eligible habitations remained unconnected even after 15 years of implementation of the scheme. Government gave priority to upgradation of roads while unconnected habitations were neglected. Defective DPRs resulted in unwarranted revision of extra width of roads and adoption of richer specification in execution of works leading to the extra burden on the exchequer.

Nine targeted habitations remained unconnected despite an expenditure of ₹ 25.40 crore due to absence of bridges, want of forest clearance etc.

Execution of works suffered from inefficient contract management, failure to recover liquidated damages, excess payment due to inflated measurements etc.

Monitoring was not effective despite an elaborate mechanism prescribed at all the levels under the programme. In 57 *per cent* of cases the NQM did not check any samples and in 26 *per cent* cases even the SQM did not do any sample checking.

The Online Management, Monitoring and Accounting System (OMMAS) software, an online web-based system was not developed for data entry relating to maintenance and renewal of the road works.

2.3.13 Recommendations

The department should ensure that all the balance eligible habitations are connected by AWR on priority basis.

The department may ensure that DPRs are prepared with due diligence and by adopting proper laid down procedures so that targeted habitations may not remain unconnected and extra burden to the exchequer is avoided.

The department may ensure construction of the missing bridges, fix responsibilities for undue advantages extended to contractors and for poor execution of work besides addressing the systemic flaws in the quality control mechanism.

The department may ensure operationalisation of OMMAS as an effective tool for monitoring and decision making in implementation of the programme.

PUBLIC HEALTH ENGINEERING DEPARTMENT

2.4 IT Audit on e-Works in Public Health Engineering Department

Executive Summary

The e-Works, a web-based application software implemented (December 2012) in the Public Health Engineering Department (PHED) Chhattisgarh was aimed at reducing manual work, streamlining the operations and increasing the efficiency in planning, monitoring as well as the productivity of its offices besides providing transparency in the process. The application software is developed, designed and maintained by National Informatics Centre (NIC), Raipur.

An IT audit of e-Works was conducted between April 2016 and November 2016 to evaluate the effectiveness of planning, implementation, incorporation of business rules, efficiency and accuracy of data processing in the software. The information technology platform, data security policy and data management of PHED were also reviewed. Major audit findings are:

Planning

The User Requirement Specification to assess the departmental requirements was not prepared while the Software Requirement Specification developed by the vendor (NIC) was not approved by the PHED. Despite that, the system was declared go-live in December 2012 without even doing the pilot testing to ensure compliance to the departmental requirements. As a result, the software lacked vital components leading to operational inefficiency, embezzlement of ₹ 2.22 crore by bypassing the system, unauthorised drawal of self cheques worth ₹ 57.91 crore through the system, irregular payment of ₹ 344.49 crore through 'non-agreemented bill module' etc.

(Paragraph 2.4.8 to 2.4.8.9, 2.4.9.2 and 2.4.9.3)

Mapping of Business Rules

The customisation of e-Works in the PHED was ill planned and executed as 11 out of 25 major business requirements of the department were not integrated into the system while five of the 14 essential requirements that were integrated were not put to use. The balance nine integrated business requirements, although in use, failed to deliver the required results. As a result, the department was constrained to prepare the monthly accounts manually instead of generating it as final output of the application software. Thus, the objective of having the e-Works to improve the operational efficiency and to alienate manual intervention could not be achieved.

(Paragraph 2.4.9.1 to 2.4.9.13)

Data Management and Processing Controls

Application Controls were not in place as the system generated incorrect work codes and retained the heads of Public Works Department (PWD) although customisation for PHED was done more than four years ago. Further, integrity of the data in the database of the system was doubtful as in 146 cases, expenditure was booked without classification of budget heads while in 45 cases, the system generated data with nil value of administrative approval (AA). Thus, the risk of reliance upon the system in its present form is high.

(Paragraph 2.4.10.1 to 2.4.10.2)

IT and data security policy

The Department did not have documented password and security policy. At the time of initial login the system did not insist either for password change or for periodic updates and against the security norms of IT, the user ID was not being blocked after repeated unsuccessful login attempts. Thus, absence of proper security policy and access control mechanisms made the system vulnerable to manipulation.

(Paragraph 2.4.12)

2.4.1 Introduction

Public Health Engineering Department (PHED), Government of Chhattisgarh (GoCG) is responsible for providing safe drinking water to the rural and urban areas. PHED initiated (December 2012) computerisation of its transactions through e-Works, a web based application software developed, designed and maintained by National Informatics Centre (NIC), Raipur. The software is developed for five[1] levels of PHED offices to facilitate objectivity in accounting and working procedures with effective planning, implementation, execution and monitoring of the schemes undertaken by the department.

The e-Works provides central repository of the data and browser based simple interface to interact with it. Raw data entered at sub-divisional, divisional, circle and zone levels forms the basis of categorised information for their respective higher offices. The project intends to reduce the time on the information processing and its sharing along with availability of accurate information within the department. It aims to reduce the manual work, streamline the operations and increase the efficiency in planning, monitoring as well as the productivity of its offices besides providing transparency in the process.

2.4.2 Organisational Set-up

The Secretary is the administrative head of PHED at Government level while Engineer-in-Chief (E-in-C) is the head of the department. The E-in-C is assisted by Chief Engineers (CEs) at the zonal level, Superintending Engineers (SEs) at

[1] Engineer in Chief, Chief Engineer, Superintending Engineer, Executive Engineer and Sub-divisional officer

the circle level and Executive Engineers (EEs) at the division level. The department has three zones, seven circles, 31 civil and five mechanical divisions.

2.4.3 Audit objectives

Audit objectives were to ascertain whether:

- the planning process of implementation of e-Works was effective and necessary steps were taken to train the manpower to work in IT environment;
- the business rules were mapped into the IT system and adequate controls were in place for processing of transactions; and
- the operational efficiency improved after implementation of e-Works.

2.4.4 Scope and Methodology of Audit

IT Audit of PHED was conducted between April 2016 and November 2016 covering seven[2] out of 31 civil divisions and one[3] out of five mechanical divisions, which were selected based on Simple Random Sampling (without replacement) method. Information was also collected from the offices of E-in-C, CE, Raipur Zone and two SEs of Raipur and Durg Circle.

Audit evaluated the controls in various modules of the application software to ascertain completeness, regularity and consistency of the database. Further, data of the e-Works for the period from December 2012 to April 2016 was analysed with the respective records of selected units to find out deviations from the business rules. The data of treasury available in 'e-Kosh' was also used to check the correctness of data available in e-Works.

An entry conference was held in May 2016 with the Secretary, PHED to discuss the objective, scope and methodology of IT audit. An exit conference was also held with the Secretary of the department in November 2016 to discuss the audit findings. The replies given by the Government is suitably incorporated in the Report.

Constraints

The Server database log was not made available to Audit.

2.4.5 Audit Criteria

Audit criteria were derived from the following sources:

- Works Department Manual
- Central Public Works Account Code
- Chhattisgarh Financial Code, 2000
- Chhattisgarh Store Purchase Rules
- Chhattisgarh Value Added Tax Act, 2005
- Instructions, guidelines, orders, norms etc. issued by the department and Government from time to time.

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[2] Baikunthpur, Bemetara,Bilaspur, Dhamtari,Durg, Raipur, Rajnandgaon

[3] Raipur

2.4.6 Brief description of e-Works

Daily transactions of all Drawing and Disbursing Officers (DDOs) of State Government except the Works Departments[4] and the Forest Department, who make transactions by cheques, are routed through 'e-Kosh', the software used by the treasury. With the aim to computerise the operations of Works and Forest Departments, the Directorate, Treasury Accounts and Pension ventured into two projects the e-Works for the Works Department and the 'voucher posting system' for the Forest Department.

The e-Works a web-based application software was initially developed using Microsoft SQL Server 2008 for PWD but later customised for the PHED. The server where the e-Works software was hosted was situated at NIC, Raipur. The field offices of zones[5], circles[6], divisions[7] and sub-divisions[8] were provided with login-IDs and passwords for carrying out their daily transactions through the system.

The various modules provided in the software and its functions at the user level are briefly brought out below:

1) **General Master Module –** This module contains 'Allocation Master' for generation of heads for expenditure and receipts, 'Work Master' for creation of work-codes and 'Allotment Master' for demand, allotment and distribution of funds.

2) **Division Master Module –** This module provides for addition and deletion of works and contractors, addition of agreements, entry of cheque rolls and money receipt books. This module also includes provision for time extension in agreement, recovery of advances and demand for Security Deposit.

3) **Transaction Module –** This module provides facilities for preparation of bills along with deduction of statutory dues like income tax, commercial tax, labour welfare cess etc and generation of cheques. Cashbooks and monthly accounts can also be prepared under this module.

4) **Report Module –** This Module facilities preparation of various reports such as allotment and expenditure reports, cheque details, office accounts closing status, contractor details, agreement details and security deposit reports.

5) **Others –** Password and office seal entry can be changed in this module.

2.4.7 Process flowchart of e-Works

The agreement/ non-agreement master gets the information of allotment from budget / non-budget master and details of enlisted contractors from contractor details to provide the information to the work master. After getting details, the

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4 Public Works Department, Public Health Engineering Department and Water Resources Department

5 Headed by Chief Engineer

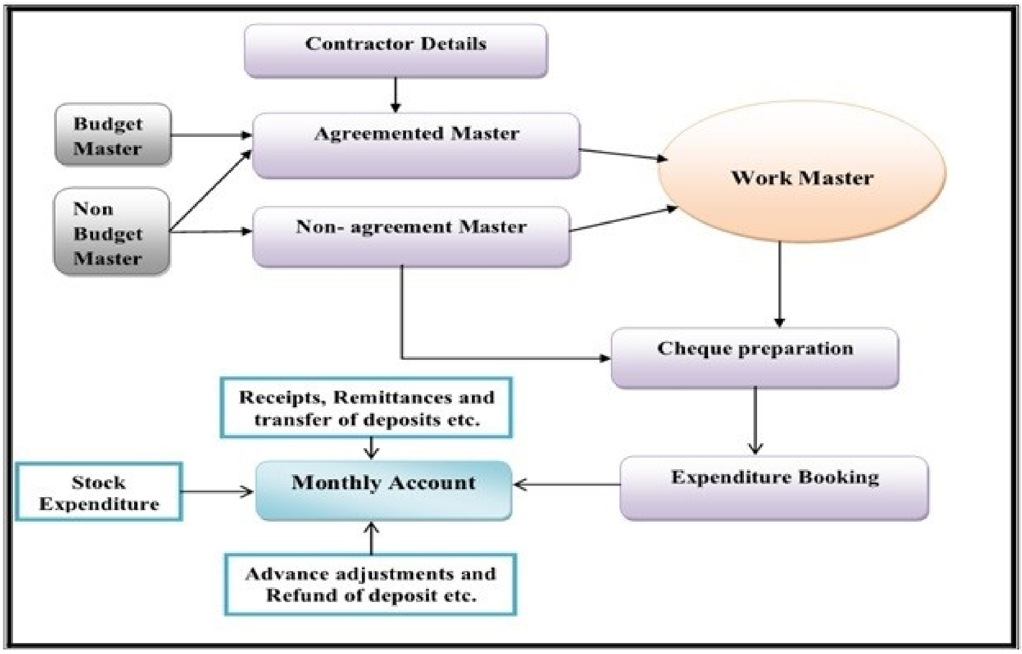
6 Headed by Superintending Engineer

7 Headed by Executive Engineer

8 Headed by Assistant Engineer

work master creates a work code. Then the system books expenditure by generating bills and thereafter the system generates the cheques for payment and provides information of expenditure for generation of monthly accounts. The monthly accounts also gets information related to receipts, remittances, refund of deposits, stock expenditure etc. from the system as shown in the process flow diagram.

Process flow diagram



Audit findings

2.4.8 Planning

The e-Works was to be implemented from April 2011 in all works departments. However, it was implemented in PHED only from December 2012 with delay of 20 months due to late initiation and delayed customisation of the software.

Audit observed that the e-Works was not functional in the entire offices of PHED on the go-live date (December 2012) as only 10 out of the 149 offices of the PHED could generate the cheques through the system in December 2012 while other 60 offices could do it in January 2013 only. Rest offices could do this only between 2013 and 2016 in a phased manner.

During exit conference (November 2016), Government replied that initiation was delayed as required manpower for customisation was not available with the department and further intimated that 61 offices initiated e-Works in December 2012 and additional 76 offices initiated it in January 2013.

Audit found that though 61 offices had made some entries in the e-Works in December 2012 and another 76 offices in January 2013, but only 70 offices could generate cheques through the system by January 2013.

Lapses in planning, customisation and implementation of e-Works in PHED are discussed in the subsequent paragraphs.

2.4.8.1 Committee constituted for implementation of e-Works in PHED not functional

Activities of committee constituted for implementation of e-Works was not documented

A five member committee was constituted (April 2012) to ensure implementation of the e-Works in the department from July 2012. The Committee was required to submit a biweekly Progress report of e-Works to E-in-C.

Scrutiny of records in the office of E-in-C revealed that no documents, minutes, reports of the Committee etc. were maintained in the office. In the absence of these records, evidence of functioning of the committee could not be found.

While accepting the audit observation in exit conference (November 2016), Government replied that due to shortage of time for customisation of the software activities of the committee could not be recorded. Fact remains that the Government could not produce any evidence of any work being done by the committee.

2.4.8.2 Pilot testing not done before implementation of e-Works

Pilot testing was not done before implementation of e-Works

Three PHED divisions (Civil division Durg, Raipur and E/M division Raipur) were nominated for pilot testing of the software before implementation of e-Works in the department. All transactions including generation of cheques for the month of October 2012 were to be made through e-Works by these divisions to test the software before the go-live.

Audit observed that none of these divisions could generate cheques through e-Works in the pilot testing month i.e. October 2012. Executive Engineer, Durg could draw their first cheque through e-Works in December 2012 while Civil division, Raipur and E/M division, Raipur could draw their first cheques in January 2013. Reports related to pilot testing were not available in the office of the E-in-C, PHED. Thus, there was no evidence of having conducted the pilot testing while the system failed to meet the business requirements of PHED in all respect. Despite that the system was declared go-live in December 2012.

In the exit conference (November 2016), Government accepted the audit observation.

2.4.8.3 Training to staff imparted on un-customised software

Training was not imparted on fully customised software

The State level trainings were imparted in April, June and October 2012 for the Divisional Accounts Officers, Senior Accounts Clerks, Data Entry Operators and the officials dealing with operation of the e-Works in the various offices of PHED.

The date of handing over of customised software by NIC to the department was not recorded by the department. However, as discussed in paragraph 2.4.8.2, pilot testing of the software could not be done in October 2012 as fully customised software was not available for testing by October 2012. Thus, training imparted between April 2012 and December 2012 could not be ensured on customised software as envisaged. Further, none of the officials of two[9] out of seven test checked offices was provided training on the software. This subsequently led to no use of e-Works by 79 out of 149 units up to January 2013 besides resulting in instances of corrections after transactions, misprinting of cheques etc.

During exit conference (November 2016), Government replied that customisation was taken up module-wise and trainings were also organised accordingly.

The reply was not tenable as Government, in reply to paragraph 2.4.8, intimated that customisation commenced only after deputation of man power from NIC in July 2012. This confirmed that the training imparted in April and June 2012 before commencement of customisation could not be given on customised module. Further, different sets of trainees participated in the trainings sessions and as such, module wise training, even if imparted, were of no use as these staff would not be in a position to operate the system which is a combination of five major modules as mentioned in paragraph 2.4.6.

2.4.8.4 Absence of User Requirement and Software Requirement Specifications

URS was not prepared while SRS was not approved by the department

The e-Works software already implemented in PWD was customised for PHED as per their requirement. Further, PHED was to assess the departmental requirements and approve the User Requirement Specification (URS) as prerequisite to describe the business need of the PHED. In addition, the Software Requirement Specification (SRS) which describes what the software will do and how it will perform also needs to be checked with the URS and to approve it.

Audit observed that URS was not prepared by the department and the SRS prepared by the software developer was not approved by the department. Further, the SRS did not contain the details of business rules to be incorporated in the software. It was also noticed that the SRS was not handed over by the software developer to the department up to August 2014 i.e. up to 20 months of implementation of the software. Since the URS was not prepared and the SRS was not approved by the PHED, the software modules lacked vital components such as measurement book, item-wise quantity in running bills and reconciliation of drawals and remittances with treasury records besides other business requirements as mentioned in paragraph 2.4.9.1. The monthly accounts generated by the system does not depict true and fair picture of the account position of the divisions as various forms required for its preparation are not mapped into the system as mentioned in paragraph 2.4.9.1. Further, the transfer entry form available in the system for correction of accounts was not functional. This impaired the functionality of the system which failed to add value over the manual processes.

During exit conference (November 2016), Government accepted the audit observation and replied that the software would be amended on the basis of audit observations and revised SRS would be prepared for the same. However,

[9] Division Rajnandgaon and Project Division Bemetara

Government did not give any justification for not approving the SRS and allowing the vender to develop the software without it.

2.4.8.5 User Manual not prepared

User Manual was not prepared by the department even in four years of go-live of the system

User Manual is essential for day-to-day use of the system and to overcome the difficulties in operation of the system. However, the User Manual was drafted only in April 2016 after 40 months from the date of go-live of the system i.e. December 2012. During audit, three[10] test checked divisions admitted that they still did not possess the User Manual and three[11] divisions replied that the User Manual was available at the website of PHED. However, the website only contained a guideline for operation of e-Works which was not a User Manual.

During exit conference (November 2016), Government replied complete User Manual would be made available to the users by 1 April 2017.

2.4.8.6 Suspense head for cash withdrawal not created

Subsidiary Rule 153 and 154 of Treasury Code Part-II, Volume-1, provides for issue of 'Letter of Credit' (LoC) in favour of DDOs of the Works departments to facilitate drawl of funds from the bank through cheques within the limit of LoC.

Suspense head for cash drawal was not created by the Department

In the e-Works system, the LoC System is replaced with budgetary allotment based drawing system by the Finance Department (FD), GoCG from 1 April 2013. The system empowers the Budget Controlling Officer to re-allot the budget allocated to them by the FD to their sub-ordinate DDOs. For this, the Works departments are asked by the FD to create a suspense head for cash drawals up to the limit fixed by the department from bank accounts under intimation to the bank. Further, it is made mandatory for the cheque issuing authority to send the advice related to classification of accounts to the bank along with the cheques.

Audit, however, observed that suspense head for cash drawal was not created by the department and advices related to classification of accounts along with the cheques were not being sent to banks.

During exit conference (November 2016), Government replied that though Suspense Head for cash drawal was not created and advice along with cheques were not being sent to banks, cash withdrawal limit of ₹ 50,000 and ₹ 1,00,000 for divisions and sub divisions offices respectively were incorporated in the software.

Facts remains that the direction of FD for implementation of the new system was not followed and Suspense Head for drawal of cash was not created. This provides liberty to draw unlimited cash though multiple self cheques without any checks and balances in the system.

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[10] Bemetara, Durg and E/M Raipur

[11] Bilaspur, Dhamatari and Rajnandgaon

2.4.8.7 Inadequate man power

For uninterrupted transition to e-Works from the manual practice which involved management of huge data, efficient Data Entry Operators (DEOs) are prerequisite.

The department required 113 additional DEOs for this purpose at sub-divisional offices in addition to 47 posts of DEOs already sanctioned for divisional and above level offices of the department.

Shortage of DEOs was met with contractual appointment of DEOs at field offices but they were not trained to handle the system

Audit observed that the proposal for recruitment of DEOs was pending at Government level as of November 2016. As a result, 40 out of 47 sanctioned posts in the departmental set up of DEOs could not be filled up. The persons-in-position against the sanctioned strength of DEOs is shown in the table below:

Table 2.4.1: Person-in-position against sanctioned strength of DEOs

(in number)

Name of Office	No. of Offices	Sanctioned post	Persons-in-Position
Engineer-in-Chief	1	2	NIL
Chief Engineer	3	3	NIL
Superintending Engineer	7	7	1
Divisions	36	32	6
Sub-divisions	113	NIL	NIL
State Level Supervision	--	2	NIL
State Level Laboratory	--	1	NIL
Total	**160**	**47**	**7**

(Source: Information provided by Department and compiled by Audit)

Acute shortage of DEOs was met with contractual appointment of DEOs at field offices. The volume of emails sent to E-in-C from field offices for correction of data in e-Works was indicative of the contractual DEOs' failures to operate the e-Works. Thus, engagement of untrained manpower on contractual basis to operate the system is fraught with the risk of compromising IT security besides endangering the system itself.

During exit conference (November 2016), Government accepted the audit observation and replied that recruitment process of DEOs is at final stage.

2.4.8.8 Segregation of Duties

Single ID was used by all users of a unit compromising the security

Segregation of duties in an operational system is one of the vital preventive controls to fix responsibility and accountability. Audit noticed that segregation of duties for managing and operating the e-Works and management of accounts in the divisions were not done as only one ID had been allotted to the field offices for working in e-Works system. This insisted the users to use the same ID for making data entry, approval, modification and printing of cheques. This was in violence of commonly adopted practices of allowing access rights and permission on 'need to know and need to do' basis.

Audit further observed that the use of single ID by all users in a unit provides complete control to all the employees over all the components of a transaction. As a result of this deficiency, it was seen that 6850 self cheques amounting to

₹ 57.91 crore were prepared and drawn by the department without approval of vouchers by the competent authorities between December 2012 and March 2016.

During exit conference (November 2016), Government accepted the audit observation and assured to amend the Software by making approval of vouchers compulsory besides introducing two tier segregation of duties for division and sub-division offices in the light of audit observation.

2.4.8.9 Steering Committee not formed

Steering committee to oversee the implementation of e-Works was not constituted

In order to ensure effective and efficient implementation of computerisation of its functions, PHED was required to appoint an IT Steering Committee to oversee its implementation and to coordinate with other agencies.

Audit observed that PHED did not form the Steering Committee to coordinate with treasuries and banks for smooth functioning of e-Works for which no reasons were on record. Further, it was also noticed that performance of e-Works was not evaluated by the department after its implementation.

During exit conference (November 2016), Government accepted the audit observation and replied that the Steering Committee would be constituted and e-Works and 'e-Kosh' would be linked by 1 April 2017.

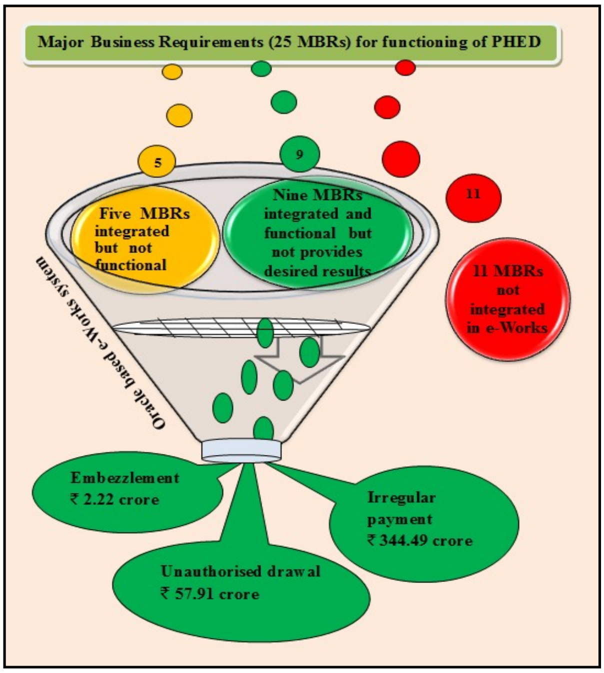
2.4.9 Mapping of Business Rules

For successful computerisation of any manual system, the business rules need to be properly integrated into the system. This is to ensure that the system meets the business requirements set down in the rules of the department and to curtail the errors in data entry.

2.4.9.1 Operational inefficiency

Out of 25 major business requirements, only 14 were mapped in the software while nine were functioning

Audit noticed that the e-Works software did not integrate all the business requirements applicable in PHED and wherever integrated, were either not in use or where used were not delivering the required results. As against the major 25 business requirements of PHED, it was noticed that only 14 requirements have been mapped while 11 requirements have not been integrated into the system. Further, of the 14 requirements that were integrated, five essential requirements could not be delivered by the system. This included monthly accounts, cash book, transfer entry, contractors' ledger and stock



issue. As a result of this deficiency in the system, the department depends on the manual cashbook to record transactions while the monthly account which is the final output of any Works Department is prepared manually. Thus, the objective of having the e-Works to improve the operational efficiency and to alienate manual intervention could not be achieved through the present system. The operational inefficiency of system is shown in the table below:

Table 2.4.2: Operational status of the e-Works at a glance

Sl. No.	Major Business Requirements for functioning of PHED	Availability in e-Works	Used/ Not used
1	Head Allocation (Expenditure & Receipts)	Available	In use
2	Allotment of fund		
3	Allotment for Refund of Deposit		
4	List of contractors		
5	Details of Agreement		
6	Bills Preparation		
7	Cheque Printing		
8	Time Extension		
9	Transfer of deposit		
10	Omnibus Transfer Entry order (OTEO)	Available	Not in use
11	Stock issue (Form -72)		
12	Monthly Accounts (Form-80)		
13	Contractors Ledger		
14	Cashbook		
15	Works Abstract	Not Available	Not in use
16	Reconciliation of drawal and remittances (Form-51)		
17	Schedule of work expenditure (Form-64)		
18	Schedule of revenue (Form 46-A)		
19	Schedule of docket (Form-61)		
20	Schedule of deposit works (Form-65B)		
21	Schedule of MPSSA (Form-69)		
22	Schedule of miscellaneous works advances (Form-70)		
23	Schedule of stock account (Form-73)		
24	Schedule of debit/ credit of miscellaneous advances (Form-76)		
25	Schedule of debit/ credit of remittances (Form-77)		

Further, the nine business requirements which have been integrated into the system and were in use as shown in the above table (Sl. 1 to 9) also failed to deliver the required results. This was evidenced from cases of irregular payment through 'non-agreemented bills module', expenditure incurred on deposit works in excess of deposit received, multiple entries of single voucher in system generated cashbooks, absence of provision for rectification of accounts, absence of provision for adjustment of miscellaneous Public Works advances and reconciliation of cheques drawn etc. as discussed below:

2.4.9.2 Irregular payment of ₹ 344.49 crore through 'non-agreemented bills module'

Irregular payment of ₹ 344.49 crore each above ₹ 50,000 was made by 19,483 transactions through 'Non-agreement bill'

Rule 4.3.3 of Chhattisgarh Stores Purchase Rules-2002, stipulates that open tenders should be invited for supplies above ₹ 50,000. Further, as per para 2.167 of Works Department Manual, agreement should be drawn for the works estimated to cost more than ₹ 50,000. Thus as per the business rules, the system should not generate any bill more than ₹ 50,000 for a work or supply through 'non-agreemented bill' module of the system.

Analysis of database revealed that ₹ 451.03 crore in the form of single payments each more than ₹ 50,000 ranging from ₹ 50,005 to ₹ 3.34 crore were irregularly paid against 19,483 transactions through 'non-agreemented bill' module of the system during 2012-13 to 2015-16.

Further, Section 27 (1) of Chhattisgarh Value Added Tax Act, 2005 provides that the tax should be deducted at source before making payment of the bills that exceeds ₹ 5,000 for government supply and should be remitted to revenue. The deducting authority may deduct TDS at lower rate or may not deduct it, on production of certificates as per provisions of the Act by the deductee. Audit found that these provisions have not been adopted while designing the system.

As a result, in 44 cases of payments of income tax and VAT amounting to ₹ 83.74 lakh in E/M division, Raipur and ₹ 9.61 lakh in Civil division, Bilaspur was not deducted at source which resulted in loss to the Government as shown in the **Appendix-2.4.1.**

During exit conference (November 2016), Government *inter-alia* accepted the processing through 'non-agreemented bills' and stated that ₹ 288.18 crore was processed through 'non-agreemented bills' for procurement of materials through rate contract while ₹ 56.31 crore was under scrutiny by the department. Government further stated that the provision in the light of observation of Audit would be made in the amended Software.

Reply confirms that at least bills worth ₹ 344.49[12] crore was irregularly processed since business rules were not properly integrated in the software.

2.4.9.3 Lack of controls over cheque printing

Upon implementation of e-Works, cheque scrolls with pre-printed cheque numbers are issued by the Treasury. The first and last number of the cheques is entered in the e-Works to demarcate the range of the cheque scroll. While printing the cheques, the numbers from the scroll are generated in a sequential order by the system and gets entered into the e-Works database.

170 offline printing of cheques resulted in embezzlement

In the process, there is no control mechanism to ensure that all cheque scrolls received from the treasury are invariably entered into the e-Works. This has a risk of using the cheque scrolls for printing of self cheques outside the e-Works application (offline). Further, the process of reconciliation of the accounts with the treasury is presently not in place in the system and as such, encashment of offline printing of cheques may go unnoticed. Also, there is provision in the module to save details of the cheque as a PDF image without cheque number. Anyone having access to this PDF file could use the details of the cheque readily formatted for printing purpose to print other cheques offline.

An instance of embezzlement by misusing this lacuna in the system was noticed in division Kanker. Cheque drawing authorities of the division withdrew ₹ 2.22 crore from bank through 170 self cheques as shown in **Appendix-2.4.2** during February 2013 to September 2015 by printing those cheques offline. As the cheques were printed offline, the same did not appear in the database of the

[12] ₹ 288.18 crore and ₹ 56.31 crore

e-Works. The DDO (in this case, the Assistant Engineer), by taking the benefit of the absence of online reconciliation of the accounts with the treasury, did not record the transactions into the Monthly Accounts. The embezzlement, thus made, was confirmed by a committee constituted by the Collector, Kanker.

During exit conference (November 2016), Government accepted that presently e-Works is not linked with Treasury server and therefore reconciliation of cheques is not possible through the system. Further, Government also stated that efforts for linking of e-Works and 'e-Kosh' has been started and appropriate provision in print preview in the light of audit recommendations would be made in the amended Software.

The fact remains that had the System been designed to reconcile the transactions by fetching the data from server of the treasury the embezzlement could have been avoided. Further, the quantum of the embezzlement could have been restricted by creating the suspense head for cash drawals as instructed by the FD.

2.4.9.4 Penalty parameters for delayed completion of works not addressed in the software

Business rules in relation to penalty parameters not mapped in the system

As per Clause 2 of the Form-A provided in Appendix 2.13 of the Works Department Manual, compensation is to be imposed with fixed percentage of penalty per week limited to six *per cent* of the value of work for delayed execution of works.

Audit observed that the vendor did not integrate the provisions of penalty with the prescribed parameters into the application software while customising it. As a result, auto calculation of penalty for the delay is not generated in the system. Scrutiny of records in Raipur and Durg circles revealed that failure to map the penalty rules in the software resulted in levy of penalties at lesser rates with consequent loss of revenue amounting to ₹ 29.45 lakh to the Government as shown in the **Appendix-2.4.3**.

During exit conference (November 2016), Government accepted absence of appropriate provision in the Software for penalty calculation and added that the provision according to Works Department manual would be made in the revised Software. The Secretary, PHED further replied that audit had considered the total period of extension for penalty calculation, instead of delay attributed to the contractor.

The reply of Government was not correct as only period of delay attributed to the contractors was taken in audit for calculation of revenue loss.

2.4.9.5 Closing of Monthly Accounts of division before closing of that of sub-division

The system was unable to ensure the closing of monthly accounts of subordinate offices before closing of higher offices

According to Appendix 1.26 under Para 1.129 of WD Manual and Para 22.4 of CPWA Code, the Assistant Engineer in charge of sub-division submits the monthly accounts of sub-divisional transactions to the Divisional Officer. The monthly accounts of all the sub-divisions are compiled by the Divisional Officer to prepare the monthly accounts of the division which is then submitted to the Accountant General. Therefore, the sub-division should close their accounts before the divisional accounts.

In E/M division, Raipur, it was noticed that the system closed the monthly accounts of August 2016 of the division before closing of the monthly accounts of sub-division 'Dhamtari' functional under the division. The monthly account of the sub-division was closed at 5.55 PM on 31 August 2016 while the monthly account of the division was closed at 5.50 PM the same day i.e. five minutes before the sub-divisional accounts. Thus, the system was unable to check and prevent the closing of monthly accounts of subordinate offices before closing of higher office.

During exit conference (November 2016), Government accepted the audit observation and stated that this irregularity was due to wrong SQL query in the software which has been corrected and tested. Fact remains that timing of reports generated through the system cannot be attributed to wrong SQL query as it is auto generated.

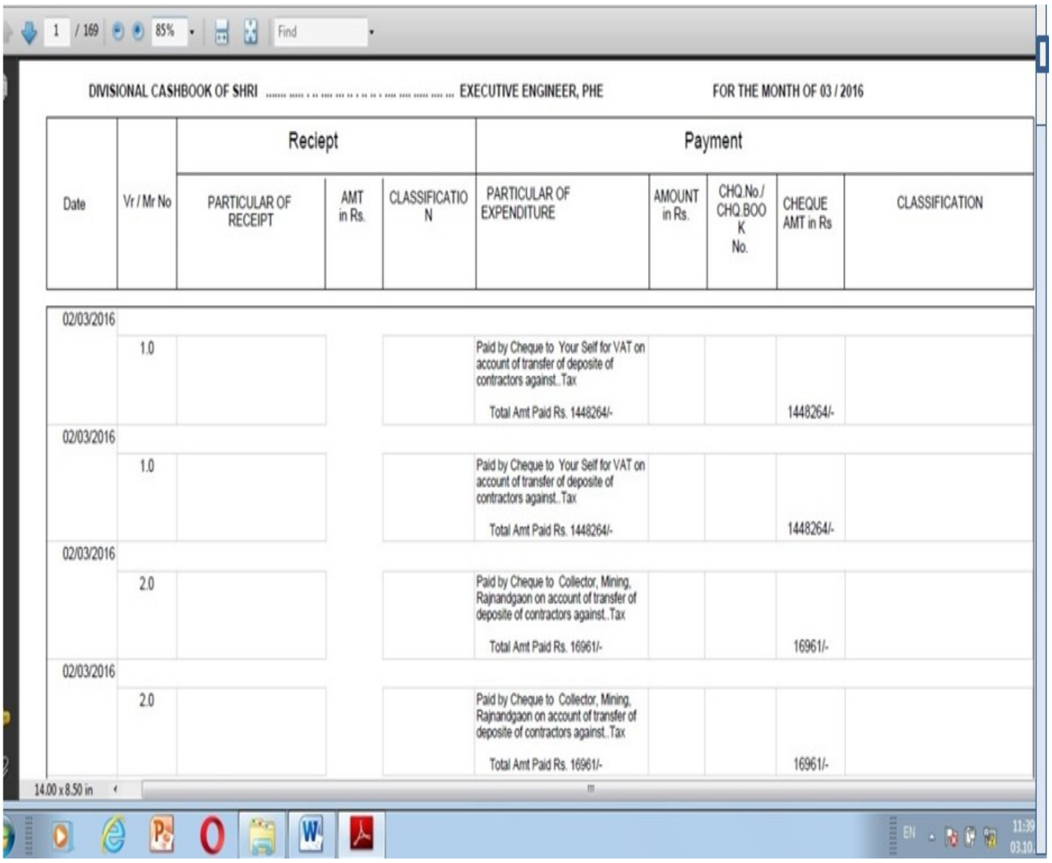
2.4.9.6 System generated cashbooks not reliable

Multiple entries of single vouchers, mismatch of cheque amount and other discrepancies makes the system generated cashbook unreliable

The software provides the facility for automatic generation of cashbook. Audit test checked the system generated cashbooks of the eight selected divisions and found those unreliable on the following grounds:-

- **Multiple entries of same vouchers made the cashbooks unreliable**

Audit noticed that the system generated cashbook displayed multiple entry of the same voucher as shown in the screen shot below:



DIVISIONAL CASHBOOK OF SHRI .... EXECUTIVE ENGINEER, PHE FOR THE MONTH OF 03 / 2016

Date	Vr / Mr No	Reciept: PARTICULAR OF RECEIPT	AMT in Rs.	CLASSIFICATION	Payment: PARTICULAR OF EXPENDITURE	AMOUNT in Rs.	CHQ.No./ CHQ.BOOK No.	CHEQUE AMT in Rs	CLASSIFICATION
02/03/2016	1.0				Paid by Cheque to Your Self for VAT on account of transfer of deposite of contractors against..Tax Total Amt Paid Rs. 1448264/-			1448264/-	
02/03/2016	1.0				Paid by Cheque to Your Self for VAT on account of transfer of deposite of contractors against..Tax Total Amt Paid Rs. 1448264/-			1448264/-	
02/03/2016	2.0				Paid by Cheque to Collector, Mining, Rajnandgaon on account of transfer of deposite of contractors against..Tax Total Amt Paid Rs. 16961/-			16961/-	
02/03/2016	2.0				Paid by Cheque to Collector, Mining, Rajnandgaon on account of transfer of deposite of contractors against..Tax Total Amt Paid Rs. 16961/-			16961/-	

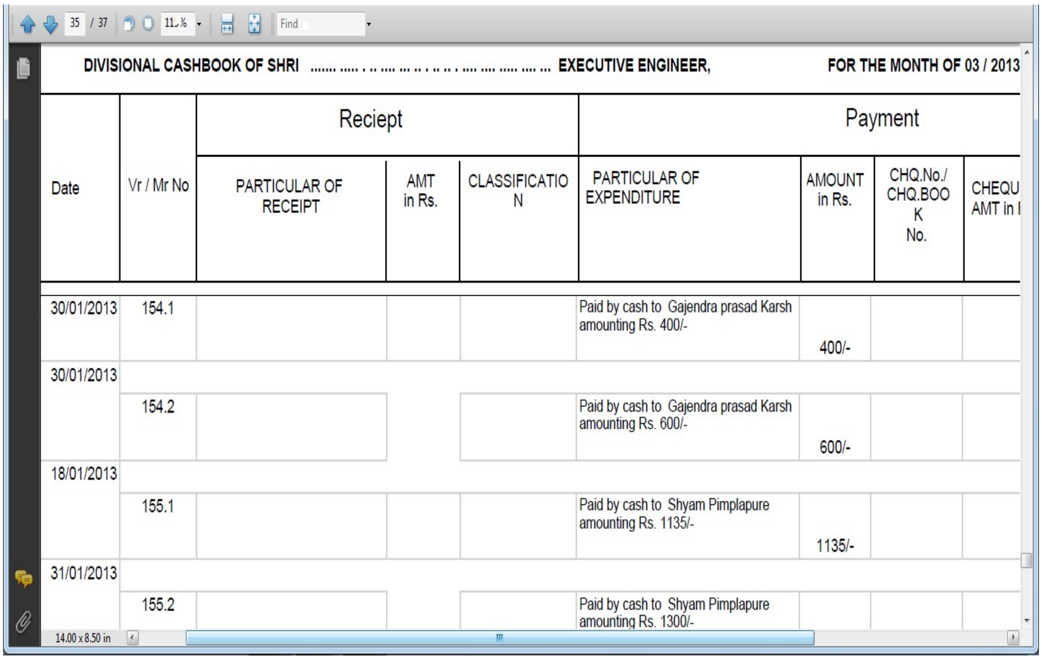
(Source: Screen Shot from e-Works)

- **Absence of monthly closing, mismatch of cheque amount and dates in system generated cash book**

Scrutiny of e-Works database in five test checked divisions revealed that amount of cheques generated through e-Works and the amount of cheques reflected in the system generated cashbook did not match in 52 number of cases as shown in **Appendix-2.4.4**. In two test checked divisions (PHED division, Rajnandgaon and E/M division, Raipur), six cheques generated through the system were not recorded in the system generated cashbooks. Further, recording of vouchers one day before its actual generation was noticed in system generated cashbooks of sub-division, Rajnandgaon. In addition, monthly opening and closing balances were not being shown and remittances not being reflected in the system generated cashbook.

- **Absence of chronological recording of transactions**

As per CPWA Code and Financial Code, cashbook should be closed on daily basis. Thus, dates of transaction in the cashbook should be in chronological order. Scrutiny of system generated cashbook of E/M division, Raipur revealed that transactions in the system generated cashbook were not in chronological order as shown in screen shot below:



DIVISIONAL CASHBOOK OF SHRI .... EXECUTIVE ENGINEER, FOR THE MONTH OF 03 / 2013

Date	Vr / Mr No	Reciept			Payment			
		PARTICULAR OF RECEIPT	AMT in Rs.	CLASSIFICATIO N	PARTICULAR OF EXPENDITURE	AMOUNT in Rs.	CHQ.No./ CHQ.BOO K No.	CHEQU AMT in I
30/01/2013	154.1				Paid by cash to Gajendra prasad Karsh amounting Rs. 400/-	400/-		
30/01/2013								
	154.2				Paid by cash to Gajendra prasad Karsh amounting Rs. 600/-	600/-		
18/01/2013								
	155.1				Paid by cash to Shyam Pimplapure amounting Rs. 1135/-	1135/-		
31/01/2013								
	155.2				Paid by cash to Shyam Pimplapure amounting Rs. 1300/-			

(Source: Screen Shot from e-Works)

During exit conference (November 2016), Government accepted the audit observation and stated that e-cashbook was not being used. Problems indicated by audit would be looked into during amendment in the software.

Facts remains that due to unreliable system generated cashbook those were not being used by the department and instead manual cash book is maintained to record transactions.

2.4.9.7 Absence of control over expenditure incurred on deposit works

Best practices of Information Technology Systems provide that a computer application should include sufficient controls that ensure the completeness, accuracy and validity of transactions.

System allowed booking of expenditure on a deposit work more than the funds received

Para 2.1.1 (17) of CPWA Code provides that the works executed by a Works division for municipalities and other public bodies are called Deposit Works. Since, the cost of works was charged to the funds deposited by other than Government bodies, the deposit works are treated as non-budgeted works.

As per Paragraph 16.2.1 of the CPWA Code, the amount received for other than Government deposit work should be credited into the account head "***108–Public Works Deposits***" under the Major Head ***"8443–Civil Deposits"***, against which all expenditure incurred would be debited to the amount of the deposit. Para 2.170 of Works Department Manual further stipulates that the amount received on account of a deposit work should not be utilised for other works.

Audit found that funds received from various agencies for deposit works were being deposited under head of accounts "00-8443-00-108-0000-0000-00-103-V" in e-Works module. During booking of expenditure for a deposit work, the application verifies the availability of funds in the head "00-8443-00-108-0000-0000-00-103-V" but did not cross-check the availability of funds for that particular deposit work. Thus, the system paved way for booking of expenditure on a deposit work more than the funds received for that particular work.

During test check of the system in PHED division, Durg it was noticed that an excess expenditure of ₹ 1.25 crore was booked in the system over deposits received in case of Durg Water Supply Augmentation Scheme. Further, in case of Dongargarh Water Supply Scheme in PHED division, Rajnandgaon excess expenditure of ₹ 3.56 lakh incurred on the Deposit Works over the amount of deposit received was charged to Miscellaneous Public Works Advances (MPWA) in 2014-15.

During exit conference (November 2016), Government accepted the audit observation and stated that in the light of observations of audit, amendment in the software would be made.

2.4.9.8 Absence of provision for rectification of accounts

Para 3.2.2 of CPWA Code provides that if the final head is not known for booking of expenditure, it should be classified temporarily under MPWA. Later on the MPWA should be adjusted after preparing a transfer entry by clearing the MPWA head and final booking to the correct head of account.

Module for rectification of Accounts was not functional

Audit noticed that all the eight test checked divisions had been making transfer entries (TEs) manually as there was no operational provision in the system for raising TE. As a result, the system generated monthly accounts of the concerned divisions failed to depict true and fair picture of the accounts of the divisions while the excess expenditure over deposit kept under MPWA could not be adjusted despite receipt of balance funds from the concerned agencies.

During exit conference (November 2016), Government accepted the audit observation and stated that provision for TE is already available in e-Works and training sessions would be organised to explain it again. The Government further stated that the software would be amended accordingly.

Reply was not tenable because the TE form provided in the software was not functional and this rendered the system based monthly accounts incorrect.

2.4.9.9 Absence of module for preparation of Schedule of reconciliation of cheques drawn and remittances

There was absence of reconciliation of transactions in the system

Paragraph 23.20 of CPWA Code stipulates that in the Public Works System of Accounts, the original receipts and payments arising in a public works division are initially accounted for under the proper heads in the books of accounts maintained by the Divisional Officer. The receipts of the division are remitted into the bank for collection under the Head "Remittances into Bank" and the payments made by the Divisional Officer are debited to the Head "Public Works Cheques". Concerning treasury of the accredited bank sends a copy of the scrolls to the division concerned. On receipt of the copy of receipt and payment scroll, the Divisional Officer effects reconciliation in CPWA Form 51 indicating the difference between the cheques issued and remittances. This schedule of reconciliation in CPWA Form-51 is sent to the Accountant General (A&E) along with monthly account of the division.

Audit scrutiny revealed that provision for preparation of CPWA Form-51 was not available in the e-Works even though the details required for preparation of CPWA Form-51 i.e. cheques issued and remittances made during the month were being generated through the system. This resulted in manual preparation of CPWA Form-51, in which many differences were exhibited in test checked divisions. Further, absence of provision for generation of CPWA Form-51 in e-Works also resulted in embezzlement of ₹ 2.22 crore as discussed in the paragraph 2.4.9.3.

During exit conference (November 2016), Government accepted the audit observation and stated that necessary amendments would be made in the software in the light of the audit observation.

2.4.9.10 Provision for "Schedule of Debits to Stock" without provision for "Schedule of Works Expenditure"

Partial mapping of rules of business in the e-Works system led to no use of the provision

Para 22.4.1 to 22.4.8 of CPWA code provides that while compiling monthly accounts, each item of expenditure debitable to stock should be collected in the "Schedule of Debits to Stock" in CPWA Form-72. The expenditure required to be shown in CPWA Form-72 represents the total issue of materials from stock to the work in the "Schedule of Works Expenditure" prepared in CPWA Form-64.

A module to prepare CPWA Form-72 is provided in the system. However, CPWA Form-64 is not available in the system. Hence, provision for the

"Schedule of Debits to Stock" in CPWA Form-72 had no utility. Thus, stock expenditure was not being maintained through e-Works in all eight test checked divisions of the PHED.

During exit conference (November 2016), Government accepted the audit observation and stated that the provision according to observation of Audit would be made in the amended software.

2.4.9.11 Gross amount less than the net amount

Auto calculation of Gross to Net amount was absent in the system

The field 'Net Amount' in payment module indicates the payment to be made after deduction of dues from the 'Gross Amount'. This amount is not being calculated through the system but entered manually.

It was noticed in the PHED division, Rajnandgaon that the net amount (₹1,44,867) of voucher number 147 of 18 March 2014 was more than the gross amount (₹ 1,14,867).

During exit conference (November 2016), Government accepted the audit observation and stated that correction in the voucher amount was made by the E-in-C office on the basis of the mail received from district Rajnandgaon. The reply confirms the deficiency in the system to prevent such events. Further, instead of cancelling and re-issuing the cheque through the system to keep a trail, the division corrected the previously printed cheque manually outside the scope of the system, a practice which should have been avoided.

2.4.9.12 Incorrect calculation of transfer of deposits

The system provides the list of Tax Deducted at Source (TDS) by the department as and when they are required to deposit the due amount of taxes to the respective departments.

Lacuna in calculation of TDS by the system resulted in excess deposit of TDS which has not been adjusted

Audit noticed that the TDS amounting to ₹ 77,717 (Income-tax ₹ 55,651 and VAT ₹ 22,066) deducted from contractors bills during the period of 22 March 2014 to 28 March 2014 by the PHED division, Bilaspur was due for deposit under the revenue head of account. However, the system calculated the amount of TDS as ₹ 4,16,029 instead of actually collected value of ₹ 77,717 for that period. Accordingly, the division deposited ₹ 4,16,029 as TDS in the revenue head. The lacuna in calculation of transfer of deposit in the system resulted in excess deposit of TDS for the month of March 2014. However, adjustment of excess amount has not been made (November 2016).

During exit conference (November 2016), Government accepted the audit observation and stated that the provision according to observation of audit would be made in the amended software. However, Government did not give any reasons for not effecting adjustment of the excess payment.

2.4.9.13 Temporary imprest not being adjusted properly through e-Works

Adjustment of all vouchers not ensured in the system

Temporary imprest amounting to ₹ 50,000 issued to a Sub-Engineer of Project division, Bemetara was adjusted vide manual cashbook voucher number 14 dated 11 March 2015. The voucher consisted of 10 sub-vouchers. Cross checking of the transactions in e-Works revealed that only an amount of ₹ 47,565 through nine sub-vouchers were shown adjusted in the cashbook generated through e-Works. Whereas, the field "Adjustment of Temporary Imprest" under transaction module of the system had shown adjustment of full amount of advance i.e. ₹ 50,000 by showing all the 10 sub-vouchers. Similar case was also noticed in the same division for adjustment of an advance of ₹ 50,000 vide cashbook voucher number 15 dated 12 March 2015.Where also nine sub-vouchers out of 10 were shown adjusted in the e-cashbook. Difference in the case was ₹ 2,186 (one voucher).

During the exit conference (November 2016), Government accepted the Audit observation and stated that at present e-cash book was not being used and further stated that problems indicated would be looked into during amendment in the software.

2.4.10 Deficiencies in Application Controls

Application controls are designed to provide an assurance that all inputs are properly authorised and complete, validating checks are in place, processing is done as desired and outputs are accurate. Review of database showed that the application controls were weak and the software had inherent deficiencies.

2.4.10.1 Generation of incorrect work codes

Discrepancies were noticed in the generation of work codes through e-Works

The software generates alphanumeric unique work codes with letter "W" for budgeted works and with letter "N" for non-budgeted works. The first number after alpha in work codes demarcates the office at which the code is generated. Number "1" is allotted for E-in-C, "2" for CE (Zone), "3" for SE (Circle), "4" for EE (division) and "5" for SDO (sub-division). It is obligatory to mention the Major Head of accounts under which allotment is received to create the work code.

Scrutiny of database of the system revealed that the system did not have appropriate input controls to identify the alpha-numeric characters demarcated for various offices. The system permitted generation of work codes with 'Nil' administrative approvals (AA). Further, non-budgeted Heads of Accounts appeared in the Budgeted field and vice versa while the system permitted generation of work codes allotted to any office through the ID of any other office.

The inaccuracies in generation of work codes noticed in the system are further explained below:

- Analysis of database revealed that 18 duplicate work codes were generated in the system.
- The work codes of 4846 non-budgeted works were generated with letter "W" instead of letter "N" and work codes of 138 budgeted works were generated with letter "N" in place of "W".
- The system was to be designed to generate work codes with W30 for budgeted and N30 for non-budgeted works through the login ID of SE. However, in the office of SE, Raipur circle, it was noticed that the system erroneously generated wrong work codes in 201 cases with W20, W40, N20 and N40, though

these alpha-numeric codes were either demarcated for the CE (W20 and N20) or for the EE (W40 and N40).

- Work codes were generated without mentioning the head of budget classification in 146 works in the offices of the PHED.
- It was observed that 45 work codes were generated with “nil” amount of AA. Hence, expenditure could not be booked against these work codes.

During the exit conference (November 2016), Government interalia accepted discrepancy in the generation of work codes and added that matter would be examined and necessary provision would be made during amendment of the software.

The software initially developed for the PWD continues to retain its head while in operation for the PHED

2.4.10.2 Continuance of PWD heads while operational in PHED

Audit noticed that an amount of ₹ 4,00,469 was minus debited to the Major Head 2059 in the monthly account of PHED division, Bilaspur in March 2016. This head is however allotted to PWD. It reflected that the e-Works software originally developed for the use of PWD was not properly customised for the PHED and tested before its implementation in the department as discussed in paragraph 2.4.8.2 of the report. Continuance of PWD heads while operational in PHED for more than four years tells the apathetic state of affairs of the system. This is shown in the screen shot below:

1 of 1

FORM 80

OFFICE OF THE EXECUTIVE ENGINEER

Print Date:- 25-Oct-2016

Print Time:- 03:58:34 PM

Report Month/Year :- March/2016

Head of Accounts			RECEIPT	EXPENDITURE		
RECEIPT		DESCRIPTION				
GNCD	MHCD			NON PLAN	PLAN	TOTAL
00	0215		47200	0	0	0
		Total Of Receipt	47200	0	0	0

GNCD	MHCD	DESCRIPTION	RECEIPT	NON PLAN	PLAN	TOTAL
20	2215		0	3202777	0	28423015
20	4215		0	0	690500	690500
64	2215		0	0	10204051	10204051
80	2215		0	4086	0	1770956
67	2059	Public Works	0	-400469	0	-400469
		Total Of Expenditure	0	2806394	37881659	40688053

(Source: Screen Shot from e-Works)

During exit conference (November 2016), Government accepted the audit observation. Government further added that the necessary corrections would be made during amendment in the Software.

2.4.11 Incomplete Reporting module

Only five out of 17 reports were active

The e-Works module provides for generation of Management Information System reports based on which decisions can be taken. Audit observed that some of these were not being generated or there were inconsistencies in the generation. This is evidenced from the fact that only five[13] out of 17 reports were active while reports such as for penalty levied and penalty recovered, contractor ledgers, works abstract etc were not generated. The schedules of Income Tax had gaps in the contractor details, as the PAN numbers against some deductions were shown as blank.

During exit conference (November 2016), Government accepted the audit observation and stated that necessary provision, as pointed out by audit, would be made in the amended software.

2.4.12 Absence of defined password and security policy for the e-Works

Department had not defined security policy

A well-defined and documented password and security policy with proper implementation of the same is necessary for an organisation to safeguard the information from unauthorised access and its tampering. However, the department had not defined any security policy. Further, audit observed that:

- The system did not insist for password change at the time of initial login by the user;
- It did not enforce any periodic change of password by the user;
- The date and time of the last access and number of unsuccessful attempts after the last successful login attempt were not displayed on the screens. The user ID was not being suspended after a specified number of repeated unsuccessful login attempts which is against the security norms of IT to prevent unauthorised access and tampering of records.

During exit conference (November 2016), Government accepted the audit observation and stated that password and security policy, as suggested by audit, has been enforced in e-Works from October 2016.

2.4.13 Conclusion

The User Requirement Specification to assess the departmental requirements was not prepared while the Software Requirement Specification developed by NIC was not approved by the PHED. Despite that, the system was declared go-live in December 2012 without even doing the pilot testing to ensure compliance to the departmental requirements. As a result, the application software failed to deliver the mandate as evident from embezzlement of ₹ 2.22 crore by bypassing the system, unauthorised drawal of self cheques worth ₹ 57.91 crore through the system, irregular payment of ₹ 344.49 crore through 'non-agreemented bill module' etc.

[13] Fund Utilisation Report, Office Account Closing Status, Contractor Details, Agreement Details and SD Report

The customisation of e-Works in the PHED was ill planned and executed as 11 out of 25 major business requirements of the department were not integrated into the system while five of the 14 essential requirements that were integrated were not put to use and the balance nine integrated business requirements, although in use, failed to deliver the required results. As a result of this deficiency in the system, the department is constrained to prepare the monthly accounts manually instead of generating it as final output of the application software. Thus, the objective of having the e-Works to improve the operational efficiency and to alienate manual intervention could not be achieved through the present system.

Application Controls were not in place as the system generates incorrect work codes and has retained the heads of PWD although customisation for PHED was done more than four years ago. Further, integrity of the data in the database of the system was doubtful as in 146 cases expenditure was booked without classification of budget heads while in 45 cases, the system generated data with nil value of AA. Thus, the risk of reliance upon the system in its present form is high.

Absence of proper security policy and access control mechanisms like single user ID, absence of segregation of duties, passwords without requirement of periodic changes, ignorance of repeated unsuccessful log-in attempts made the system vulnerable to manipulation.

2.4.14 Recommendations

The software should be reviewed immediately with respect to mapping of business rules and proper validation and controls should be enforced in order to make it foolproof.

Till such time, adequate manual controls in terms of physical record keeping and proper supervisory control should be enforced in order to avoid any chance of fraud and misappropriation.

PHED needs to draw up a full-fledged IT policy, implementation plan, adequate documentation and security policy in respect of application system and physical access to the data.

PHED needs to strengthen the standards of IT controls such as segregation of duties, logical access controls and change management controls.