

Chapter-III

Compliance Audits

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Chapter-III

Compliance Audits

Public Works Department

3.1 Audit on preparation of estimates of road works

Executive Summary

Public Works Department is the principal agency of Government of Madhya Pradesh for planning, designing, construction and maintenance of roads, Government buildings and infrastructure development. During the period 2013-16, an expenditure of ₹ 4,559.47 crore was incurred on construction of new roads/upgradation and strengthening of existing roads.

Audit on “Preparation of estimates of road works” for the period 2013-14 to 2015-16 revealed that estimates were prepared on the basis of inadequate data, which resulted in large deviation from estimates at the time of execution, adoption of costlier items without ascertaining their necessity, delayed completion as well as unfruitful expenditure on incomplete roads. The significant audit findings are as follows:

- Pre-requisite activities for preparation of estimates of road works, such as feasibility study and detailed survey and investigation were not carried out. Due to failure in taking levels in 103 road works and erroneous consideration of levels in 93 road works, quantities of earthwork were not provisioned correctly in the estimates resulting in variation (more than 10 per cent) of ₹ 25.71 crore in 68 road works.

(Paragraphs 3.1.2.1 and 3.1.2.2)

- Road works were awarded without ensuring adequate provision in the estimates for acquisition of forest and private lands. As a result, 26 out of 196 test checked road works were delayed for two months to over six years, which included 15 road works on which an expenditure of ₹ 66.86 crore was already incurred remained incomplete even after lapse of 21 to 68 months.

(Paragraph 3.1.2.4)

- Cost of utility shifting in 10 estimates was provisioned on assumption basis without obtaining technical sanction from concerned Departments resulting in delay from 11 months to 27 months in construction of roads, besides increase in cost of road by ₹ 7.14 crore.

(Paragraph 3.1.2.5)

- In 13 estimates, design traffic of road crust was incorrectly computed resulting in adoption of sub-standard specifications in 10 estimates and richer specifications resulting in extra cost of ₹ 2.98 crore in three estimates. It was also observed that though design traffics were worked out correctly in 20 estimates, Department erroneously adopted richer specifications resulting in extra cost of ₹ 21.30 crore.

(Paragraph 3.1.3.1)

- Provisions of cross drainage (96 estimates) and length of road (30 estimates) were made without survey and investigation. As a result, wide

deviation from estimate was noticed in 94 estimates which resulted in excess expenditure of ₹ 32.56 crore. Similarly, length of road specified in the estimate was increased up to three kilo metres in six road works and decreased up to 10.50 kilo metres in 24 road works.

(Paragraphs 3.1.4.1 and 3.1.4.2)

3.1.1 Introduction

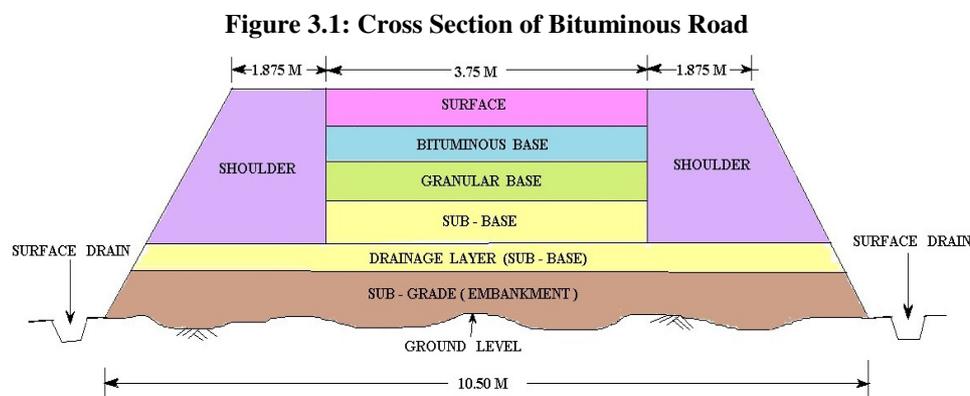
Public Works Department (PWD) is the premier agency of Government of Madhya Pradesh (GoMP) engaged in planning, designing, construction and maintenance of roads, Government buildings and infrastructure development. During the year 2013-14 to 2015-16, PWD incurred ₹ 4,559.47 crore on construction of new roads/upgradation and strengthening of existing roads and ₹ 1,740.39 crore on annual repair works of road.

Preparation of accurate and realistic estimates of road projects is a pre-requisite for ensuring quality in road works and their timely completion within the sanctioned cost, besides planning and management of available resources. Estimates also provide a basis for assessing reasonability of rates quoted by a contractor to ensure economy.

As per para 2.006 of Madhya Pradesh Works Department (MPWD) manual, for every work a properly detailed estimate must be prepared for the sanction of the competent authority. This sanction is known as the “Technical Sanction (TS) to the Estimate”, which must be obtained before the work is commenced. Para 2.028 of MPWD manual further stipulates that an officer according the TS to an estimate is responsible for soundness of design and for incorporating all the items required for inclusion in the estimate with reference to drawing. The administrative approval to the project will be then accorded by the Government in accordance with TS. The Department follows the latest Indian Road Congress (IRC) codes in road works.

Composition of road structure

The road structure cross section is composed of various components, viz., sub-grade, sub-base, drainage layer, base course, surface, shoulder etc. for evaluating the quantities and cost of work. The figure 3.1 indicates different layers of a cross section of bituminous road:



- **Sub-grade-** It is the soil foundation of the natural ground in its final shape after completion of earthwork on which the entire road structure rests.
- **Drainage layer-** A layer of granular material above the sub-grade extended over the entire formation width to drain the sub-soil water.
- **Sub-base** -This work shall consist of laying and compacting well-graded material on prepared sub-grade.
- **Base** – A part of construction resting upon the sub-base/sub-grade, made up of fine compacted material (granular base and bituminous base); the driving surface lies on it.
- **Surface-** Top layer of road on which traffic ply.
- **Shoulder-** The portion immediately beyond the edge of carriage way on which traffic may pass occasionally while crossing.

3.1.1.1 Scope of Audit

The estimates of new roads, strengthening and upgradation of ongoing and completed road works executed during 2013-14 to 2015-16 were examined in audit during November 2015 to June 2016. The audit objective was to ascertain whether pre-requisite activities were adequately undertaken before preparation of estimates; whether detailed estimates were prepared based on the provisions contained in the Departmental manual, IRC specifications and technical circulars; and, whether road works were executed as per the provision made in the estimates.

Out of 57 Public works divisions, 12 divisions¹ were selected on the basis of stratified simple random sampling method. Test-checked divisions executed 391 road works valued ₹ 1,699.25 crore during 2012-13 to 2015-16, of which 196 estimates (50 per cent) valued at ₹ 1,250.74 crore were selected for scrutiny (**Appendix 3.1**). This included road works ranging from 1 km (costing ₹ 38.69 lakh) to 57.84 km (costing ₹ 41.77 crore).

The audit objectives, criteria and methodology were discussed with the Principal Secretary, PWD, Madhya Pradesh during the entry conference held on 17 February 2016. The draft report was issued to the Department in August 2016. The audit findings were also discussed in the exit conference held on 03 November 2016 with the Principal Secretary, PWD. The views expressed during the exit conference have been suitably incorporated in the Audit Report.

Audit findings

3.1.2 Pre-requisite activities before preparation of estimates

3.1.2.1 Preparation of estimate without detailed survey and investigation

The specifications of IRC-19 stipulated two stages of pre-requisite activities namely feasibility study and detailed survey and investigation. These pre-requisite activities include fixing of bench-mark, taking of ground levels at

¹ Ashok Nagar, Balaghat, Damoh, Guna, Indore I, Mandla, Neemuch, Rewa, Sagar, Satna, Sehore, and Vidisha

Estimates were prepared without feasibility study and detailed survey and investigation.

50-100 metre intervals, conducting of traffic survey, pavement design, collection of hydrological, physical and foundation data from concerned authorities, local enquiry and a study of nearby road structures on the same stream in the vicinity, soil and material survey and identification of quantum of land acquisition.

During test-check of records, the Department could not provide feasibility study and detailed survey and investigation reports relating to estimates of road works, though their results were used in some of the estimates. In the absence of related reports, the actual conduct of feasibility study and detailed survey and investigation could not be ascertained in audit.

In 29 estimates, traffic survey was not conducted and crust was also not designed as shown in (**Appendix 3.1**). In remaining 167 road works, location of traffic survey was not mentioned in the traffic census though required in the proforma under IRC-19. Further, scrutiny of records revealed that four divisions (Damoh, Guna, Sagar and Vidisha) used traffic survey and design computation sheets carried out for five roads in 11 road works.

In the exit conference (November 2016), the Principal Secretary stated that survey and investigation was not carried out in upgradation/existing roads as it was not necessary. He agreed that it should be conducted in new road works but it was not carried out due to short length of roads.

The reply is not tenable, as the IRC specifications prescribe for conducting survey and investigation in case of new construction as well as upgradation of existing roads. Further, there was no exemption for short length roads, besides the test-checked new roads were between 1.5 km and 31.9 km that could not be classified as short length road.

The failure of Department to conduct the required pre-requisite activities before preparation of estimates resulted in large deviations from estimates at the time of actual execution, adoption of costlier items without ascertaining their necessity, delayed completion as well as unfruitful expenditure on incomplete roads, as discussed in the succeeding paragraphs.

3.1.2.2 Provision of earthwork in the estimates

Due to failure in taking levels, variations of more than 10 per cent of estimated quantities amounting to ₹ 25.71 crore were noticed in earth works of 68 estimates.

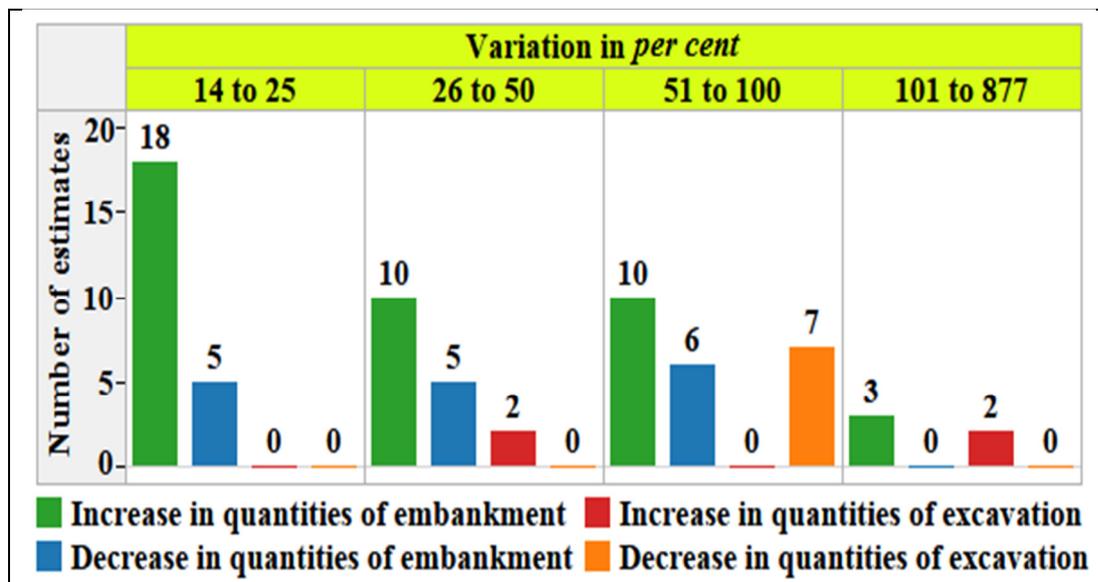
Para 12.3.1 of IRC-19 stipulates that bench-mark should be established at interval of two km and temporary bench-mark at an interval of 250 m. Further, as per para 12.4.2 of IRC-19, levels along the final centre line should be taken. This level helps the computation of quantity of earthwork.

Audit scrutiny of records revealed that bench-marks were not established and levels were also not taken for assessing the quantity of earthwork in 103 works out of 196 works (**Appendix 3.1**). Quantities of earthwork were computed in these estimates by taking average thickness from 200 mm to 600 mm. Levels were mentioned in remaining 93 estimates, however, supporting records for survey to ascertain the levels were not available in Divisions.

Due to failure to take levels as well as erroneous consideration of levels, the computation of quantity of earthwork was not correctly provisioned in the original estimate. The variation of more than 10 per cent of the estimated quantities (increased or decreased) amounting to ₹ 25.71 crore were noticed during execution of excavation and embankment works in 68 cases, as detailed

in **Appendix 3.2**. Of these, levels were reportedly taken in 29 estimates, whereas 39 estimates were prepared without taking levels. Further, there were wide variation (more than 50 per cent) amounting to ₹ 16.86 crore in 23 out of 68 cases. Quantities of earthwork in embankment/excavation varied in comparison to estimates ranging from 14 per cent to 877 per cent as shown in **chart 3.1.1**.

Chart 3.1.1: Range of variation in quantities of earthwork from original estimate during execution



In the exit conference (November 2016), the Principal Secretary stated that quantity of earthwork could vary even in those cases where levels were taken. Variation in the quantity of earthwork could not be avoided in existing roads, however, wide variation in quantity of earthwork should not be in new road works. He further added that reasons for variation in quantity must be recorded at the time of revised TS.

The reply is not acceptable, as levels were not taken for assessing the quantity of earthwork in 103 road works. Moreover, there was no supporting evidence for carrying out surveys to ascertain road levels in remaining 93 roads. Further, 39 roads out of 68 roads in which quantities of earthwork varied ranging from 14 per cent to 100 per cent were new roads.

3.1.2.3 Adoption of costlier item of Granular Base Course

Ministry of Road, Transport and Highways (MoRT&H) specifications for Road and Bridge Works and Schedule of Rates (SOR) of MPWD provide for two types of granular base course items, Water Bound Macadam (WBM)² and Wet Mix Macadam (WMM)³, of which WMM is costlier item. The Engineer-in-Chief (E-in-C) had instructed (December 2010) to use WMM in place of

² WBM is adopted for construction of sub-base, base and surface courses, which consists of coarse aggregate, screening material for filling voids.

³ WMM work shall consist of laying and compacting clean, crushed, graded aggregate and granular material, premixed with water, to a dense mass on a prepared sub-grade/sub -base/base.

Provision for costlier item of WMM in place of WBM, without requisite directions of Engineer-in-Chief, resulted in extra cost of ₹ 10.12 crore.

WBM in the construction/upgradation of Major District Roads (MDR)⁴. Further, the village road works under Pradhan Mantri Gram Sadak Yojana (PMGSY) in the State were being constructed with use of WBM.

Audit scrutiny revealed that in 81 estimates of village roads of 12 divisions, provisions for costlier item of WMM was made and work was executed accordingly. The provision of costlier item of WMM in place of WBM resulted in extra cost of ₹ 10.12 crore, as detailed in **Appendix 3.3**.

Further, as per PWD SOR and para 406 of MoRT&H specifications for Road and Bridge Works issued by Ministry of Road Transport and Highways, WMM shall be prepared in an approved mixing plant of suitable capacity having provision for controlled addition of water and forced/positive mixing arrangement. Audit scrutiny of records revealed that respective Divisions had not given any approval for mixing plant to be used in these 81 road works. Thus, WMM were executed in the work without ensuring use of mixing plant, which was in violation of codal provisions. Besides, it defeated the very purpose of using costlier item WMM for better quality work.

In the exit conference (November 2016), the Principal Secretary stated that orders for use of WMM in place of WBM in village roads would be issued shortly. He also stated that WMM was being executed through WMM mixing plant and no evidence was necessary as the nomenclature of item includes execution of WMM by mixing plant.

The reply is not acceptable, as the item of WMM was executed on village roads without requisite directions of E-in-C. Moreover, all the village roads in the State under PMGSY were constructed with WBM. Further, the evidence for use of mixing plant was required to be kept by the Department in the form of approval for WMM mixing plant by Engineer-in-Charge as stipulated in the SOR and para 406 of MoRT&H specifications for Road and Bridge Works.

3.1.2.4 Provision for forest land and private land acquisition in the estimate

Twenty six road works were delayed from 2 months to 79 months due to delay in acquisition of forest and private land besides an amount of ₹ 9.16 crore was incurred in acquisition of private land and settlement for forest land, which was not provisioned in estimate.

As per appendix 1.25 (vi) of MPWD manual, it is the duty of Executive Engineer (EE) to work out the requirement of land for work, quarries and draw up programme for land acquisition/land transfer with a view to ensure transfer of required land before target date set for starting of works. Further, as per para 17.3.2 of the IRC-19, the general abstract of work should also include cost of land and compensatory afforestation.

Audit scrutiny revealed that the existence of forest land and private land in the road way was not taken into consideration at the time of preparation of 27 estimates in 10 divisions (**Appendix 3.4**). The works were awarded without ensuring availability of land. The Department belatedly initiated proposal for obtaining the permission from Forest Department and the process for land acquisition. As a result, only one road work was completed on time, 11 road works were completed with delays ranging from 2 months to 79 months. Further, 15 road works on which ₹ 66.86 crore had already been incurred, remained incomplete (June 2016) even after lapse of 21 months to 68 months

⁴ These are important roads within a district serving areas of production and markets and connecting these with each other or with the main highways.

due to delay in obtaining forest clearance and acquisition of land. Out of these 27 cases, an amount of ₹ 9.16 crore was incurred in acquisition of private land and settlement for forest land in five works, which was not provisioned in the estimate. Instances are given below:-

- Construction of Rewa Sirmour road to Gargin Tola-Tiwariyan Tola to Rajgarh road of Rewa district on new alignment was awarded (February 2013) at an estimated cost of ₹ 4.95 crore with stipulation to complete the work by October 2013. Provision for acquisition of 1.8 hectare (ha) of land for ₹ 10.56 lakh was made in the estimate on tentative basis. During execution, the Department noticed that actual land required was 2.726 ha for which the Revenue Department demanded ₹ 81.03 lakh.

The Department deposited the amount of ₹ 81.03 lakh in two installments (August 2015 and March 2016) for acquisition of land. The land was not transferred (March 2016) to the Department. Meanwhile, the EE intimated that the contractor was not willing to continue as land was not acquired. The Chief Engineer (CE) foreclosed (January 2016) the incomplete work.



A view of incomplete segment at km 6/6 and 6/4 of Rewa Sirmour road to Gargin Tola- Rajgarh road of Rewa district as on December 2016 due to non-acquisition of private land

Audit scrutiny of records revealed that the delay in the road work was due to failure of Department in timely acquisition of land for 1,768 m of road length consisting of four segments⁵ ranging from 150 metre to 1,260 metre. Since these road lengths were not terminating reaches of the road and they lie in between the different segments of the road, the very purpose of providing connectivity to the villagers had been defeated. Thus, due to tentative provision of land acquisition in the estimate, the construction of road was delayed by more than 25 months even after incurring expenditure of ₹ 2.68 crore.

The EE accepted (April 2016) the fact and stated that part of road length was not constructed due to non-acquisition of land.

⁵ Road work on Ch 1,768 m (Ch 825 m to Ch 975 m = Ch 150 m, Ch 1,325 m to Ch 1,475 m = Ch 150 m, Ch 5,200 m to Ch 6,460 m = Ch 1,260 m and Ch 9,142 m to Ch 9,350 m = Ch 208 m i.e. total Ch 1,768 m)

- Construction of 45.40 km long Anarad to Nihal Devi road of Guna district on new alignment was awarded in February 2010 at an estimated cost of ₹ 23.52 crore. Audit scrutiny revealed that 21 km road length was passing through forest area. Land for construction of road was required in the width of 11.70 metre. However, the EE incorrectly proposed (November 2008) for permission of forest clearance for the road specifying the width of 4.5 meter.

The Forest Department granted (January 2009) permission to construct the road specifying the width 4.5 m. However, CE accorded (November 2009) technical sanction of the estimate considering formation width of 11.70 metre by ignoring the fact that Forest Department granted permission for road width of 4.5 metre. The work was awarded (February 2010) to complete within 22 months. While the work was being executed, the Forest Department cancelled (June 2010) the permission on the ground of utilising forest land in excess of that was sanctioned.

Consequently, the Superintendent Engineer (SE), Guna requested (July 2010) to Conservator of Forests (CF), Guna for granting supplementary permission for construction of road with width of 12 metre. The CF, Guna conveyed (May 2012) to EE about the permission for construction of road granted by Ministry of Environment and Forest (MoEF) with the condition to deposit a sum of ₹ 6.16 crore on account of compensatory afforestation which was paid by the Department in September 2013. Besides, the contractor was paid (December 2011) for the up to date value of work amounting to ₹ 4.29 crore. The contract was terminated (November 2014) by the CE on the plea that there was delay in getting permission from Forest Department.



A view of incomplete work at km chainage 1,200 and 2,100 of Anarad to Nihaldevi road as on January 2017 due to delay in proposal for acquisition of forest land

Thus, the work remained incomplete for more than five years due to incorrect estimation of width for forest clearance resulting in unfruitful expenditure of ₹ 10.45 crore. Besides, partial constructed layers of road were prone to damage being unprotected.

The EE, Guna stated (March 2016) in its reply that initially permission was granted by Forest Department for width of 4.5 m before preparation of

estimate. He further, stated that the Department again applied permission for construction of road in 11.75 m width which was later permitted by Forest Department hence delay was not on the part of Department. The reply of the Government was awaited (January 2017).

The reply of EE Guna is not acceptable, as Forest Department initially granted permission for construction of road in 4.5 m width but the estimate was sanctioned for 11.75 m width. Further, the permission for 11.75 m width should have been obtained prior to award of work, which was not done.

3.1.2.5 *Inadequate provision of utility shifting in the estimate*

Inadequate provisions of utility shifting resulted in delay and increase the cost of road works.

As per para 17.3.2 of the IRC-19, the general abstract of cost should also include the cost of shifting utilities like electric lines, telephone poles, underground cables, gas lines, sewers, water pipes and cost of removal of trees. The cost of utility shifting should be included in the estimate after obtaining TS from the concerned Department.

Audit scrutiny revealed that, in 10 estimates of six divisions (**Appendix 3.4**), the provision of utility shifting viz., shifting of electric poles and water pipe lines, rising of electric lines, etc. was either not provisioned in the estimate or provisioned on assumption basis without detailed analysis of cost to be incurred on these utility shifting. Consequently, four road works were completed with delays up to 10 months. Other four road works on which ₹ 28.96 crore was already incurred were incomplete (June 2016) even after lapse of 11 months to 27 months. Reason behind the delay in road works was processing of utility shifting commenced during the execution of road works which should have been started before award of work. Besides, cost of work increased by ₹ 7.14 crore. Instances are given below:

- Widening work of NH-7 from km 229/8 to km 231/6 and km 239/4 to km 243/2 of Rewa district estimated to cost ₹ 11.46 crore was awarded in September 2013. Audit scrutiny of estimate revealed that a lump sum provision of ₹ 15.74 lakh for utility shifting of water pipe lines and hand pumps was made in original estimate. During execution, it was increased to ₹ 49.95 lakh in the revised estimate. Further, electric pole shifting with street light arrangement amounting to ₹ 4.12 crore was not provisioned in the original estimate, which was included in the revised estimate. Thus, insufficient provision of utility shifting in the original estimate resulted in increase in the cost of work amounting to ₹ 4.46 crore, besides the work was yet to be completed even after delay of 24 months.
- Strengthening and widening of Nipaniya Tamara road of Rewa district costing ₹ 8.44 crore was awarded in September 2013. Audit scrutiny revealed that provision of utility shifting amounting to ₹ 80 lakh was made in the original estimate in lump sum without any details of utility shifting. During execution, the cost of utility shifting was revised again in the revised estimate in lump sum to ₹ 2.48 crore. Audit scrutiny revealed that the provision for utility shifting were made in the original as well as revised estimate without obtaining TS from Madhya Pradesh State Electricity Board (MPSEB) for pole shifting and from Nagar Nigam for shifting of water pipelines. The inadequate provision of utility shifting in the estimate resulted increase in the cost of works by ₹ 1.68 crore.

In the exit conference, the Principal Secretary stated (November 2016) that estimate for shifting of poles, water pipe lines etc. are made in lump sum for obtaining TS to avoid delay in construction of road works, as it may take time to approve it through concerned Department.

The fact remains that the works were delayed due to insufficient provision for utility shifting in the estimate. Besides, the cost of work was increased due to inadequate provision for utility shifting without the technical sanction of concerned Departments.

3.1.2.6 *Items of road furniture not included in the estimate*

Items of road furniture amounting to ₹ 65.71 lakh were provisioned in the 29 estimates but they were not executed which affects safe driving.

As per annexure of IRC-67 and SOR, road furniture items viz. kilo metre stones, retro-reflectorised and direction and place identification sign boards are to be placed on the roads. IRC-67 stipulated for fixing of traffic signs that have the backing of law in India and incorporated in section 116 of Indian Motor Vehicles Act, 1988.

Audit scrutiny of records revealed that, in eight estimates of six divisions⁶, provision for road furniture items (kilo metre stones, retro-reflectorised and direction and place identification sign boards) was not made in the original estimates and were included in the revised estimates. This resulted in increase in the cost of work amounting to ₹ 1.39 crore (**Appendix 3.5**).

Audit scrutiny of 29 estimates of eight divisions (**Appendix 3.5**) revealed that though items of road furniture amounting to ₹ 65.71 lakh were provisioned in the estimates but they were not executed. The failure to place the road furniture was in violation of the related codal provisions, which may also adversely affect safe driving.

In the exit conference (November 2016), the Principal Secretary agreed with audit observation and stated that signage was essential for safe driving and necessary instructions would be issued in this regard.

3.1.3 Preparation of estimates

3.1.3.1 *Crust design of flexible pavement*

According to the IRC-37⁷ specifications for design of flexible pavements, the crust (thickness) as well as type of bituminous course is designed on the basis of California Bearing Ratio (CBR)⁸ of sub-grade⁹ and design traffic in terms of million standard axle (msa)¹⁰, which in turn is determined on the basis of commercial vehicles per day (CVPD), vehicle damage factor (VDF¹¹), design life and lane distribution factor (LDF). The IRC specifications further provides that wherever the designed traffic is one msa and the CBR of sub-grade is up to 10 *per cent*, provision of only 20 mm open graded premix carpet (OGPC) with seal coat should be provided as a bituminous wearing course. Provision of Bituminous Macadam (BM) and Semi Dense Bituminous Concrete (SDBC)

⁶ Indore, Neemuch, Rewa, Sagar, Satna and Vidisha

⁷ Guidelines for the design of flexible pavements

⁸ CBR denotes strength of soil.

⁹ Sub-grade is top 30 cm to 50 cm layer of earthwork in roads

¹⁰ MSA denotes load of traffic on road.

¹¹ VDF is a multiplier to convert the number of commercial vehicles of different axle loads to the number of standard axle load repetitions.

is required when the cumulative traffic arrives to 5 msa on the basis of traffic survey.

Audit scrutiny revealed the cases of irregularities in crust design, the instances are given below:

(i) Provision of richer specification in the estimate without ensuring its necessity

Audit scrutiny of records revealed that, in 29 estimates of 12 divisions, traffic census essential for design traffic were not conducted and design of crust were not computed. In 15 estimates¹² where traffic census was not carried out and crust was also not designed, the Department adopted OGPC and seal coat. However, in 14 estimates¹³, the Department granted the TS adopting richer specifications of bituminous course consisting of BM/dense bituminous macadam (DBM) and SDBC. Audit could not vouch as to whether richer specifications was essential for these works in the absence of traffic census. Thus, due to provision and execution of richer specification without a proper justification to ensure its necessity, cost of work increased by ₹ 10.91 crore (**Appendix 3.6**).

In the exit conference (November 2016), the Principal Secretary agreed with audit observation about provision of richer specifications and stated that specifications should be followed and necessary instructions in this regard would be issued shortly.

(ii) Incorrect computation of design traffic for crust

As per para 3.3.4.4 of IRC-37, the indicative value of VDF for determination of design traffic should be 1.5 for 0-150 CVPD and 3.5 for 150-1500 CVPD. The CVPD should be taken as per actual traffic census.

Audit scrutiny in 11 out of 13 estimates of eight divisions revealed that the Department incorrectly computed the design traffic of the roads due to wrong considerations of the CVPD and VDF as detailed in **Appendix 3.7**. In other two estimates¹⁴, value of all the parameters required for computation of design traffic were taken correctly but provision for crust was incorrectly adopted due to erroneous arithmetic calculation. Consequently, Department adopted richer specifications of bituminous course of BM and SDBC in three estimates¹⁵ resulting in extra cost of ₹ 2.98 crore. In remaining 10 estimates¹⁶, the substandard specification of bituminous and wearing courses (**Appendix 3.7**) were adopted, which may lead to requirement of restoration of pavement in future at considerable extra cost.

In the exit conference (November 2016), the Principal Secretary agreed with audit observation regarding incorrect computation of crust design and stated

Provision and execution of richer specifications in 14 cases without conducting traffic survey resulted in extra cost of ₹ 10.91 crore.

Incorrect computation of design traffic for crust in three cases resulted in extra cost of ₹ 2.98 crore besides execution of below standard work in 10 cases.

¹² All are village roads.

¹³ Seven MDR and seven village roads

¹⁴ Beka-Raskundiya-Kulthana Road (Indore division) and Karariya – Shamshabad road (Vidisha)

¹⁵ One MDR and two village roads. Cost was increased in one estimate due to incorrect mathematical calculation and in other two cases due to adoption of incorrect parameters of traffic design.

¹⁶ Two MDR and eight village roads

that specification should be followed and necessary instructions in this regard would be issued shortly.

(iii) Incorrect adoption of crust composition

Due to incorrect adoption of crust composition, cost of work in 20 cases increased by ₹ 21.30 crore.

Audit scrutiny of 36 estimates in 11 divisions revealed that the design traffics were worked out correctly in terms of msa, but the Department had not adopted bituminous course as well as wearing course as prescribed in IRC-37 for respective msa and CBR of sub-soil. Contrary to the provision of IRC-37, in 20 estimates¹⁷ of nine divisions, the Department adopted richer specifications of base course of DBM/BM and wearing course of BC/SDBC in place of BM, OGPC and seal coat. Adoption of richer specifications in estimates resulted in avoidable extra expenditure of ₹ 21.30 crore, as detailed in **Appendix 3.8**.

In 16 estimates¹⁸ of six divisions, the Department adopted substandard specifications of bituminous base and wearing course of BM, OGPC plus seal coat instead of DBM, SDBC/BC due to incorrect adoption of crust composition (**Appendix 3.9**) which increased the possibility of premature failure of the crust.

In the exit conference (November 2016), the Principal Secretary agreed with audit observation regarding incorrect adoption of specification and stated that specifications should be followed and necessary instructions in this regard would be issued shortly.

3.1.3.2 Provision and execution of excess thickness of granular sub-base in crust

GSB executed in excess thickness in 12 road works resulted in extra cost of ₹ 1.86 crore.

According to the IRC-37 specifications, thickness of granular sub-base (GSB) in the crust of road is determined on the basis of design traffic in terms of msa and CBR of sub-grade. For five *per cent* CBR of sub-grade and design traffic of one, two, three, and five msa, GSB should be provided in the thickness of 205 mm, 215mm, 230 mm and 250 mm respectively.

Audit scrutiny of 12 estimates of six divisions revealed that crust of the roads was designed for one msa and two msa and five *per cent* CBR of sub-grade. However, contrary to the provisions of IRC-37, the Department provisioned and executed GSB in the thickness of 250 mm to 300 mm for one msa in six works and 250 mm for two msa in another six cases. Adoption of excess thickness of GSB resulted in extra expenditure of ₹ 1.86 crore as detailed in **Appendix 3.10**.

In the exit conference (November 2016), the Principal Secretary agreed with audit observation and stated that matter would be examined.

¹⁷ Six MDR and 14 village roads

¹⁸ Three MDR and 13 village roads

3.1.3.3 Provision and execution of hard shoulder in lesser thickness

In 39 estimates, expenditure of ₹ 16.79 crore became unfruitful as drainage layer was covered with embankment soil.

Para 407.1 of MORT&H specification and SOR stipulates that shoulder¹⁹ should be constructed on either side of the pavement over the drainage layer. Para 5.3 of IRC-34 stipulated that a capillary cut-off (drainage layer) could be provided to arrest the capillary rise of sub-soil water. Further, as per para 5.3 of IRC-37, care should be exercised to ensure that expose ends of drainage layer do not get covered by the embankment soil.

Audit scrutiny in 39 estimates of six divisions revealed that the Department provided 100 mm to 150 mm drainage layer having CBR more than 20 per cent over the embankment soil (CBR > 5 per cent) on the entire formation width²⁰ of road in order to arrest the capillary rise and drain-off sub-soil water. The crust (pavement) was further constructed over the drainage layer in the thickness of 300 mm to 525 mm. As per requirement of specifications, the Department should have provisioned hard shoulders (soil having CBR >12 per cent) on either side of the pavement in full thickness of crust over drainage layer. In contravention of this, hard shoulder was only provided in the thickness of 100 mm to 325 mm and embankment soil (having CBR > 5 per cent) was provided in between the hard shoulder and drainage layer.

Besides, audit scrutiny also revealed in two estimates that though the drainage layer was provided in the entire formation width of road, shoulders were constructed with embankment soil having CBR of five per cent instead of hard shoulder having CBR > 12 per cent in the entire thickness of the crust.

Thus, the objective of provision and execution of drainage layer in 39 road works was not fulfilled as embankment soil over drainage layer was susceptible to choke the drainage layer and resulted in unfruitful expenditure on drainage layer of ₹ 16.79 crore as detailed in **Appendix 3.11**.

In the exit conference (November 2016), the Principal Secretary agreed that embankment soil should not be provided over drainage layer and further stated that instructions had been issued for construction of hard shoulder in full thickness.

3.1.4 Execution of road works

3.1.4.1 Provision of cross drainage on inadequate data

Due to provision of CDs without survey and investigation in 96 road works, number, type and location of CDs deviated from estimates.

Para 16.1 of IRC-19 stipulated that surveys and investigations was to be essentially carried out for selection of site and collection of data for design of cross drainage (CD) structures. Hydrological, physical and foundation data published by various authorities were required to be collected. In addition, site inspection with local enquiry and a study of nearby road structures on the same stream in the vicinity was to be conducted for collecting information about high flood level (HFL), tendency to scour and the maximum discharge.

¹⁹ The SOR includes two type of shoulders, namely earthen shoulder/embankment soil with soil having >5 per cent CBR and hard shoulder with soil having >12 per cent CBR.

²⁰ For pavement 3.75 formation width should be 9.3 m.

Audit scrutiny of 196 estimates of 12 divisions revealed that hydrological, physical and foundation data was not collected from Irrigation, Hydro-metrology and Geological Department. Further, local enquiry and study of nearby road structures on the same stream in the vicinity were also not conducted. Consequently, in 96 estimates of 12 divisions, data used for estimation of CDs, like catchment area, discharge of water and HFL, were not accurate, which resulted in deviation in type, location and number of CDs.

The number of CDs proposed in the estimate increased from 1 to 26 in 27 estimates and decreased by 1 to 32 in 62 estimates. In seven estimates, the number of CDs executed was same as estimated, but type and location of CDs were changed. Due to these deviations in the number and type of CDs, the cost of work increased by ₹ 8.84 crore in 29 works and decreased by ₹ 23.72 crore in 65 works.

The EE, Balaghat and Damoh stated in its reply that estimates were prepared in very short time, so it was not possible to conduct detailed survey. After sanction of the estimates of roads and before starting of the works, detailed survey was conducted and catchment area was calculated. So there was a difference in location of CDs. The other EEs stated that the work of CDs had been executed as per site condition.

In the exit conference (November 2016), the Principal Secretary stated that reasons for wide deviation in the number and type of CDs should be recorded in the revised estimate and necessary instructions would be issued shortly.

The reply is not acceptable, as technical sanctions were granted without ensuring essential survey and investigation for collection of requisite data to ascertain requirement of CD works.

3.1.4.2 Deviation in road length

The survey and investigation of the road works should be carried out in such a manner that all aspects of items for execution may be identified. The quantity and adequacy should be decided at the time of survey and investigation to avoid any major deviation at the time of the execution. During preparation of estimate, it should be ensured that land was available without any encroachment and also it was not under the jurisdiction of any other agency/authority.

Scrutiny of estimates of 30 bituminous road works in 10 divisions (**Appendix 3.12**) revealed that there was wide variation in total length of road executed with reference to road length proposed in estimates. Length of roads increased up to three km in six roads and decreased up to 10.5 km in 24 roads in comparison to estimated length. Deviation in road lengths was due to various reasons, viz. change in alignment, permission not granted by Forest Department, road transferred to Panchayats and Madhya Pradesh Rural Roads Development Authority (MPRRDA), etc.

Thus, road length was taken in estimates without assessing availability of land and adequate consultation with *Panchayat* and MPRRDA. As a result, cost of work increased by ₹ 2.72 crore in six cases and decreased by ₹ 29.01 crore in 24 cases.

Road lengths were included in estimates without assessing actual site requirements leading to increase in the cost by ₹ 2.72 crore in six roads and decrease by ₹ 29.01 crore in 24 roads.

The length of cement concrete (CC) road in 20 works was increased from 100 m to 2,130 m and decreased in 10 works from 100 m to 1,700 m in comparison to length proposed in approved estimates. The cost of road works were consequently increased by ₹ 8.91 crore in 20 works and decreased by ₹ 4.91 crore in 10 works (**Appendix 3.13**). Length of CC roads were increased on the ground of water logged area in village portion and decreased due to road length found already constructed.

In the exit conference (November 2016), the Principal Secretary stated that deviation in road length was due to roads transferred to MPRRDA, Panchayat and public demand during execution.

The reply was not acceptable as the information regarding roads under other organisation/Department was required to be obtained during preparation of estimate.

3.1.5 Conclusions

- The Department did not adhere to MPWD manual and IRC codes in preparation of road estimates. The estimates were prepared without pre-requisite activities, such as feasibility study, detailed survey and investigation, traffic survey. As a result, there were large deviations from estimates at the time of execution.
- Quantities of earthwork were provisioned in the estimates by taking average thickness without taking actual ground levels. Due to failure in taking levels and erroneous consideration of levels, quantities of earthwork were not provisioned correctly in the estimates resulting in variation (more than 10 per cent) of ₹ 25.71 crore in 68 road works.
- Road works were awarded without ensuring adequate provision in the estimates for acquisition of forest and private lands. Cost of utility shifting was provisioned on assumption basis without obtaining technical sanction from concerned Departments. These resulted in subsequent increase in cost of road works, delays in completion of works and incomplete roads awaiting land acquisition and utility shifting.
- Provision of richer specifications was made without ensuring its necessity, design traffic of road crust was incorrectly computed and crust composition was also erroneously adopted resulting in extra cost and possibility of premature failure of crust.
- Cross drainage and length of road was provisioned without detailed survey resulting in wide variation in type, number and location of cross drainage and deviation in length of road during execution.

3.1.6 Recommendations

- The Government should ensure that technical sanctions are granted after conducting surveys and investigation in accordance with the codal provisions.
- The Government should ensure that actual costs of utility shifting and acquisition of private and forest lands are obtained from concerned Departments while preparing estimates.

- The Government should ensure that accountability is fixed for computation mistakes and erroneous adoption of specification for designing of road crust with richer as well as substandard specifications.
- The Government should ensure adequate consultation with Panchayat, MPRRDA and other Government agencies before preparation of estimates for assessing the required length of road and type, number and location of cross drainage.

Farmer Welfare and Agriculture Development Department

3.2 Audit on Crop Insurance Scheme

Executive summary

National Agricultural Insurance Scheme (NAIS) was launched by Government of India (GoI) from Rabi 1999-2000 season to mitigate the financial loss suffered by farmers due to crop failure on account of natural calamities, pests and diseases. Agriculture Insurance Company of India Limited (AIC) was the implementing agency of the scheme. Government of Madhya Pradesh (GoMP) had opted for the NAIS since 1999-2000.

State Government was responsible to issue notification annually for crops and areas (*Patwari Halkas*) covered for insurance benefits. The farmers availing Seasonal Agriculture Operations (SAO) loans (i.e., loanee farmers) from Financial Institutions (FIs) for notified crops under notified areas had to mandatorily join NAIS. The scheme was optional for the farmers not availing SAO loans (i.e., non-loanee farmers). The claims were automatically calculated on shortfall in the current season yield obtained from crop cutting experiments conducted by State Government as compared to threshold yield and settled through FIs.

The audit of implementation of NAIS in the State during the period from *Rabi* season 2010-11 to *Kharif* season 2015 revealed the followings: -

- The coverage of farmers under NAIS during *Rabi* 2010-11 to *Kharif* 2015 ranged between 14.58 *per cent* and 33.80 *per cent* of the total number of 88.72 lakh farmers in the State. The coverage of area under NAIS ranged between 17.84 *per cent* and 40.93 *per cent* of cultivated area in the State. The increase of coverage was only due to compulsory insurance of loanee farmers, as only 2,841 non-loanee farmers were covered under the scheme during *Rabi* 2010-11 to *Kharif* 2015. The inadequate coverage of farmers under the scheme adversely affected the objectives of NAIS to help stabilise farm income, particular in disaster years.

(Paragraph 3.2.2.1)

- State Government failed to timely notify crop-wise area to be covered under the scheme and the delays in notification ranged up to eight months. Farmers of 120 *Patwari Halkas* were deprived of the benefits under the scheme due to delay in issuing notifications for these areas after cut off dates for receipt of declaration by insurance agency.

(Paragraph 3.2.2.2)

- As a result of failure of Superintendent Land Records and Deputy Directors of Agriculture in providing the results of crop cutting experiments, AIC could not calculate the insurance claim of farmers in 6,702 *Patwari Halkas*.

(Paragraph 3.2.2.3)

- In Actuarial regime, Agriculture Insurance Company would bear insurance claims of the farmers by increasing the insurance charges ascertained by its statistical experts. However, it was not implemented even after five years of introduction of NAIS in the State. This resulted in extra financial burden of ₹ 692.92 crore to the State Government during *Rabi*

2010-11 to *Kharif* 2015.

(Paragraph 3.2.2.4)

- AIC did not utilise corpus fund of ₹ 18.03 crore set up for financing during the conditions of catastrophe. The fund was yet to be refunded to State Government in view of no provision for corpus fund under the new scheme '*Pradhan Mantri Fasal Bima Yojna*'.

(Paragraph 3.2.2.5)

- There were delays in disbursement of insurance claims to farmers ranging from one month to over two years during *Rabi* 2010-11 to *Kharif* 2015. During beneficiary survey of 256 farmers in five districts, 16 per cent of the farmers stated that they could not repay their loans in due time due to delay in receipt of claims and hence, were debarred for loans in next season. Thus, delay in disbursement of claims resulted in hardship to claimants.

(Paragraph 3.2.2.9)

- Due to failure of financial institutions to adhere to the limits specified for providing finances to the farmers, insurance claim submitted by farmers was increased by ₹ 101.07 crore. This caused extra financial burden to the Government.

(Paragraph 3.2.2.10)

- During *Kharif* 2013, insured areas were more than the sown areas of notified crops by 9.06 lakh hectare in 3,362 *Patwari Halkas* of 42 districts. The Department attributed it to obtaining more than one *Kisan Credit Card* by farmers.

(Paragraph 3.2.2.12)

3.2.1 Introduction

Agriculture is a high risk venture due to natural disasters, pest attack and plant diseases which severely affects the farmers through loss in production and farm income. In order to mitigate the financial losses suffered by the farmers due to damage and destruction of their crops, Government of India (GoI) launched National Agricultural Insurance Scheme (NAIS) in 1999. Agriculture Insurance Company of India Limited (AIC) was appointed as implementing agency for the scheme.

Government of Madhya Pradesh (GoMP) had opted for the NAIS since 1999-2000. State Government was responsible to issue notification annually for crops and areas (*Patwari Halkas*) covered for insurance benefits. The farmers availing Seasonal Agriculture Operations (SAO) loans (i.e., loanee farmers) from Financial Institutions²¹ (FIs) for notified crops under notified areas had to mandatorily join NAIS. FIs send premium to AIC for loanee farmers by sanctioning additional loan for premium.

The scheme was optional for the farmers not availing SAO loans (i.e., non-loanee farmers). In respect of such farmers, the entire amount of premium would be deposited by the farmers with FI, which would consolidate the proposals and forward the same to AIC.

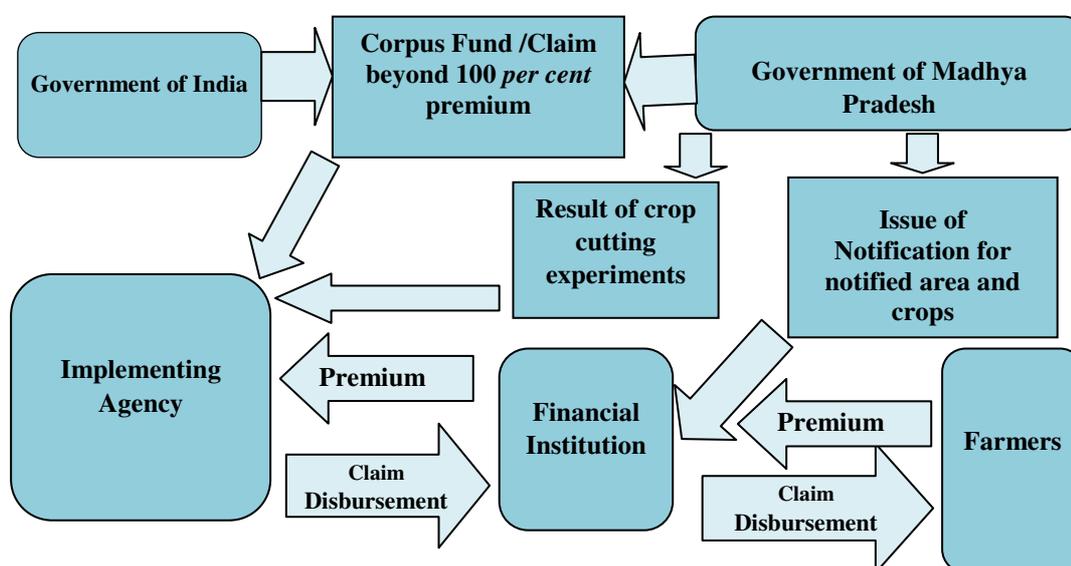
²¹ Primary Agricultural Cooperative Societies (PACS), Co-operative Banks, Nationalised Banks etc.

The claims were automatically calculated on shortfall in the current season yield obtained from crop cutting experiments conducted by State Government as compared to threshold yield and settled through FIs. In case, insurance claim was determined above 100 *per cent* of premium level, AIC demands for share of GoI and GoMP on 50:50 basis. To meet catastrophic losses, a corpus fund was also to be created by the equal contribution of GoI and GoMP.

The Farmer Welfare and Agriculture Development Department (FWADD), was the nodal Department to implement the scheme in the State. For monitoring the scheme, the Department had set up a State level co-ordination committee headed by Agriculture Production Commissioner and District level monitoring committees headed by the District Collector.

The role and responsibilities of various agencies i.e. GoI, GoMP, FIs and AIC are defined by flow chart.

Flow chart: The activity flow chart



3.2.1.1 Other Agricultural Insurance Schemes

GoI launched (September 2010) a Modified National Agricultural Insurance Scheme (MNAIS) in selected districts on pilot basis. The MNAIS was introduced in the three districts (Datia, Gwalior, Sheopur) of the State from Rabi 2010-11 and remaining 48 districts continued to be covered under NAIS.

The *Pradhan Mantri Fasal Bima Yojna* (PMFBY) replaced the existing two schemes (NAIS and MNAIS) from April 2016. Under this scheme, the farmers will have to pay a premium of two *per cent* of the sum insured for *Kharif* crops and one and a half *per cent* for *Rabi* crops in place of 2.5 *per cent* and 3.5 *per cent* for different *kharif* crops and 1.5 *per cent* and two *per cent* for different *Rabi* crops in the NAIS. PMFBY provides for coverage of post-harvest losses and sowing/planting risks due to adverse seasonal conditions, which were not covered in NAIS.

PMFBY and NAIS have many similar features like issuance of notifications by the State Government, roles of FIs, ascertaining yield data based on Crop

Cutting Experiments (CCEs), method of claim determination, publicity of the scheme by IA, monitoring of the scheme by State level and District level Committees, etc.

3.2.1.2 Scope of Audit

The activities/transactions relating to NAIS during the period from *Rabi* season 2010-11 to *Kharif* season 2015 were covered in the audit. The audit was conducted to assess whether duties and responsibilities entrusted to the GoMP under NAIS were fulfilled, claims for insurance were finalised accurately and disbursed timely to farmers.

Sixteen districts²² offices out of 48 NAIS covered districts (33 per cent) were selected for test check on the basis of Stratified Simple Random Selection (SSRS). Information were also collected from Directorate of Farmer Welfare and Agriculture Development, AIC, FIs and Revenue Department of districts. Beneficiaries Survey was conducted in five districts²³ to ascertain whether bonafide farmers were duly benefited under the scheme.

An entry conference was held with the Principal Secretary, FWADD on 24 February 2016 to discuss the audit objectives, audit criteria, scope and methodologies of audit. The audit findings were discussed in the exit conference held on 8 November 2016 with the Principal Secretary, FWADD. The replies of Government have been suitably incorporated in the report.

Audit findings

3.2.2.1 Inadequate coverage of farmers, areas and crops

As per agriculture census conducted in 2011, the State had cultivated area of 158.36 lakh hectare (ha) and the total number of farmers in the State was 88.72 lakh. The details regarding farmers covered, premium received and corresponding claims disbursed under the scheme during the period *Rabi* 2010-11 to *Rabi* 2014-15 and *Kharif* 2011 to *Kharif* 2015 are shown in **table 3.2.1(A)** and **3.2.1(B)** respectively.

Table 3.2.1 (A): Farmers covered, premium received by AIC and claims disbursed during *Rabi* 2010-11 to *Rabi* 2014-15

(₹ in crore)

Crop season	Number of farmers covered	Number of farmers compensated	Extent of farmers covered to farmers compensated (in per cent)	Amount of premium received by AIC	Amount of claims disbursed	Extent of claim to premium (in per cent)	Contributions in disbursed claims		
							AIC	GoMP	GoI
<i>Rabi</i> 2010-11	12,92,609	5,28,937	40.92	46.17	270.21	585.25	42.15	114.03	114.03
<i>Rabi</i> 2011-12	13,62,148	1,20,187	8.82	52.08	58.53	112.37	50.07	4.23	4.23
<i>Rabi</i> 2012-13	19,86,175	3,59,559	18.10	96.95	316.82	326.80	94.32	111.25	111.25
<i>Rabi</i> 2013-14	23,63,917	5,39,912	22.84	121.14	373.76	308.54	121.04	126.36	126.36
<i>Rabi</i> 2014-15	25,36,588	1,98,902	7.84	140.93	150.84	107.03	140.93	4.955	4.955
Total	95,41,437	17,47,497		457.27	1,170.16		448.51	360.825	360.825

(Source: Information provided by AIC through Director, FWADD)

²² Betul, Hoshangabad, Jhabua, Katni, Mandsaur, Morena, Narsinghpur, Neemuch, Raisen, Rajgarh, Sagar, Satna, Shahjapur, Shivpuri, Tikamgarh and Vidisha.

²³ Betul, Hoshangabad, Narsinghpur, Sagar and Tikamgarh

Table 3.2.1 (B): Farmers covered, area covered, premium received by AIC and claims paid during *Kharif* 2011 to *Kharif* 2014

(₹ in crore)

Crop season	Number of farmers covered	Number of farmers compensated	Extent of farmers covered to farmers compensated (in per cent)	Amount of premium received by AIC	Amount of claims disbursed	Extent of claim to premium (in per cent)	Contributions in disbursed claims		
							AIC	GoMP	GoI
<i>Kharif</i> 2011	15,29,272	1,43,892	9.41	130.38	250.56	192.18	121.03	64.766	64.766
<i>Kharif</i> 2012	20,32,541	74,358	3.66	207.79	75.08	36.13	75.08	0.000	0.000
<i>Kharif</i> 2013	23,37,003	14,20,662	60.79	277.75	2,187.43	787.55	263.00	962.216	962.216
<i>Kharif</i> 2014	24,54,306	4,25,136	17.32	319.05	541.99	169.88	306.77	117.610	117.610
<i>Kharif</i> 2015	29,98,497	20,46,638	68.26	400.14	4,416.85	1,103.83	360.95	2,027.95	2,027.95
Total	1,13,51,619	41,10,686		1,335.11	7,471.91		1,126.83	3,172.542	3,172.542

(Source: Information provided by AIC through Director, FWADD)

Thus, the coverage of farmers under NAIS during *Rabi* 2010-11 to *Kharif* 2015 ranged between 14.58 per cent and 33.80 per cent of total number of farmers in the State. Further scrutiny revealed that only 2,841 non-loanee farmers were covered under the scheme during *Rabi* 2010-11 to *Kharif* 2015, as detailed in **Appendix 3.14**.

The coverage of area under NAIS during this period was also low, which ranged between 17.84 per cent and 40.93 per cent, as detailed in **table 3.2.2**.

Table 3.2.2: Coverage of Areas

Crop Season	Total cultivated area (in ha)	Area covered (in ha)	Extent of area covered to total cultivated (in per cent)
<i>Rabi</i> 2010-11	1,58,35,877	28,24,721.00	17.84
<i>Kharif</i> 2011	1,58,35,877	34,24,053.00	21.62
<i>Rabi</i> 2011-12	1,58,35,877	29,40,873.00	18.57
<i>Kharif</i> 2012	1,58,35,877	47,06,529.00	29.72
<i>Rabi</i> 2012-13	1,58,35,877	43,03,983.00	27.18
<i>Kharif</i> 2013	1,58,35,877	52,86,356.00	33.38
<i>Rabi</i> 2013-14	1,58,35,877	49,33,145.96	31.15
<i>Kharif</i> 2014	1,58,35,877	54,69,982.29	34.54
<i>Rabi</i> 2014-15	1,58,35,877	52,40,951.61	33.10
<i>Kharif</i> 2015	1,58,35,877	64,81,955.43	40.93

(Source: Agriculture Census of Department of Agriculture and Co-operation, GoI)

The reasons for less coverage of farmers and area were mainly due to lack of publicity made by the Department and AIC and delay in notification as discussed in succeeding paragraphs. Further, major crops of some districts were not notified by the GoMP. During *Kharif* 2011 to *Kharif* 2015 the sown area of *urad*²⁴ and *moong*²⁵ were 35.37 lakh hectare and 7.42 lakh ha respectively and the sown area of *lentil*²⁶ during *Rabi* 2011 to *Rabi* 2014-15 was 20.69 lakh hectare. Audit scrutiny revealed that the sown area of *urad* was 27.15 per cent to 40.80 per cent of total sown area of the districts in

²⁴ 2011: 6,01,300 ha, 2012: 6,24,000 ha, 2013: 5,85,100 ha, 2014: 8,62,000 ha, 2015: 8,65,334 ha

²⁵ 2011: 80,600 ha, 2012: 73,000 ha, 2013: 89,500 ha, 2014: 1,55,300 ha, 2015: 3,44,554 ha

²⁶ 2011-12: 5,87,100 ha, 2012-13: 5,11,000 ha, 2013-14: 5,30,080 ha, 2014-15: 4,40,867 ha

Tikamgarh and Chhattarpur during *Kharif* 2013, *Kharif* 2014 and *Kharif* 2015. However, State Government did not notify *urad*, *moong* and lentil for insurance cover under NAIS. Thus, a significant area was left out to be covered under the scheme and the farmers growing these crops were deprived of scheme coverage.

In the exit conference (November 2016), the Department stated that the coverage of non-loanee farmers had increased since *Rabi* 2015-16. With reference to failure in covering lentil, *urad* and *moong* under the scheme, the Department stated that *urad*, *moong* and lentil could not be notified due to unavailability of crop cutting experiments (CCEs) data of last 10 years.

The reply is not acceptable, as the coverage of non-loanee farmers remained abysmally low despite operation of the scheme in Madhya Pradesh since 1999. Further, State Government failed to notify major crops *urad*, *moong* and lentil for the reasons of unavailable CCEs data for 10 years whereas the scheme was being implemented since more than 15 years. Thus, less coverage of farmers (loanee and non-loanee) adversely affected the objectives of NAIS to help stabilize farm income, particular in disaster years.

3.2.2.2 *Notifications for crop wise notified area*

As per para 9 of Operational Modalities under the scheme guidelines, the GoMP would notify crop wise, notified areas and premium rates as applicable well in advance of each crop season. AIC would accept the declaration forms regarding information of farmers and premium from FIs by the cut-off date of November and May for *Kharif* and *Rabi* crops respectively.

The scheme operates on the basis of unit area approach. The unit area of insurance in the State was *Patwari Halka* for most of the food crops/oilseeds²⁷ and *tehsil* for few crops²⁸. State Government had declared in its notifications that the sown area of a particular crop in a *Patwari Halka* should be 100 ha or above. GoMP notifications stipulated cut off dates for receipt of declarations forms for *Kharif* and *Rabi* as 31 October and 30 April respectively.

- **Delay in issue of notification for crop wise notified area**

Audit scrutiny revealed that the primary data of sown area were gathered by the *Patwari*. After verification, Revenue Inspectors compiled these data at district level for submission to Commissioner, Land Records. Due to delays in collection, verification and compilation of sown areas data of previous years, State Government could not issue notification before SAO loan seasons. The notified areas were also revised several times after issue of notification.

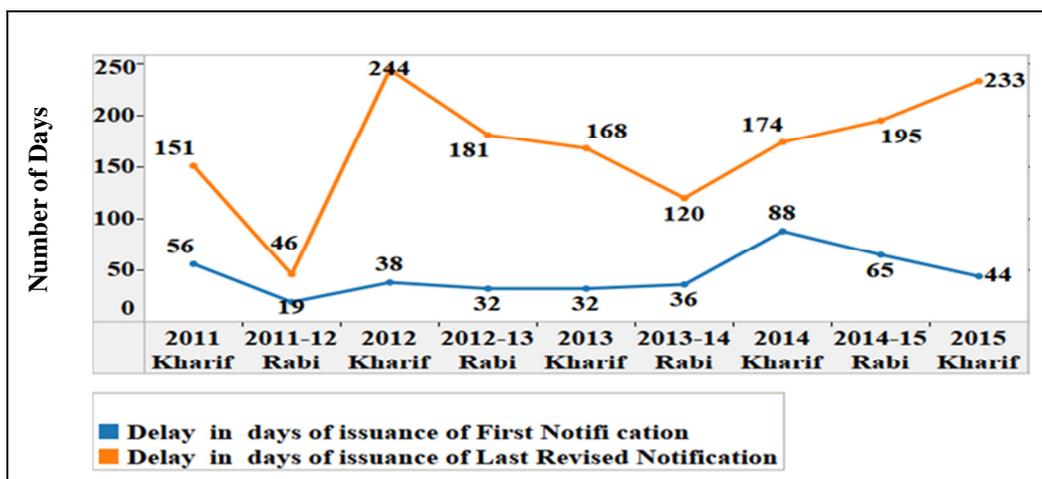
During *Kharif* 2011 to *Kharif* 2015 seasons, the notifications were delayed by 32 days to 88 days and the last revised notifications were delayed by 151 days to 244 days. In case of *Rabi* 2011-12 to *Rabi* 2014-15, the notifications were delayed by 19 days to 65 days and the last notification were issued with delays of 46 days to 195 days. The details of delay in issuance of the first notifications and the last revised notifications published by GoMP are shown in **chart 3.2.1**.

Notifications for crops and areas to be covered under the scheme were issued with delays ranging from 19 days to 244 days.

²⁷ Bajra, Gram, Maize, Paddy, Sarso, Soyabean, Tuar, Wheat.

²⁸ Alsi, Cotton, Groundnut, Jawar, Til.

Chart 3.2.1: Delays in issuance of notification for each crop season



The cut-off date for submission of declaration form by non-loanee farmers was July for *Kharif* and December for *Rabi* crops. As a result of delayed notification, non-loanee farmers were excluded from scope of crop insurance. This acts as a disincentive to the farmers as claims not entertained by AIC after cut-off date. Further, delays in issuance of notification left FIs with very short span of time to send the declaration form in respect of loanee farmers.

Audit scrutiny revealed that GoMP issued revised notifications after the cut-off dates for receipt of declaration form. AIC did not accept declaration forms and premiums for crop insurance after cut-off dates, as detailed in **table 3.2.3**.

Table 3.2.3: Instances where AIC did not accept declaration forms due to late receipt

(₹ in lakh)

Sl. No.	Crop Season	District	Name of FI	Number of Farmers	Submission declaration form		Premium Amount	Sum Insured
					Cut-off date for submission to AIC	Actual received date at AIC		
1	<i>Kharif</i> 2014	Betul	State Bank of India	611	31 October 2014	18-11-2014	10.44	298.42
2	<i>Kharif</i> 2014	Rajgarh	Bank of India	41	31 October 2014	22-11-2014	3.59	104.39
3	<i>Kharif</i> 2014	Rajgarh	Bank of India	100	31 October 2014	22-11-2014	1.68	47.90
4	<i>Kharif</i> 2014	Rajgarh	Punjab National Bank	320	31 October 2014	01-01-2015	9.96	290.69
Total				1072				

(Source: Information provided by FI's and DDA's of concerned districts)

Thus, the delays in issue of notification for notified areas deprived loanee as well as non-loanee farmers benefits under the scheme and an estimated²⁹ 47,640 farmers of 120 *Patwari Halkas* were deprived of insurance coverage, where notifications were issued after the cut-off date.

In the exit conference (November 2016), the Department assured that timely issuance of notifications in future and also uploading of these notification on insurance portal.

- **Discrepancy in inclusion of areas for insurance coverage**

Discrepancy in selection of units resulted in 1,059 *Patwari Halkas* being kept out of the coverage and benefits having been extended to farmers of ineligible 200 *Patwari Halkas*.

Audit scrutiny revealed that during *Kharif* 2013 to *Rabi* 2014-15, State Government did not notify 1,059 *Patwari Halkas* having total sown area of 2.49 lakh hectare in five districts³⁰, though the sown area of notified crop in these *Patwari Halkas* ranged between 100 ha and 1,238 ha, as detailed in **Appendix 3.15**. Further, there was damaged in notified corps in these five districts during the aforesaid period and insurance claim of ₹ 559.89 crore was disbursed. Thus, farmers of 1,059 *Patwari Halkas* were inexplicably kept out of the scheme coverage and did not get any scheme benefits during *Kharif* 2013 to *Rabi* 2014-15, despite reported damage of notified crops.

Further scrutiny revealed that during *Kharif* 2013 to *Rabi* 2014-15, State Government notified 200 *Patwari Halkas* in five districts³¹ though the sown area of *Patwari Halka* was less than 100 ha as shown in **Appendix 3.16**. Thus, insurance coverage were extended to ineligible *Patwari Halka* resulting in extra financial burden on GoI and GoMP.

In the exit conference (November 2016), the Department stated that the selection of insurance units was based on the data provided by Collector's proposal to CLR. Therefore, matter was brought to the notice of Commissioner, Land Records, Revenue Department for further corrective measures and compliance in future.

Facts remain that SLR did not carry out adequate verification of the accuracy of the list of areas to be notified. Further, adequate oversight was not exercised by the Department before issue of notification. As a result, farmers of eligible *Patwari Halka* were kept out of the scheme coverage and benefits were extended to farmers of ineligible *Patwari Halkas*.

3.2.2.3 *Inadequate crop cutting experiments*

In absence of data regarding CCEs, AIC could not calculate insurance claim for 6,702 *Patwari Halkas* and bonafide farmers of these *Patwari Halkas* were deprived of the scheme benefit.

As per para 11 of the scheme guidelines, the State Government would plan and conduct the requisite number of CCEs for all notified crops in the insurance units in order to assess crop yield. Crop yield was one of the most important factor to ascertain insurance claim without which AIC would not consider claim. Superintendent Land Record (SLR) and Deputy Director Agriculture (DDA) of each district were responsible to conduct minimum four crop cutting experiments (two each by SLR and DDA) in an area of 5m x 5m to ascertain crop yield in each *Patwari Halka*.

²⁹ As per census 2011, total number of farmers in the State were 88.72 lakh and total *Patwari Halkas* in 2012-13 were 22,371. Thus, average number of farmers per *Patwari Halka* are 397.

³⁰ Hoshangabad, Jhabua, Katni, Raisen, Tikamgarh

³¹ Hoshangabad, Jhabua, Katni, Raisen, Tikamgarh

Audit scrutiny revealed that during *Kharif* 2011, *Rabi* 2011-12, *Kharif* 2012, *Rabi* 2012-13 and *Kharif* 2014 no yield data (results of CCEs) of 5,128 *Patwari Halkas* and incomplete yield data (i.e. less than four CCEs) of 1,574 *Patwari Halkas* were sent to AIC by GoMP. Further scrutiny revealed that in *Kharif* 2014 season alone, no yield data of 774 *Patwari Halkas* and incomplete yield data of 25 *Patwari Halkas* in respect of 60,824 farmers were sent to AIC. In respect of these farmers, total insurance premium of ₹ 10.20 crore for insurance coverage (sum insured) of ₹ 311.26 crore was deposited to AIC. The major defaulter districts/tehsils, which did not send yield data or sent incomplete yield data to AIC was as shown in **table 3.2.4**.

Table 3.2.4: Major defaulter districts which did not send yield data or sent incomplete yield data of CCE during *Kharif* 2014

Name of District	Name of Tehsil	No. of <i>Patwari Halkas</i>
Raisen	Goharganj	81
	Raisen	35
	Bareli	34
	Udaipura	14
	Gairatganj	11
	Sultanpur	06
Narsinghpur	Gadarwara	148
	Gotegaon	41
	Kareli	22
	Narsinghpur	20
	Tendukheda	09
Shivpuri	Kolaras	13
	Pichore	13

As a result of failure of SLR and DDA in providing the results of CCEs to AIC, farmers of 6,702 *Patwari Halkas*³² were deprived of the benefit under the scheme.

In the exit conference (November 2016), the Department stated that the matter would be brought to the notice of Revenue Department and information would be sought from AIC for further corrective measures for its future compliance.

The matter was also discussed in a meeting (December 2016) with CLR, which intimated that CCEs were not conducted in time due to inadequate number of *Patwaris*. CLR further informed that there were also delays in providing results of CCE by DDAs.

Fact remains that lack of monitoring by FWADD in ensuring adequate CCEs resulted in denial of benefits of crop insurance to insured farmers.

3.2.2.4 Sharing of Risk between Government and Implementing Agency

Agriculture Insurance Company of India Limited was formed (October 2003) by GoI for the implementation of NAIS. The main shareholders of the company are General Insurance Corporation of India (35 per cent), National Bank for Agriculture and Rural Development (NABARD) (30 per cent), National Insurance Company Limited (8.75 per cent), New India Insurance Company Limited (8.75 per cent), Oriental Insurance Company Limited (8.75 per cent) and United India Insurance Company Limited (8.75 per cent).

³² Total no of *Patwari Halkas* = 5,128 + 1,574 = 6,702

As per para 8(a) of NAIS, claims beyond 100 *per cent* of premium will be borne by the GoI and GoMP till complete transition to actuarial regime³³ takes place in a period of five years. Thereafter, all normal claims i.e. claims up to 150 *per cent* of premium will be met by implementing agency and claims beyond 150 *per cent* shall be paid out of Corpus Fund³⁴ for a period of three years. After this period of three years, claims up to 200 *per cent* will be met by implementing agency and beyond this ceiling, out of the Corpus Fund.

NAIS was started in Madhya Pradesh from *Rabi* 1999. However, the actuarial regime was not implemented till date and insurance claims above premium level were borne by GoI and GoMP on 50:50 basis. The status of claims admitted during *Rabi* 2010-11 to *Kharif* 2015, was as shown in **table 3.2.5**.

Table 3.2.5: Statement showing extra burden on GoI and GoMP

(₹ in crore)

Year	Premium deposited with AIC by FIs	Claim admitted during the year	Claims to be paid by AIC (200 <i>per cent</i> of premium collected)	Claims actually paid by AIC	Extra Burden on GoI and GoMP
<i>Rabi</i> 2010-11	46.17	270.20	92.34	42.15	50.19
<i>Kharif</i> 2011	130.38	250.56	250.56	121.03	129.53
<i>Rabi</i> 2011-12	52.08	58.54	58.54	50.07	8.47
<i>Kharif</i> 2012	207.79	75.08	75.08	75.08	0
<i>Rabi</i> 2012-13	96.95	316.82	193.90	94.32	99.58
<i>Kharif</i> 2013	277.78	2,187.43	555.50	263.00	292.56
<i>Rabi</i> 2013-14	121.05	373.76	242.11	121.05	121.05
<i>Kharif</i> 2014	319.05	541.99	541.99	306.78	235.21
<i>Rabi</i> 2014-15	140.93	150.84	150.84	140.93	9.91
<i>Kharif</i> 2015	400.14	4,416.85	800.28	360.95	439.33
Total	1,792.32	8,642.07	2,961.14	1,575.36	1,385.83

(Source: Information provided by AIC through Director, FWADD)

As actuarial regime was not implemented, extra financial burden of ₹ 692.92 crore was borne equally by GoMP.

Thus, the extra financial burden of ₹ 1,385.83 crore on behalf of AIC was borne by GoI and GoMP (₹ 692.92 crore each) during *Rabi* 2010-11 to *Kharif* 2015 due to not shifting to actuarial regime, as shown in the **table 3.2.5**. Therefore, this amounted to largesse being shown to the Insurance Agency.

AIC stated (July 2015) that the administrative approval for each and every season was issued by GoI and the decision to switch to actuarial regime could only be taken by GoI.

In the exit conference (November 2016), the Department stated that in the new scheme (PMFBY) the actuarial regime was being implemented and that NAIS had no Actuarial Premium Rates (APR) regime in its guidelines.

Facts remain that actuarial regime was not implemented after five years of implementation of NAIS as envisaged in the scheme guidelines, which resulted to extra financial burden of ₹ 692.92 crore to the State Government during *Rabi* 2010-11 to *Kharif* 2015.

³³ It is a stage in when IA will bear claims by increasing the insurance charges (premium) ascertained by its statistical experts.

³⁴ To meet catastrophic losses, a Corpus Fund would be created with contributions from the GoI and GoMP on 50:50 basis.

3.2.2.5 *Corpus Fund*

Corpus fund of ₹ 18.03 crore remained idle with the AIC and not utilised during catastrophic losses.

Para 16 of NAIS guidelines stipulated that in order to meet catastrophic losses, a corpus fund shall be created with equal contribution from the GoI and GoMP. A portion of calamity Relief Fund shall be used for contribution to the corpus fund. The corpus fund shall be managed by the AIC.

Audit scrutiny and information provided by AIC revealed that GoMP provided (October 2000 and April 2002) ₹ 3.00 crore and ₹ 4.42 crore to GIC towards corpus fund, which implemented the scheme during *Rabi* 1999-2000 to *Rabi* 2002-03. This corpus fund of ₹ 7.42 crore was transferred to AIC after its formation. No further contribution to corpus fund were made by GoMP and GoI.

AIC had invested corpus fund along with its other investments under various instruments, such as, Government securities, Bonds, mutual funds, equities, etc. in accordance with the regulations of Insurance Regulatory and Development Authority (IRDA). After accruing the return on investment, the balance in corpus fund was ₹ 18.03 crore as of 31.03.2016.

Audit scrutiny revealed that AIC did not utilise the corpus fund for settlement of insurance during catastrophic situation like hailstorm in many parts of the State during 2013, 2014 and 2015. State Government, however, intimated during the exit conference (November 2016) that corpus fund was not created under NAIS. Thus, State Government was not aware of transactions under corpus fund and the balances of corpus fund remained idle with the AIC.

In reply, AIC stated (January 2017) that the corpus fund was not utilised since Government had made available funds to meet out claim payments. In the exit conference, the Department further (November 2016) stated that there was no provision for corpus fund in the existing crop insurance scheme, PMFBY.

The fact remains that ₹ 18.03 crore was kept unutilised in the account of AIC and the fund was yet (January 2017) to be refunded to State Government in view of no provision for corpus fund in PMFBY.

3.2.2.6 *Financial support towards Administrative and Operative Expenses*

Continuance of financial supports towards A&O expenses of AIC, State Government incurred extra expenditure of ₹ 1.49 crore.

As per para 15 of NAIS, the Administrative and Operative (A&O) expenses of AIC would be shared equally by the GoI and GoMP on sunset basis (i.e. 100 per cent in 1st year, 80 per cent in 2nd year, 60 per cent in 3rd year 40 per cent in 4th year, 20 per cent in 5th year and zero thereafter.)

AIC was established for implementation of NAIS with effect from 1 April 2003. Therefore, the assistance from the Central and State Government towards A&O expenses of AIC should have been discontinued from the *Kharif* season 2008.

Audit scrutiny, however, revealed that GoMP and GoI had given 100 per cent A&O expenses amounting to ₹ 2.99 crore³⁵ to AIC during *Rabi* 2011 to *Kharif*

³⁵ 2010-11 ₹ 26.40 lakh, 2011-12 ₹ 59.13 lakh, 2012-13 ₹ 40.90 lakh, 2013-14 ₹ 59.28 lakh, 2014-15 ₹ 113.32 lakh

2015. This resulted in extra financial burden of ₹ 2.99 crore on GoI and GoMP (₹ 149.51 lakh each) and also loss of interest amounting to ₹ 20.35 lakh³⁶.

AIC stated (July 2015) that initially 100 *per cent* A&O expenses were to be borne by Central and State Government, which had now been reduced (March 2015) to 20 *per cent*.

In the exit conference (November 2016), the Department stated that it was a policy matter and assured to take up the matter to the Government for further initiatives/corrective measures.

The reply was not tenable as A & O expenses had to be fully phased out from 2008 in view of the scheme guidelines.

3.2.2.7 *Payment of service charge by AIC*

As per para 16 of scheme guidelines, the implementing agency shall pay service charges to FI's at the rate of 2.5 *per cent* of the premium collected in respect of both loanee and non-loanee farmers at the end of the season. Service charges shall be borne equally by the GoI and GoMP.

Audit scrutiny revealed that FIs collected ₹ 1,355.96 crore³⁷ as insurance premium during the period from *Rabi* 2012-13 to *Kharif* 2015 and sent it to AIC. Thus, service charges of ₹ 33.90 crore (at the rate of 2.5 *per cent* of ₹ 1,355.96 crore) was payable to FIs. However, AIC did not pay the service charges to FIs as of July 2016.

AIC stated (July 2015) that from *Rabi* 2012-13 payment of bank service charge is due for want of share from GoI. In the exit conference, the Department assured (November 2016) to take necessary action.

3.2.2.8 *Publicity/Awareness*

As per Para 8 of Operational Modalities under the scheme guidelines, AIC and FWADD were responsible for creating awareness so as to make it acceptable to the larger segment of farmers. Besides audio-visual media, the services of Agriculture Extension Officers (AEO) of the State was to be utilised for the publicity. A separate action plan was to be prepared to bring in awareness to educate farmers and pamphlet was to be distributed to all villages. Training programmes, workshops and visit of AIC officers to the Banks was to be arranged to help in clarifying the doubts, redressal of grievances and clearing bottlenecks in smooth implementation of the scheme.

Audit scrutiny of records revealed that action plan for awareness of the scheme among farmers was not prepared by FWADD or AIC. State Government provided ₹ 7.09 lakh to AIC during 2010-15 for the publicity/awareness of the scheme. However, no action plan was submitted by AIC to the Government. On being enquired, test-checked DDAs informed that the representatives of AIC did not participate in any workshop or training programme. Audio-visual material, pamphlets, etc. were not provided to Agriculture Extension Officers in test-checked 16 districts. As a result of

³⁶ Average borrowing rate of interest of the State ranging from 6.48 *per cent* to 7.04 *per cent* during different years.

³⁷ *Rabi* 2012-13 ₹ 96.95 crore, *Kharif* 2013 ₹ 277.75 crore, *Rabi* 2013-14 ₹ 121.14 crore, *Kharif* 2014 ₹ 319.05 crore. *Rabi* 2014-15 ₹ 140.93 crore and *Kharif* 2015 ₹ 400.14 crore.

AIC did not pay ₹ 33.90 crore of service charges to FIs.

FWADD as well as AIC did not prepare any plan for publicity of the scheme and audio-visual material and pamphlets for awareness generation were not provided to Agriculture Extension Officers.

inadequate publicity/awareness, coverage of non-loanee farmers ranged from two (*Kharif 2014*) to 1,080 in (*Rabi 2010-11*) in the State.

The scheme was to be mandatorily implemented for loanee farmers. However, the beneficiary survey of 256 loanee farmers of five districts revealed lack of awareness about the scheme benefits, as detailed below:

- Seventy eight *per cent* farmers were not informed about the deduction of premium,
- Ninety two *per cent* farmers were not informed about notified area and notified crop, and
- Sixty five *per cent* farmers knew about the NAIS through other farmers and not through publicity and awareness made by AIC.

AIC stated (July 2016) that the increase in number of farmers under the scheme was due to publicising the scheme in fairs/*melas*, placement of advertisement in newspapers, imparting training to bankers etc. But as the scheme operates on area approach basis and voluntary for non-loanee farmers, the farmers were reluctant to get their crops insured as they want their fields/crops insured on individual basis.

The reply is not acceptable, as the coverage of only loanee farmers increased since the implementation of NAIS, which was mandatorily to be applied for them.

In the exit conference (November 2016), the Principal Secretary stated that the allotment for publicity had substantially increased in the new scheme due to which coverage of non-loanee farmers had increased.

The facts remain that publicity campaign were not organised during the operation of NAIS as envisaged in the scheme guidelines, which resulted in ignorance about the scheme benefits among loanee farmers and inadequate coverage of non-loanee farmers.

3.2.2.9 *Delay in disbursement of claims*

As per guidelines of the scheme, cut-off date for receipt of yield data for *Kharif* and *Rabi*, is January and July respectively, but no time schedule was prescribed for disbursement of insurance claims. Audit scrutiny revealed that AIC took one month to 17 months in ascertaining claims and raising the demand to GoMP from the cut-off date of receipt of yield data.

Further scrutiny revealed that GoMP had made 27 disbursements of its share for claims pertaining to the period *Rabi 2010-11* to *Kharif 2015*, of which 9 disbursements were released after delay of more than one month from the date of receiving demand from AIC. The period of delays in disbursement to farmers of claims ranged from one month to three months in four cases, 4 months to 11 months in 16 cases, one year to two years in five cases and 24 months to 31 months in two cases during *Rabi 2010-11* to *Kharif 2015*, as shown in the **Appendix 3.17**.

AIC paid the insurance claims to FIs in installments and sometimes after next SAO loan season. Co-operative Banks charge no interest for *Kharif* SAO loans up to 15 March and for *Rabi* SAO loans up to 15 June. If farmers fail to repay the SAO loans within stipulated period, Co-operative Banks charge interest at

Due to delay in disbursement of share of GoMP, the delay in disbursement of claims ranged from 1 month to 31 months.

commercial rate. During beneficiary survey of 256 farmers in five districts, 16 per cent farmers stated that they could not repay their loans in due time due to delay in receipt of claims and hence, were debarred for loans in next season. Thus, delay in disbursement of claims resulted in putting the claimants to hardship.

AIC stated (July 2016) that the delay in settlement of claim was due to the fact that after receipt of yield data the same was checked by it and in case of error/omissions, clarifications were sought from the GoMP. The claim was processed after receipt of clarification. The other reason for delay in claim settlement was delay in receipt of share from Government.

In the exit conference (November 2016), the Department accepted the fact and assured for timely disbursement of claims in future.

3.2.2.10 Scale of Finance

As per para 5 of NAIS, sum insured would be according to the Scale of Finance (SoF) of the district. The SAO loan limit was decided for each crop of the district through SoF, which was determined by a district level committee on the basis of production cost, productivity, price of the crop, repaying capacity of farmers etc. While notifying the crop and *Patwari Halkas*, GoMP mention in the notification that the sum insured would be up to the limit of SoF.

Scrutiny of records in seven test checked districts³⁸ revealed that SAO loans of ₹ 497.07 crore were disbursed for 2,30,207.8 ha during *Kharif* 2013, *Rabi* 2013-14 and *Kharif* 2014. However, as per SoF, SAO loans should have been ₹ 335.41 crore (**Appendix 3.18**). AIC failed to check the SoF and assessed inflated claims as per premiums received by it and paid accordingly. Thus, insurance claim was increased by ₹ 101.07 crore due to violation of SoF, which resulted in extra financial burden to the Government.

AIC stated (July 2016) that most of the bankers had been insuring according to SoF but some commercial bankers had been insuring over and above SoF. The decision to restrict the coverage to SoF was taken by the GoMP in *Kharif* 2015 season.

In the exit conference (November 2016), the Department accepted the audit observation and stated that this had been rectified in the new scheme i.e. PMFBY.

Fact remains that inadequate scrutiny of insurance premium *vis-à-vis* SoF by AIC resulted in increase in insurance claim by ₹ 101.07 crore.

3.2.2.11 Settlement of claims

Scrutiny of records revealed following irregularities of FIs in implementation of the Scheme:

(i) Insurance premium not deducted by FIs

During *Kharif* 2013, *Rabi* 2013-14, *Kharif* 2014 and *Rabi* 2014-15 in districts Betul, Katni and Rajgarh, FIs did not deduct the premiums for notified crops under notified areas, as shown in **table 3.2.6**.

³⁸ Betul, Hoshangabad, Katni, Raisen, Rajgarh, Sagar and Shajapur

Violation of Scale of Finance increased the insurance claim by ₹ 101.07 crore, resulting in extra financial burden to the Government.

Table 3.2.6: FIs did not deduct premium

Sl. No.	Crop Season	District	Name of FI	Number of farmers
1	Kharif 2013	Betul	Adim Jati Seva Sahkari Samiti, Sohagpur	167
2	Kharif 2013	Katni	Bank of Baroda	44
3	Rabi 2013-14	Katni	Bank of Baroda	49
4	Kharif 2014	Katni	Bank of Baroda	30
5	Rabi 2014-15	Katni	Bank of Baroda	43
6	Kharif 2015	Katni	Bank of Baroda	02
7	Kharif 2013	Sagar	Punjab & Sindh Bank	01
8	Kharif 2013	Sagar	Oriental Bank	04
9	Kharif 2013	Sagar	Union Bank of India	21
10	Kharif 2013	Sagar	Bank of India	03
11	Kharif 2013	Sagar	Indian Bank	01
12	Kharif 2013	Sagar	District Coop. Central Bank	15
13	Kharif 2013	Sagar	Central Bank of India, Badavelai	02
14	Kharif 2013	Sagar	Punjab National Bank	01
15	Kharif 2013	Sagar	ICICI Bank	01
16	Kharif 2013	Sagar	Mandhyachal Gramin Bank	11
Total				395

(Source: Information provided by FI's and DDA's of concerned districts)

Thus, 395 eligible loanee farmers were deprived of scheme benefits due to failure of FIs in deducting premiums.

(ii) **Insurance premium deducted but not sent to AIC**

Audit scrutiny revealed that during Kharif 2014 in districts Betul, Katni and Rajgarh, deducted premiums were not sent to AIC or sent to AIC after cut-off date, as shown in table 3.2.7.

Table 3.2.7: FIs did not send premium to AIC

(₹ in lakh)

Sl. No.	Crop Season	District	Name of FI	Number of Farmers	Declaration Form		Premium Amount	Sum Insured
					Cut-off date for submission to AIC	Actual received date at AIC		
1	Kharif 2014	Betul	Punjab National Bank, Dunava	565	31 October 2014	Not sent	9.72	277.78
3	Kharif 2014	Katni	DCCB, Jabalpur	129	31 October 2014	Not sent	0.47	19.71
4	Kharif 2014	Katni	DCCB, Branch Rithi	43	31 October 2014	Not sent	0.59	23.40
5	Kharif 2014	Katni	PACS Badgaon	34	31 October 2014	Not sent	0.13	26.01
Total				771				

(Source: Information provided by FI's and DDA's of concerned districts)

Thus, 771 eligible loanee farmers were deprived of scheme benefits due to failure of FIs in not sending insurance premium before cut-off dates. Further scrutiny revealed that Punjab National Bank (PNB), Ganjbasoda, Vidisha collected premium ₹ 11.86 lakh from 492 farmers for Rabi season 2012-13 and sent it to AIC on 26 March 2013 (before cut-off date). However, AIC did not consider it for claim ascertainment and disbursement. Thus, 492 farmers of these area were deprived of scheme benefits.

AIC did not offer any comments in respect of claims of farmers whose premium were collected by PNB, Ganjbasoda, Vidisha.

(iii) FIs recorded wrong Patwari Halkas in declaration form

During Rabi 2012-13, Rabi 2013-14 and Kharif 2014, 140 farmers in districts Rajgarh and Shajapur became ineligible for scheme benefits, as FIs recorded wrong Patwari Halkas in declaration form as shown in **table 3.2.8**.

Table 3.2.8: FIs recorded wrong Patwari Halkas

Sl. No.	Crop Season	District	Name of FIs	Number of Farmers	Premium Amount	Insured Amount
1	Kharif 2014	Rajgarh	PACS, Jami	54	45,052	13,01,084
2	Rabi 2012-13	Rajgarh	PACS, Bawrikheda	69	30,310	15,15,500
3	Rabi 2013-14	Shajapur	State Bank of India, Maksi	17	0	0
Total				140		

(Source: Information provided by FI's and DDA's of concerned districts)

Therefore, 140 farmers were deprived of scheme benefits due to lack of verification at FIs level.

In exit conference (November 2016), the Department assured that individual cases would be seen and settled accordingly.

3.2.2.12 Insured area exceeded sown area

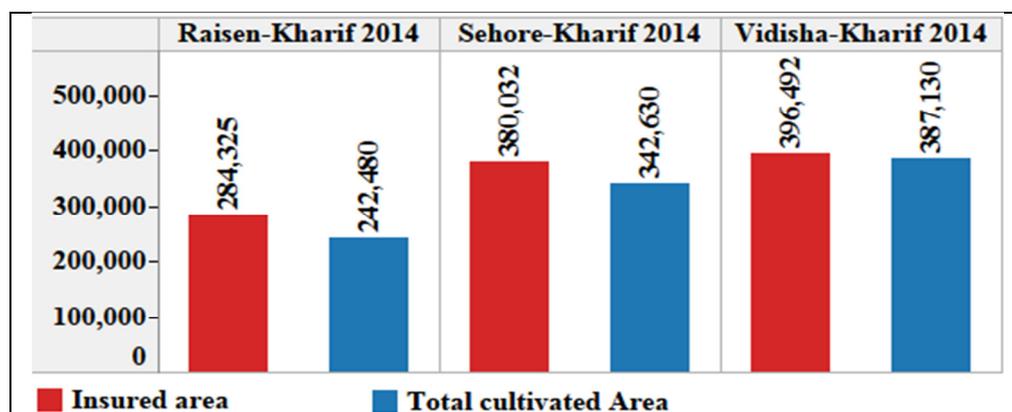
Unsown area of 9,05,896 ha was insured under NAIS.

As per para 4(1) of operational modalities of NAIS, loans given for unsown areas would not be covered by the scheme, because indemnity claims would arise under the scheme only after the crop was sown and in the event of crop failure. Mere disbursement of loans by the FIs would not entitle farmers for compensation under the scheme.

Audit scrutiny revealed that the insured areas were 22,64,195 hectare in 3,362 Patwari Halkas of 42 districts during Kharif 2013. However, as per revenue records, actually sown areas of notified crops in these Patwari Halkas were 13,58,299 hectare, as detailed in **Appendix 3.19**. Thus, 9,05,896 hectare unsown area was covered under NAIS and collected premium amounts sent to AIC. The Department informed (November 2016) that "Area Factor" formula was applied in calculating claims in such areas. Thus, farmers were not awarded admissible compensation because of the omission of FIs.

Audit scrutiny further revealed that the total insured area during Kharif 2014 was more than the total cultivated area of the districts Raisen, Sehore and Vidisha, as depicted in **chart 3.2.2**.

Chart 3.2.2: Insured area was more than the cultivated area



(Source: Information provided by FI's and DDA's of concerned districts)

In the exit conference (November 2016), the Department stated that this discrepancy was due to obtaining more than one *Kisan Credit Card (KCC)* account by the farmers. However, “Area factor” formula mentioned in NAIS guidelines is applied in calculating claims in such areas.

The reply is not acceptable as there was no “Area factor” formula mentioned in NAIS guidelines. Moreover, it was the responsibility of the Government to direct FIs for carrying out adequate verification of land holdings of farmers to ensure issue of single KCC to a farmer.

3.2.2.13 Adoption of defined area/insurable units

NAIS guidelines stipulated that the scheme would operate on the basis of unit area approach i.e. defined area for each notified crop for widespread calamities. The unit area of insurance might be a *Gram Panchayat, Mandal, Hobli, Phirka, Talluka* etc. to be decided by the State. However, each participating State would be required to reach the level of *Gram Panchayat* as the unit in a maximum period of three years. This would facilitate the assessment of crop loss accurately.

Audit scrutiny revealed in respect of crops viz. groundnut, cotton, *til* (sesamum), *alsi, jawar*, etc. that *tehsils* were continued as units of insurance. As a result crop losses were not determined accurately and compensation to farmers was not based on assessment as envisaged under the scheme.

In the exit conference (November 2016), the Department stated that *Patwari Halka* would be the insurance unit in place of tehsil wherever CCE data at *Patwari Halka* was available.

3.2.2.14 Deficiencies in monitoring

As per para 6 of the operational modalities (OM) of NAIS, State Government shall set up District Level Monitoring Committee (DLMC) headed by the District Magistrate. The members will be District Agriculture Officer, DCCB, District Lead Bank representative and AIC. The Committee will monitor implementation of scheme by providing fortnightly crop condition reports and periodical report on seasonal weather conditions, loans disbursed, extent of area cultivated etc. The DLMC shall also monitor conduct of CCEs in the district.

Audit scrutiny of records of 16 selected districts offices revealed that GoMP had issued an order to form DLMC at district levels in October 2010. However, DLMC was not formed in any of the selected districts. The lack of monitoring at district level resulted in the shortcomings in implementation of schemes, such as yield data not sent to AIC, significant area left out to be covered under the scheme, notified area exceeded the total sowing area, violation of SoF by FIs and inadequate publicity of the scheme.

In the exit conference (November 2016), the Department stated that DLMC meetings were conducted at most of the districts.

The reply was not acceptable, as DDAs of test checked districts had informed the audit that DLMC were not formed.

Tehsils were continued as units of insurance in respect of crops viz. groundnut, cotton, *til, alsi* and *jawar*.

Weak coordination among the Departments involved and lack of monitoring of the scheme contributed to irregularities like yield data not sent, notified area exceeded the total crop area, violation of SoF and claim settlement.

3.2.3 Conclusions

- The coverage of farmers under NAIS during *Rabi* 2010-11 to *Kharif* 2015 ranged between 14.58 *per cent* and 33.80 *per cent* of the total number of 88.72 lakh farmers in the State. The increase of coverage was only due to compulsory insurance of loanee farmers, as only 2,841 non-loanee farmers were covered under the scheme. Thus, less coverage of farmers (loanee and non-loanee) adversely affected the objectives of NAIS to help stabilise farm income, particular in disaster years.
- State Government failed to timely notify crop-wise area to be covered under the scheme. The delays in notification ranged up to 244 days. Farmers of 120 *Patwari Halkas* were deprived of the benefits under the scheme due to delay in issuing notifications for these areas after cut off dates for receipt of declaration by insurance agency.
- As a result of failure of Superintendent Land Records and Deputy Directors of Agriculture in providing the results of crop cutting experiments, AIC could not calculate the insurance claim of farmers in 6,702 *Patwari Halkas*.
- Actuarial regime was not implemented after five years of implementation of NAIS as envisaged in the scheme guidelines, which resulted in extra financial burden of ₹ 692.92 crore to the State Government during *Rabi* 2010-11 to *Kharif* 2015.
- There were delays in disbursement of insurance claims to farmers ranging from one month to 31 months during *Rabi* 2010-11 to *Kharif* 2015, depriving the farmers in getting timely benefits of insurance claim.

3.2.4 Recommendations

- The Government should take effective steps for timely issuance of notification of crops and area for crop insurance to provide sufficient time to non-loanee farmers to avail the benefits of insurance coverage under the scheme.
- The Government should ensure to provide results of Crop Cutting Experiments within stipulated time to insurance agency for timely calculation of insurance claims of farmers.
- The Government should ensure adequate publicity of the scheme to optimise the coverage of farmers.
- The Government should ensure timely disbursement of insurance claims in order to avoid hardship to the farmers.
- The Government should consider the coverage of major crops viz *urad*, *moong* and lentil.
- The Government should ensure holding of single KCC account for the individual farmer using unique identification instruments and coordination between Revenue Department and Financial institutions to avoid insurance of unsown area.
- The Government should strengthen monitoring mechanism to avoid lapses in coverage and settlement of claims.

3.3 Compliance Audit Paragraphs

Compliance audit of transactions of the Government Departments, their field formulation as well as that of the autonomous bodies brought out instances of lapses in management of resources and failures in the observance of the norms of propriety and economy. These have been presented in the succeeding paragraphs.

CO-OPERATION DEPARTMENT

3.3.1 Extra cost due to acceptance of higher rate of tenders for transportation

Acceptance of much higher rates of transportation as compared to previous year led to extra cost amounting to ₹ 1.30 crore in MARKFED.

According to para 9 (i) section II of Madhya Pradesh Financial Code, Vol-I, every Government Servant is expected to exercise the same vigilance in respect of expenditure incurred from public money as a person of ordinary prudence would exercise in respect of expenditure of his own money. Further, as per guidelines issued by the Central Vigilance Commission, Government of India, it is very important to establish the reasonableness of price on the basis of estimated rates, prevailing market rates, last purchase price, economic indices of the raw material/labour, other inputs costs and intrinsic value etc., before award of the work.

The Managing Director, MARKFED, Bhopal directed (January 2014) that the opening of tenders and acceptance would be done at Collector office by the District Level Committee (DLC)³⁹ constituted and headed by the Collector. After opening of tenders, comparative statement should be prepared by the committee and during recommendation of approved rates, the committee should also take cognizance of the rates of other Government institutions, viz. Civil Supplies Corporation, Food Corporation of India (FCI) etc. so that the comparative rates may be determined. The approval on transport rates may be obtained from the Collector after sending comparative statement along with recommendation.

Audit scrutiny of records (March 2016) revealed that the Managing Director MARKFED, Bhopal invited (January 2014) tenders for transportation of wheat, gunny bags etc. for the year 2014-15. For Betul district, the lowest rates quote for the year 2014-15 were at much higher in comparison to previous year 2013-14 (47 per cent to 128 per cent). However, the MARKFED did not provide rates of other Government institutions like FCI and approved rates by MARKFED for same district of previous year as well as prevailing rates of nearby districts of MARKFED for same year to DLC, though there was decreasing trend in transportation rates of FCI in Betul district. Due to acceptance of tenders at much higher rates as compared to previous year, MARKFED incurred extra cost of ₹ 1.30 crore on transportation during 2014-15.

³⁹ DLC consisted of District Collector, Zonal Manager, MARKFED, Deputy Director Agriculture, Deputy Assistant Commissioner, Manager District cooperative Society and officers of Treasury and District Marketing Offices of concerned districts.

The Managing Director stated (December 2016) that as per the approved rates by DLC rates for transportation had been finalised. On taking cognizance of rates from Food Corporation and Civil Supplies Corporation, it was intimated that rates for 2013-14 to 2015-16 was not finalised/approved by them therefore, DLC finalised the rates after negotiations. Since DLC had approved the rates for 2014-15, therefore MARKFED did not invite tenders.

The reply is not acceptable as MARKFED did not provide the rates of other Government institutions and nearby districts of MARKFED for enabling DLC to finalise the reasonable rates. Further, MARKFED did not provide the evidence regarding taking cognizance of prevailing market rates of other Government Institutions during tendering process. Moreover, second call for tenders were not considered even after receipt of abnormally higher rates.

The matter was referred to the Government (August 2016); their reply has not been received (January 2017).

FOREST DEPARTMENT

3.3.2 Short realisation of Net Present Value

Application of provisional/incorrect rates of Net Present Value has resulted into an amount of ₹ 5.89 crore being outstanding for recovery from the user agencies for use of diverted forest land.

Ministry of Environment and Forests, Government of India issued (September 2003) guidelines to all States/Union Territories for collection of Net Present Value (NPV) of the forest under Forest (Conservation) Act 1980. The amount of NPV collected from the user agency is deposited in Compensatory Afforestation Management and Planning Authority (CAMPA) fund and is utilised for getting back the forest cover in long run which is lost by such diversion. This amount is used in natural regeneration, security, infrastructure development, wild life protection and management, etc. These guidelines were issued in compliance of the orders (30.10.2002) of Hon'ble Supreme Court that the NPV of forest area diverted for non-forestry use should be collected from the user agency.

Till the finalisation of rates for collection of NPV, Forest Department, Government of Madhya Pradesh, (GoMP) decided (December 2003) to collect provisional NPV from user government departments/undertakings at the rate of ₹ 5.80 lakh per hectare. However, the user Government Departments had to submit an undertaking that they would pay NPV in accordance with the rates determined by the State Government.

GoMP re-fixed (September 2008) rates for collection of NPV according to the eco-value class of the forest and its canopy density, which varied from ₹ 4.38 lakh to ₹ 10.43 lakh per hectare of forest land. In compliance of this order, the Principal Chief Conservator of Forest issued instructions (January 2009) for review of all sanctioned cases of forest area diverted for non-forestry use so that the balance NPV could be realised in view of re-fixed NPV rates. Further, as per the GoMP order, the rates of NPV was 50% of the prescribed rate of NPV for underground excavation.

Audit scrutiny of Divisional Forest Office (General) Vidisha (March 2015) revealed that 75.597 hectare of forest land was diverted (October 2013) to

Water Resources Divisions for construction of tank. The NPV of diverted forest land was worked out to be ₹ 5.70 crore in accordance with the eco-value and density of forest land. The Department could obtain only provisional NPV of ₹ 1.15 crore from the user agency, as detailed in **Appendix 3.20**. The additional claims for ₹ 4.55 crore was made (October 2008 to November 2009) by the Department to user agency. However, the forest land was diverted to the user agency in October 2013 without receiving outstanding NPV. The outstanding amount could not be recovered as of September 2016. Thus, the diversion of forest land to non-forestry use without receiving the entire NPV resulted in short realisation of NPV amounting to ₹ 4.55 crore.

Audit scrutiny of the Divisional Forest Officer (General), Annuppur revealed (March 2016) that M/s South Eastern Coal Fields Limited, Bilaspur had been allowed to use 120.00 hectare forest land for underground mines, Haldiwadi (October 2006). An aggregate NPV of ₹ 3.52 crore at the provisional rates which were subject to revision, had been obtained (September 2008) from the user agency. After revision of rates on 12 September 2008, NPV was worked out to be ₹ 4.56 crore. However, the difference of rates amounting to ₹ 1.04 crore had not been recovered from the user agency as detailed in **Appendix 3.21**.

Further, scrutiny of two⁴⁰ Divisional Forest Offices (General) revealed (September 2016 and April 2016) that 19.93 hectare of Forest land was diverted to two user agencies⁴¹ for different purposes as detailed in **Appendix 3.22**. DFO (General), Alirajpur had applied the rate of tropical thorn forest in place of tropical dry deciduous forest and DFO (General), Betul (North) had applied the rate of forest with density 0.4 instead of 0.5 for calculation of NPV. This resulted in short realisation of NPV amounting to ₹ 30.19 lakh for forest land.

On this being pointed out the Divisional Forest Officers, Vidisha, Alirajpur and Annuppur replied that demands for the amount short realised had been raised and continuous efforts were being made for the recovery. Further, Divisional Forest Officer Betul (North) stated that during survey, the density of different places were taken and maximum density recorded was 0.4 in the said compartment.

The fact remains that the outstanding amount of ₹ 5.89 crore was yet to be recovered (December 2016). The reply of DFO (General), Betul (North) is not correct as density of forest as per compartment history is between 0.5 and 0.7.

The matter was referred to the Government (March 2016); their reply has not been received (January 2017).

⁴⁰ Alirajpur (total 8.06 ha land) and Betul (out of total forest land i.e 111.00 ha, 11.87 ha land belonged to forest density 0.5)

⁴¹ WRD and MP Power Generating Company Limited

3.3.3 Irrecoverable loss to the Government

Delay in implementation of revised rates of entry fees in the National Parks/Sanctuaries/Tiger Reserves of Madhya Pradesh led to irrecoverable loss of ₹ 62.68 lakh to the Government.

The Government of Madhya Pradesh, Forest Department vide Gazette Notification dated 16 October 2014 amended the rates of entry fees for visiting the National Parks and Sanctuaries in the State. Further, the circular issued (November 2005) by Forest Department, Government of Madhya Pradesh stipulates that the entry fees collected shall be deposited in the account of Drawing and Disbursing Officer of respective National Parks and Sanctuaries in nationalised banks and shall be used for the development of respective National Parks and Sanctuaries.

Audit scrutiny (March 2015 to April 2016) of four⁴² National Parks/Sanctuaries/Tiger Reserves of Madhya Pradesh revealed that the revised rate of entry fees were not implemented immediately after the issue of the Gazette Notification. The delay in collecting revised entry fees ranged between 34 to 110 days, however, three of the tiger reserves collected the entry fees without delay. This resulted in irrecoverable loss to the Government of entry fees amounting to ₹ 62.68 lakh as detailed in **Appendix 3.23**.

On this being pointed out (March 2015) respective National Parks/Sanctuaries/Tiger Reserves of Madhya Pradesh stated that revised entry fees were made effective as soon as it came to their notice.

The reply was not acceptable as the Department circulated the revised rates on 20 October 2014 and three of the Tiger Reserves at Seoni, Umariya and Mandla collected the entry fees at revised rates. Therefore, appropriate disciplinary action was required to be taken against negligent person/authorities.

The matter was referred to the Government (May 2016); their reply has not been received (January 2017).

NARMADA VALLEY DEVELOPMENT DEPARTMENT

3.3.4 Violation of procedure

In ND Division No. 32 Barwaha, clause for central excise exemption was not included in the Notice Inviting Tender for a tender on turnkey basis which led to undue benefit to the contractor amounting to ₹ 22.26 crore, which would have been otherwise extended to the Government, by way of reduced project cost.

The Department awarded (November 2012) the work of execution of Narmada-Kshipra-Simhastha Link Lift project to a contractor on turn-key basis at a cost of ₹ 396.38 crore i.e. 6.07 per cent below the Unified Schedule of Rates 2009. The work was scheduled to be completed within 364 days including rainy season i.e. November 2013. The work was completed (December 2014) and final bill amounting to ₹ 391.75 crore was paid

⁴² Madhav National Park, Shivpuri, Panna Tiger Reserve, Panna, Ralamandal Sanctuary, Indore, Van Vihar National Park, Bhopal.

(November 2015) to the contractor. The project was taken up for Simhastha 2016.

As per contract condition no. 112 of the tender document, the bid price quoted by the contractor shall be deemed to be inclusive of the sales tax, commercial tax, income tax, service tax, labour cess, duties royalties and other taxes whatsoever on all material that the contractor will have to purchase for performance of this contract. According to Clause 14.1 and condition no. 105 of NIT of the tender document, the contractor shall pay all duties and taxes whatsoever in consequence of his obligation under the contract and the contract price shall not be adjusted for such costs. Clause 14.6 stipulates that it is open to the contractor to make an application to the Income Tax Officer and *Vaniyakar* Officer concerned and obtain from him a certificate authorizing the payer to deduct tax at such lower rate or deduct no tax as may be appropriate for this contract. Such certificate will be valid for the period specified therein unless it is cancelled by the Income Tax/Commercial Tax Officers earlier.

Audit scrutiny of records of Executive Engineer (EE), ND Division No. 32 Barwaha (February 2016), revealed that quantity of steel consumed in work was 30,370 MT (cost of ₹ 128.38 crore) and 216 numbers of electromechanical parts (cost of ₹ 60.73 crore) were utilised in the work as per final bill submitted by the contractor. Further scrutiny of records revealed that NIT for the project declared it as a river linking project and not a drinking water project. Accordingly, there were no stipulation in NIT for grant of exemption from excise duty and clause 14.6 of NIT provided certain conditions of exemptions in respect of income tax and commercial tax. However, on the recommendations of EE (January 2013), exemption certificates under Central Excise notification No. 03/2004⁴³ were issued (February 2013) by the Collectors, Khargone and Indore. On the basis of these certificates, the contractor purchased material costing ₹ 189.11 crore⁴⁴ without paying excise duty.

Thus, the failure of Department to include pre-bid clause in the tender document on excise duty exemption for purchase of material led to undue benefit to the contractor amounting to ₹ 22.26 crore⁴⁵ on excise duty at the rate of 12.36 per cent.

On this being pointed out, the Government stated (July 2016) that the project was basically a drinking water supply scheme and it was taken up for Simhastha 2016 with the purpose of providing drinking water to *Ujjain Nagar Nigam* and *Dewas Nagar Palika*. The project being a drinking water scheme, the central excise exemption was given to the contractor and benefit of excise exemption for the project was within the domain knowledge of each bidder

⁴³ Department of Revenue, Ministry of Finance, Government of India, Central Board of Excise and Custom issued a notification No. 03/2004 dated 08-01-2004 to avail to exemption from excise/custom duty on goods procured for the purpose of water supply for agriculture and irrigation use.

⁴⁴ Quantity of steel consumed in work costing ₹ 128.38 crore + numbers of electromechanical parts used costing of ₹ 60.73 crore = ₹ 189.11 crore

⁴⁵ Value Added Tax (VAT) deducted at the rate of 4.76 per cent of ₹ 189.11 crore = ₹ 180.11 crore Excise Duty at the rate of 12.36 per cent of ₹ 180.11 crore = ₹ 22.26 crore

although it was not mentioned in the tender document. During discussion (November 2016) the Member Finance reiterated the above facts.

The reply was not acceptable as the project was advertised in NIT as a river linking project and no mention was made about it being a drinking water project. Further, in pre-bid meeting (September 2012) with participating bidders regarding payment of any variation of taxes and imposition of any other taxes subsequent to bidding process, the Department clarified that no change was acceptable and it would be as per prevailing tender clause.

Thus, the failure of the Department to include central excise exemption in clause 14.6 for purchase of material led to undue benefit to the contractor amounting to ₹ 22.26 crore⁴⁶ on excise duty at the rate of 12.36 *per cent* due to violation of procedure, which would have been otherwise available to the Government by way of reduced project cost.

3.3.5 Irregular grant of mobilisation advance and short recovery of penalty from the contractor

Irregular grant of mobilisation advance of ₹ 1.89 crore to the contractor in contravention to the provisions of the contract and short recovery of penalty of ₹ 6.78 crore.

The Department awarded (February 2012) the work of Nagod (Satna) branch canal (with distributory systems) from RD km 55.60 to RD km 83.00 under the Bargi Diversion Project on *turnkey* basis to a contractor (DSC Limited, New Delhi) at a cost of ₹ 126.00 crore (overall 33.124 *per cent* below Unified Schedule of Rates (USR) effective from 2009). The work order was issued (February 2012) to complete the work within 30 months including rainy season i.e., by August 2014. The contractor was paid ₹ 76.15 lakh (January 2014) for the value of work done. The Engineer-in-Charge granted time extension up to August 2015 under penal clause on the ground of (i) delay in land acquisition due to elections and rain, and (ii) retendering process requires excess time which would lead to extra expenditure. But, finally the work was terminated in August 2015 due to poor performance and slow progress by the contractor in the extended period.

According to clause 113.6 (A)(i) of contract, mobilisation advance not exceeding five *per cent* of the contract price shall be given to contractor during the first twelve months from the date of notice to proceed with the work. The first installment of mobilisation up to two *per cent* of contract price was to be given within seven days of the date of notice to proceed with the work, subsequent installments was to be payable on his furnishing proof of having incurred adequate expenditure towards mobilisation.

As per the clause 115.1 of the agreement, in the event of any shortfall in the financial progress of work by more than 10 *per cent* for the respective six month slab, penalty for delays was to be imposed on the contractor at the rate of 0.2 *per cent* per week of initial contract value, limiting the cumulative penalty to 10 *per cent* of the contract value. Total delay in excess of 25 *per cent* of initial contract period (reasons attributable to the contractor) may cause

⁴⁶ VAT deducted at the rate of 4.76 *per cent* of ₹ 189.11 crore = ₹ 180.11 crore
Excise Duty at the rate of 12.36 *per cent* of ₹ 180.11 crore = ₹ 22.26 crore

for termination of the contract and forfeiture of all security deposits and performance securities.

Audit scrutiny of records (December 2014) of EE, ND division No. 7, Satna, revealed that the contractor was paid first installment of mobilisation advance of ₹ 2.52 crore (two *per cent*) in March 2012 and the second instalment of ₹ 1.89 crore (1.5 *per cent*) in August 2012 against his claim (July 2012) of expenditure of ₹ 4.75 crore towards mobilisation. However, Audit noticed that the claim was neither supported by any document nor its veracity was verified by the divisional officer. Therefore, the second installment was released without any proof of expenditure incurred which was in contravention to the provision of the contract. Moreover, the advance was sanctioned despite the Department being aware of the fact that the contractor did not commence the work/mobilise the resources. Thus, it resulted in irregular financial aid of ₹ 1.89 crore on account of second installment of mobilisation advance.

The value of work done up to the intended date of completion (August 2014) was ₹ 76.15 lakh, which was below one *per cent* of the contractual value. The Engineer-in-charge granted irregular time extension up to August 2015 to the contractor to complete the work despite knowing the fact that negligible amount of work was executed by the contractor. Further scrutiny revealed that the Department levied maximum penalty of 10 *per cent* of the initial contract value for delay after termination of contract in August 2015. The total recoverable amount against the contractor was worked out to ₹ 19.38 crore⁴⁷, including ₹ 4.11 crore mobilisation advance, ₹ 2.64 crore⁴⁸ interest on mobilisation advance and ₹ 12.60 crore penalty for delay. Accordingly, an amount of ₹ 12.60 crore⁴⁹ was forfeited (September 2015) against the total recoverable amount of ₹ 19.38 crore resulting in short recovery of ₹ 6.78 crore (₹ 19.38 crore - ₹ 12.60 crore).

The Government in its reply stated (December 2016) that the bank guarantee for ₹ 3.78 crore, ₹ 2.52 crore and ₹ 6.30 crore were encashed by the Department and remitted to treasury (September 2015) and the remaining outstanding amount shall be recovered as per Government procedure. Further, Government stated that the Executive Engineer (EE) had justified the expenditure incurred by the contractor on first mobilisation advance and recommended to Superintending Engineer (SE) for sanction of second mobilisation advance and took double the amount of bank guarantee to safeguard the Department from financial losses occurred due to non-

⁴⁷ Penalty ₹ 12.60 crore (10 *per cent* of ₹ 126.00 crore)
 Penalty due to non-insurance of work as calculated by the Department = ₹ 0.07 crore
 Mobilisation advance ₹ 4.11 crore (₹ 4.41 crore *minus* ₹ 0.30 crore)
 Interest on mobilisation advance as calculated by the Department = ₹ 2.64 crore
 Recovery for deficit in earth-work quantity as calculated by the Department = ₹ 0.02 crore
 Deducted amount of additional security deposit = ₹ 0.06 crore
 Total recoverable ₹ 19.38 crore [₹ 12.60 crore + ₹ 0.07 crore + ₹ 4.11 crore + ₹ 2.64 crore + ₹ 0.02 crore - ₹ 0.06 crore]

⁴⁸ Interest on mobilisation advance as calculated by the Department.

⁴⁹ Bank Guarantee for performance security ₹ 6.30 crore
 Bank Guarantee for mobilisation advance ₹ 2.52 crore and ₹ 3.78 crore
 Total available with the Department ₹ 12.60 crore [₹ 6.30 crore + ₹ 2.52 crore + ₹ 3.78 crore]

repayment of mobilisation advance. Accordingly the second mobilisation advance was sanctioned by SE on the basis of utilisation certificate submitted by the contractor of previous advance with respect to work done. During discussion (November 2016), the Member Finance accepted the fact and stated that RRC has been issued for balance recovery from the contractor.

The reply is not acceptable as penalty was required to be assessed and imposed by the CE on the basis of six monthly review of the progress and therefore it should have been recovered from the intermediate payment of the contractor. Moreover granting second mobilisation advance despite the unsatisfactory progress of the work was also irregular.

Thus, the inaction of the Department to watch progress of work on six monthly basis and largesse extended to contractor in granting mobilisation advance resulted in short recovery ₹ 6.78 crore of penalty and interest on mobilisation advance and irregular grant of ₹ 1.89 crore mobilisation advance. Besides, the delay in termination of contract also resulted in deferment of intended benefit of irrigation in 17,550 hectares to farmers.

3.3.6 Excess payment of price escalation

Adoption of incorrect prices of POL resulted in excess payment of ₹ 7.89 crore to the contractors. However, after being pointed out by audit, an amount ₹ 7.82 crore has been recovered.

The Department awarded (March 2011) two works for execution of the Omkareshwar Right Bank Lift Canal Phase-I including distribution network up to 40 ha *chak*, Phase-I for 28073 ha command area (CCA) and execution of Omkareshwar Right Bank Lift Canal Phase-IV including distribution network up to 40 ha *chak*, Phase-II for 29,947 ha command area (CCA) to a contractor on turn-key⁵⁰ basis at the cost of ₹ 519.93 crore (22.05 per cent below Unified Schedule of Rates, (USR) 2009) and ₹ 349.30 crore (34.71 per cent below USR 2009). Work orders were issued (March 2011) to the contractor to complete the works within 36 months including rainy season. The works were in progress and the contractor was paid ₹ 530.31 crore including ₹ 60.65 crore on account of escalation vide 69th running bill in Phase-I and ₹ 264.88 crore including ₹ 32.05 crore on account of escalation vide 62nd running bill in Phase-IV respectively.

According to clause 113.2 of the agreements, if the construction period is more than 12 months the amount paid to the contractor for work shall be adjusted for increase or decrease in the rate of labour, material (other than Petrol, Oil and Lubricant (POL) cement and steel) cement, steel and POL quarterly in accordance with prescribed formula⁵¹.

⁵⁰ Through National Competitive bidding

⁵¹ $V_p = 0.85 * P_p * R * (P - P_o) / 100 * P_o$

V_p = Increase or decrease in the cost of works due to POL during the quarter under consideration

R = The value of work done in rupee during the quarter

P_o = The price of HSD oil at Barwaha on the date on which tenders were opened.

P = The average price of HSD oil at Barwaha during the quarter under consideration.

P_p = Percentage of POL component shall be 90 per cent

Audit scrutiny (February 2016) of records of Executive Engineer (EE), Omkareshwar Project (OSP) Canal Division, Dhamnod (Dhar) revealed that initially the division adopted the retail price of HSD at Barwaha as base price and average price for the calculation of price escalation of POL for the quarters July 2011 to December 2012. But for the period from January 2013 to September 2014 (07 quarters), the division calculated escalation on the basis of bulk price of HSD instead of prevailing retail price at Barwaha. Further, for the remaining period⁵² (October 2014 to June 2015) price escalation was again calculated on the retail price of HSD as base and average price at Barwaha.

The contractor was paid price escalation of ₹ 20.93 crore for agreement number 15/2010-11 and ₹ 11.55 crore for agreement number 16/2010-11 for POL component instead of ₹ 16 crore and ₹ 8.59 crore payable to them respectively. Thus, adoption of different process in calculation of price escalation for the POL component for seven quarters (i.e., January 2013 to September 2014) resulted in excess payment of ₹ 7.89 crore as detailed in **Appendix 3.24 and 3.25.**

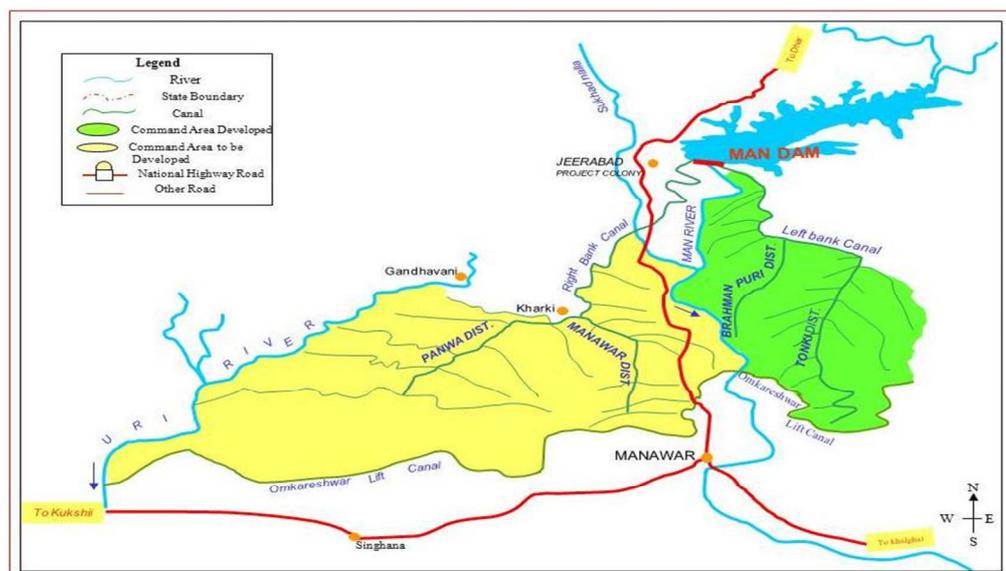
The Government in its reply stated (July 2016) that the price escalation on POL had now been revised and calculated based on retail rate of HSD for the entire period and accordingly recovery of ₹ 4.81 crore and ₹ 3.01 crore had been made from the running bills of contractor against ₹ 7.89 crore. During discussion (November 2016) the Member Finance reiterated the above facts.

3.3.7 Extra cost due to incorrect provision and execution of Cement Concrete lining

Incorrect provision and execution of excess thickness of cement concrete lining work against the irrigation specifications resulted in extra cost of ₹ 1.27 crore.

The Department awarded (December 2010) the work of construction of lining, inline structure and balance earth work of distributaries minors/sub-minors of left bank main canal of Man project under agreement number 04/ 2010-11 to a contractor at a cost of ₹ 7.87 crore. The work order was issued to complete the work within 24 months including rainy season, i.e., by December 2012. The final bill of ₹ 9.16 crore including price variation of ₹ 75.12 lakh was paid (March 2014) to the contractor.

⁵² In agreement no. 16/2010-11 and 15/2010-11 respectively.



According to specifications of irrigation project (December 1995), the thickness of lining should be fixed depending upon the nature of the canal requirement i.e., full supply depth and canal capacity. The thickness of canal lining should be 50-60 mm for the canal carrying discharge up to 5 cumecs and full supply depth up to 1 metre.

Audit scrutiny of records (October 2015) of Executive Engineer (EE), ND Division No. 16 Kukshi, District Dhar revealed that though the discharge of water in distributory and minor canal was between 0.05 cumecs to 0.51 cumecs and full supply depth (FSD) of water was between 0.2 m to 0.45 m, provision of cement concrete (CC) lining in thickness of 75 mm was made and executed instead of maximum 60 mm as required under the irrigation specification. The deviation from irrigation specifications, resulted in an extra cost of ₹ 1.27 crore due to incorrect provision and execution of excess thickness of CC lining as shown in the **table 3.3.1**.

Table 3.3.1: Extra cost due to incorrect provision and execution of CC lining

Sl. No.	Executed quantity of CC lining with 75 mm (cu m)	Required quantity of CC lining with 60 mm (cu m)	Difference in quantity (cu m)	Rate (in ₹)	Extra cost (in ₹)
1	2	3	4 = (2-3)	5	6 = (4*5)
1	16,479.159	13,183.327 (16,479.159×60/75)	3,295.832	3,850	1,26,88,953

On this being pointed out, the Government stated (July 2016) that the full supply depth of distributaries, minors and sub-minors of the canal is 0.2 m or more, hence the thickness of cement concrete lining was adopted 0.75 mm as per irrigation specifications. During discussion (November 2016), the Member Finance stated that the thickness of CC lining of canal was adopted as per nature of soil of the site and for better solution for seepage problem. He further added that 75 mm thickness of CC lining was provided in DPR as per table 5 of irrigation specifications, which was minimum thickness not the maximum thickness.

The reply is not tenable as irrigation specification (table 5) provided for a range of thickness of CC lining of 50-60 mm for capacity of canal between 0-5

cumecs with depth of water 0-1 m. The thickness can be increased only for deeper channels and when surface deterioration in freezing climate is expected. However, higher thickness for CC lining was adopted by the Department despite the fact that discharge of water was between 0.05 cumecs to 0.51 cumecs and full supply depth (FSD) of water was between 0.2 m to 0.45 m without any justification for such deviation. Thus, incorrect provision in the estimate against the irrigation specifications and execution of excess thickness in the canal lining resulted in extra cost of ₹ 1.27 crore.

PUBLIC WORKS DEPARTMENT

3.3.8 Unauthorised payment due to execution of excess thickness of Crusher Run Macadam

Execution of excess thickness of Crusher Run Macadam against the IRC-37 specification led to unauthorised payment of ₹ 98.25 lakh.

The Department awarded (March 2013) the work of upgradation of Ghosla-Ropkhedi road length 10.2 km to a contractor at a cost of ₹ 10.61 crore which was 8.69 *per cent* above the tender premium based on Schedule of Rate 2009. The work order was issued (March 2013) to complete the work within 12 months including rainy seasons i.e., by March 2014. The 16th running account bill of ₹ 10.78 crore was paid (September 2015) to the contractor.

According to the Indian Road Congress (IRC-37) specifications, the thickness of pavement as well as type of bituminous course is designed on the basis of projected number of commercial vehicles for the designed life using the figure of current commercial vehicles per day and its growth rate and california bearing ratio (CBR) value of sub-grade.

The design of bituminous road (total length 9.10 km) was prepared by the Department after detailed survey and technical sanction (TS) for the same was accorded (August 2012) by the Chief Engineer (CE), Ujjain as per provision of Indian Road Congress (IRC-37) specifications. Bituminous road was designed for a total crust thickness of 595 mm⁵³ in which Crusher Run Macadam (CRM) in 255 mm thickness was to be executed in the entire length of the bituminous road.

Audit scrutiny of records of the Executive Engineer (EE), Public Works Department (PWD) (B&R) Division, Ujjain (February 2016), measurement book (MB) revealed that total 390 mm⁵⁴ thickness of CRM layer was executed in place of 255 mm thickness which increased crust thickness to 730 mm and

⁵³ Crusher Run Macadam (CRM) – 255 mm (100 mm drain with full width), wet mix macadam 250 mm, dense graded bituminous macadam 60 mm and bituminous concrete 30 mm.

⁵⁴

Length of Road	Thickness of CRM executed
RD m 14 to RD m 7400 and RD m 7696 to RD m 9100 in 5 m width	90 mm
RD m 14 to RD m 7400 and RD m 7696 to RD m 9100 in 12.20 m width	150 mm
RD m 14 to RD m 7400 and RD m 7696 to RD m 9100 in 7 m width	150 mm
Total	390 mm

accordingly payment was made to the contractor. The execution of excess thickness of CRM than the approved TS, resulted in unauthorised payment of ₹ 98.25 lakh⁵⁵.

During discussion (November 2016), the Principal Secretary accepted the fact that the drainage layer of 150 mm of CRM should be restricted to 100 mm. Further, the Government in its reply stated (December 2016) that the thickness of CRM was increased from 250 mm to 300 mm by EE as per discussion with Superintending Engineer (SE) on the basis of quality of soil. It was further stated disciplinary action would be initiated against the concerned EE.

The reply of Department was, however, silent on execution of 390 mm thickness of CRM. Further, test result of soil was not provided by the Department to support the argument for execution 300 mm CRM in view of quality of soil.

3.3.9 Extra cost due to fixation of higher rate in Schedule of Rates

Injudicious fixation of higher rate for item “clearing and grubbing” in the Schedule of Rates led to extra cost of ₹ 4.76 crore.

Schedule of Rates (SOR) for Road and Bridge works prepared and published by the Engineer-in-Chief (E-in-C), Public Works Department (PWD) are applicable for construction and maintenance of roads executed by PWD in the State. The SOR is prepared keeping in view the specifications of Road and Bridge works and based on Standard Data Book of Ministry of Road Transport & Highways (MoRTH), Government of India issued by Indian Road Congress. Estimates for assessing cost of work are prepared on the basis of SOR. The SOR is revised from time to time by the Department due to increase or decrease in rates. Therefore, the accuracy of rates of items given in SOR has direct impact on expenditure on works where payment is made to contractor at the estimated rates. Rates adopted by the Department in the SOR, PWD enforced from 2014 for item no. 2.2 of clearing and grubbing was ₹ 48,602.

The Department awarded (July 2015) work of “Land development, levelling, rolling, pipe laying at Mela Area of Simhastha 2016 Ujjain” to a Contractor at the cost of ₹ 15.02 crore (29.88 per cent below the estimated cost based on Road SOR effective from November 2014). The work was scheduled to be completed in six months including rainy season. After inviting tender (April 2015) for above work, the Department issued (May 2015) an amendment regarding minimum requirement of plant and machineries⁵⁶ to be deployed by the contractor in order to complete the work within a revised stipulated time of eight months including rainy season. The 12th running account bill was paid (May 2016) for the value of work done amounting ₹ 18.24 crore to the contractor.

⁵⁵ Quantity to be executed $(8,790 * 12.20 * 0.10 + 8,790 * 7 * 0.155) = 20,260.95$ cu m
Quantity of measurement recorded and paid = 32,833.658 cu m
Excess quantity executed $(32,833.658 \text{ cu m} - 20,260.95 \text{ cu m}) = 12,572.71$ cu m
Excess payment $(₹ 12,572.71 \text{ cu m} * ₹ 719 \text{ per cu m} + 8.69 \text{ per cent above from the tender premium}) = ₹ 98,25,335$

⁵⁶ Tractor mounted grader or motor grader, Tipper, excavator and earth compactor

Audit scrutiny of records (June 2016) of EE Public Works Department (PWD) Simhastha revealed that the item of “clearing and grubbing” was included for 2000 hectare (ha) area of light jungle at the rate of ₹ 48,602 per ha. The item of clearing and grubbing in the light jungle area in 3,489.879 ha was executed by the contractor using mechanical means and the payment was made at the rate ₹ 48,602 per ha.

Further scrutiny revealed that specifications for Road and Bridge Works of MoRTH provides the rate of ₹ 29,161 per ha and ₹ 48,602 per ha for clearing and grubbing in the area of light jungle by mechanical means and manual means respectively. However, “clearing and grubbing” by mechanised means was not an SOR item in MP PWD. Although SOR does not specify the means (mechanically or manually) through which the work should be executed, but Chief Engineer (CE) in his technical report had clearly mentioned that MoRTH specifications should be implemented in the work. While preparing estimate, Department did not take the cognizance of this non-SOR item (“clearing and grubbing” by mechanised means) actually to be executed in the work. As a result, rates of mechanical cleaning and grubbing was injudiciously fixed at higher rate of ₹ 48,602 per ha, which was applicable for cleaning and grubbing by manual means. Thus, the incorrect provision of rate of clearing and grubbing in the estimate led to extra cost of ₹ 4.76 crore⁵⁷.

During discussion (November 2016) the Principal Secretary stated that rate of item was correctly determined on the basis of SOR item of clearing and grubbing, which did not define whether the work was to be executed through manual or mechanical means. He further, added that the price eventually quoted by the contractor did not flow from the estimate based on SOR, but took into consideration the prevailing market rate of the item. He also stated that the special condition of agreement also includes watering and other allied works which was executed by the contractor for which no extra payment was made to the contractor. The Government in its reply (December 2016) reiterated the above facts.

The reply is not acceptable, as the Department failed to include the mode (mechanical or manual) in “item no. 2.2 of clearing and grubbing” under SOR as included in specifications of MoRTH. Further, the estimate was to be prepared on the basis of rate of the clearing and grubbing of land through mechanical means, which was much lower as compared to clearing and grubbing of land through manual means. Thus, inclusion of higher benchmark rate of the item clearing and grubbing of land in the estimate resulted in extra cost of ₹ 4.76 crore to the Government.

⁵⁷ Quantity of clearing and grubbing 3,489.879 ha * ₹ 19,441 per ha (₹ 48,602 per ha – ₹ 29,161 per ha) – Tender premium (29.88 per cent) = ₹ 4,75,74,133

WATER RESOURCES DEPARTMENT

3.3.10 Financial Irregularities in execution of Khan River diversion project under Simhastha-2016

Audit noticed extra cost of ₹ 5.65 crore due to inclusion of higher rate for RCC pipe, royalty of ₹ 3.26 crore for hard rock not recovered, undue financial aid to contractor on account of payment of ₹ 40.82 lakh made to Railway authority and irregular payment of ₹ 48.85 lakh for temporary land acquisition.

Looking to the historical & pilgrimage importance of Kshipra river and Simastha Mela 2016, the public representatives had demanded to divert the Khan river, a tributary of Kshipra river, to avoid pollution of Kshipra by Khan river on its confluence at Ujjain. Khan Diversion project was sanctioned (September 2014) by the Government of Madhya Pradesh, Water Resources Department. The Water Resources Department awarded (November 2014) the work in Simashta-2016 Ujjain on turnkey basis to a contractor at a cost of ₹ 75 crore (12.407 per cent below estimated cost based on Unified Schedule of Rates effective from 2009). The work was scheduled to be completed in 12 months including rainy season, i.e. up to November 2015. The work was still in progress (June 2016) and the contractor was paid ₹ 72.76 crore up to 33rd RA bill in April 2016.

Audit scrutiny (June 2016) of records of Executive Engineer, WRD Ujjain, revealed the following deficiencies in the execution of the above work:

(i) Extra cost due to inclusion of higher rate of Reinforced Cement Concrete pipe

Audit scrutiny revealed that rate for the item Reinforced Cement Concrete (RCC) of 2,600 mm diameter pipes including transportation, laying and fixing had been incorporated in the estimate on the basis of lump sum rate ₹ 37,525 per running metre (RM) without enquiring the rates from pipe manufacturing firms as well as enquiry from local market. The payment for pipe was made at the rate of ₹ 30,494 per metre as per agreement.

Further, audit scrutiny revealed that the same contractor agreed (April 2016) to provide the 2,600 mm diameter RCC pipe at the rate of ₹ 27,445.41 per RM for another work⁵⁸ in Ujjain. Various firms/manufactures and suppliers were also available for the supply of RCC pipe of required specification at the rate ranging from ₹ 22,000 per RM to ₹ 24,000 per RM. Thus, inclusion of higher rate of Reinforced Cement Concrete pipe resulted in extra cost amounting ₹ 5.65 crore⁵⁹ to the project due to adoption of higher rate for supply of pipe.

During discussion the Additional Secretary stated (October 2016) that the facts would be verified and reply would be submitted in due course. Further, the Engineer-in-Chief (E-in-C) in his reply stated (November 2016) that in the estimate clubbed rate of RCC pipe was taken from the records of office of Executive Engineer (EE), Superintending Engineer (SE) and Chief Engineer (CE). SE, WRD Ujjain had made enquiry about the rate of RCC pipe from two

⁵⁸ Bhukimata to Datta Akhara Ghat Agreement no 21/2013-14 (Simhastha 2016)

⁵⁹ Per RM ₹ 3,049.49 (₹ 30,494.9 - ₹ 27,445.41) X 18,524 RM = ₹ 5,64,88,752.76

companies and accordingly lowest rate ₹ 27,500 per metre was adopted, which was only for procurement of pipe after which the clubbed rate was included in the G-schedule and the contract was awarded on the basis of lowest competitive bidding.

The reply is not tenable, as evidence for enquiry of rates from other pipe manufacturing firms as well as from local suppliers was not provided. Further, pipe of diameter 2600 mm was available in the market ranging from ₹ 22,000 per RM to ₹ 24,000 per RM.

(ii) Royalty for hard rock not recovered

As per clause 3 of special conditions of contract, the excavated hard rock shall be owned by the contractor and royalty charges at prevailing government rate will be recovered from contractor's running bills.

Audit scrutiny revealed that the provision of excavation of 18,017.63 cu m hard rock was made in the estimate. Contractor excavated 6,51,971 cu m hard rock, but royalty was not recovered from the contractor, this resulted in loss of revenue to the Government amounting to ₹ 3.26 crore⁶⁰.

During discussion the Additional Secretary stated (October 2016) that hard rock was used in refilling by the contractor, therefore recovery of royalty does not arise. Further the E-in-C in his reply reiterated (November 2016) the above facts and stated that no payment was made for excavated hard rock to the contractor.

The reply is not tenable, as royalty was recoverable from contractor as per special condition of the agreement. Further, in the turn-key contract the cost of material required for filling the trenches was already included in item no. 2 of the schedule.

(iii) Financial aid to contractor due to failure to recover payment made to Railway authority

General condition no 1.3.5 to bidder provides that wherever the pipe line system is crossing the railway line, the contractor has to prepare necessary proposal for seeking permission of Railway authority. The Engineer-in-Charge will process such proposals to the Railway authorities for taking up the work by them as a deposit work paying the amount demanded by the railway authorities which shall be recovered from the next running bill of the contractor. The contractor shall include such cost in the bid price.

Audit scrutiny revealed that the railway authority demanded the supervision, administrative and manpower charges amounting to ₹ 2.37 crore from EE WRD Ujjain in November 2015 against which payment of ₹ 40.82 lakh had been made (January 2016) by the division. But the payment made to the Railway authority was not deducted from the subsequent running bills of the contractor. This resulted in financial aid to the contractor amounting ₹ 40.82 lakh.

⁶⁰ 6,51,971 cu m * ₹ 50 per cu m royalty for hard rock = ₹ 3,25,98,550

During discussion (October 2016) the Department accepted the fact and assured for remedial action. Further, E-in-C in his reply stated (November 2016) that since the work was ongoing, the amount would be adjusted from the running bills.

(iv) Financial aid to contractor due to irregular payment of temporary land acquisition.

General condition no 1.3.2 instruction to bidder provides that cost of temporary land acquisition and crop compensation, if any shall be paid by the contractor. The cost of permanent land compensation, property and solatium charges shall be borne by the department.

Audit scrutiny revealed that the division deposited ₹ 2.08 crore to Land Acquisition Officer (LAO), which included ₹ 48.85 lakh for temporary land acquisition. This resulted in undue financial aid to the contractor on account of deposit of money for temporary land acquisition by the Department.

During discussion (October 2016), the Department accepted the fact and assured remedial action. Further, the E-in-C stated (November 2016) that ₹ 19.93 lakh was disbursed for temporary land acquisition out of which ₹ 8.85 lakh had been withheld from the 2nd running bill of the contractor. He also added that the payment for crop compensation was being sought from LAO which would not be payable by contractor and accordingly the recovery would be made from the next running bills.

The reply is not tenable as the payment for temporary land acquisition as well as crop compensation was required to be made by the contractor and not by the division.

3.3.11 Excavated hard rock not accounted for in Material at Site account

The value of the excavated hard rock was not included in the books (Material-at-Site) of the division which led to probable loss of ₹ 21.23 crore to the Government.

The Department awarded (October 2013) the work of remodelling of left bank canal of Mahi main dam to a contractor at the cost of ₹ 170.80 crore on turn-key basis which was 3.20 *per cent* above the estimated cost based on Unified Schedule of Rates (USR) February 2009. The work order was issued to complete the work within 36 months including rainy season. The work was still in progress and the 24th running account bill of ₹ 94.92 crore was paid (February 2016) to the contractor.

According to General Notes 1 D of USR, the excavated material (hard rock) shall be stacked properly and separate payment for stacking is not admissible. For accounting of the excavated hard rock (inclusive of 40 *per cent* voids), giving due consideration to unavoidable wastage, the quantity of utilisable rock to be recorded in the books shall be 1.3 times (inclusive of 16 *per cent* voids) of the quantity paid in excavation (solid rock cut). No further reduction wastage is permissible. Further, as per the contract, price of the total work is divided among different component of works as per the percentage specified in the Payment Schedule and payment is regulated accordingly.

Audit scrutiny of records of Executive Engineer, WR division-I, Jhabua, revealed (April 2016) that provision of excavation of 10,23,246 cu m hard rock was made in the estimates of the above work and as per the running bill, up to 95 *per cent* of the earthwork in canal has been completed. Therefore, 12,63,708.81 cu m⁶¹ hard rock valued at ₹ 21.23 crore⁶² was to be recorded in the books as Material-at-Site by the division during excavation of hard rock. Further, the Division was required to monitor issue and recovery of hard rock at specified rate as stipulated in clause 36 of the agreement. However, details regarding quantity of excavated hard rock was neither found in divisional records nor provided by the Department when enquired. Since 90 *per cent* of the structure already completed therefore issuance, use and recovery of hard rock beyond this stage is improbable. As a result, probable loss of ₹ 21.23 crore on this account cannot be ruled out and therefore requires investigation by the Government.

On this being pointed out, the EE stated (April 2016) that as the work was running the excavated rock was being used by the contractor, the balance hard rock would be stacked along the canal by the contractor and would be intimated to the mining Department. Further, the EE stated that the quantity of excavated hard rock would be finalised after completion of work and the cost of hard rock would be recovered.

The reply is not acceptable, since structure up to 99 *per cent*, aqueducts 69 *per cent* to 99 *per cent* and lining work 95 *per cent* have been completed and it is reasonable to expect that excavated hard rock should have been accounted as available in the material at site for the division/contract and value should have been adjusted in the running bill.

During discussion the Department accepted (October 2016) the fact that the hard rock should be taken in the Material-at-Site.

3.3.12 Inadequate estimation and poor planning led to infructuous expenditure

Due to inadequate estimation and poor planning, the seepage problem could not be resolved even after constructing RCC duct with less water way area and diversion channel. This led to infructuous expenditure of ₹ 3.00 crore.

According to para 2.028 of Works Department Manual, an officer according the technical sanction to an estimate is responsible for soundness of design and for incorporating all the items required for inclusion in the estimate with reference to the drawing.

As per the survey report of Geological Survey of India (GSI) (May 1998), a heavy seepage and failure of bank/slope was occurring between Ch 760 to Ch 782 of Sanjay Sarowar Bhingarh Right Bank Main canal under Tilwara left bank canal (TLBC), division-Keolari (Seoni). Therefore, the GSI

⁶¹ Quantity of excavated Hard rock on pro-rata basis, i.e. percentage specified of earthwork in Payment Schedule, to be mentioned in Material-at-Site book = Estimated excavated quantity 10,23,246 cu m * 95 *per cent* * 1.3 = 12,63,708.81 cu m

⁶² Total cost = Total quantity 12,63,708.81 cu m * ₹ 168 (Issue rate ₹110 + royalties charges ₹ 50) = ₹ 21,23,03,080.08

recommended the removal of red bole under the entire canal bed, preparation of the grade level of the canal with suitable graded material with rolling and compaction followed by lined section of the canal and bench the slope of banks for stability.

Audit scrutiny revealed (September 2015) that the Department, ignoring the recommendations of GSI, prepared an estimate (October 2005) for construction of two barrel Reinforced Cement Concrete (RCC) duct of 3 X 3 metre, having full supply level (FSL) 1.5 metre. The work was awarded (May 2006) to a contractor at an estimated cost of ₹ 3.42 crore (35.2 per cent above on USR 2003) for completing the work within three months i.e., by August 2006. The contractor failed to complete the work even after the grant of three time extensions up to June 2008 and only 70 per cent work was completed up to June 2008. The division paid 12th running account bill (May 2008) for ₹ 2.39 crore and prepared 13th final bill for 'NIL' payment for incomplete work in the month of December 2014.

Further, the division again prepared an estimate (June 2011) of ₹ 45.56 lakh and submitted a note to Chief Engineer (CE) for construction of diversion channel⁶³ along the duct chainage. As per technical justification, the canal was initially constructed with design for water way of 16.30 sq m in L-section, with supplied depth of 2.3 metre to 2.5 metre but due to construction of the RCC duct having 9.30 sq m water way and 1.5 metre FSL, the water way of main canal was reduced approximately 20 to 25 cusecs of water as capacity of full supply of water in RCC duct (at chainage 760) was only 1.5 metre. Since the water was supplied with the depth of 2.3 metre to 2.5 metre. Therefore, an afflux of water about two to three feet was developed prior to RCC duct due to which water was spreading in that area and could cause damage to the canal embankment/system.

Audit scrutiny of records of Executive Engineer (EE), TLBC Division Keolari, Seoni revealed that initially technical sanction for construction of diversion channel was accorded by CE for ₹ 45.56 lakh and Superintending Engineer was directed to start execution of new work after final disposal of initial work as per rules. CE further revised (October 2013) the sanction to ₹ 61 lakh as per orders of Principal Secretary, WRD and gave the work of diversion channel for execution to E&M division, Balaghat. Further audit scrutiny revealed that the division constructed a diversion channel to get rid of the afflux of water (about two to three feet) developed prior to RCC duct through which water was supplied with 2.3 metre to 2.5 metre instead of 1.5 metre capacity of RCC duct.

⁶³ Which included excavation in hard moorum, disintegrated, soft rock and hard rock, and transportation (disposal) of excavated material.



Spillage of water between Chainage 760 and Chainage 782 during Joint Physical Verification

Thus, the expenditure of ₹ 3.00 crore⁶⁴ incurred for construction of RCC duct resulted in carriage of less water on account of reduced water way. Further, construction of faulty RCC duct and diversion channel could not address seepage problem.

On this being pointed out, the CE stated (May 2016) that the duct was constructed as per discharge design and the bed width was reduced for intense flow of water and to avoid landslides. Since the contractor left the work incomplete and the flow of water was not proper, hence the work of diversion channel was executed by E/M division, Balaghat and now the discharge of water is uniform. Further, during discussion (October 2016) the Additional Secretary offered no specific comments however, it was assured to provide the necessary documents related to rectification of seepage.

On request of the Department, a joint physical verification (December 2016) of the site was done and it was noticed that the seepage and the failure of bank/slope was still persistent. Thus, the Department could not address the problem of seepage and failure of bank/slope, even after incurring expenditure of ₹ 3.00 crore on construction of RCC duct and diversion channel.

3.3.13 Excess payment of lead for sand in cement concrete work

Incorrect provision of lead for sand from 100 km clubbed in the cement concrete item resulted in excess payment of ₹ 1.58 crore to the contractor.

The Water Resources Department awarded (February 2013) the work of construction of Pancham Nagar Barrage to a contractor at the cost of ₹ 53.10 crore which was 4.05 per cent above the estimated cost of ₹ 51.03 crore based on Unified Schedule of Rates (USR) effective from February 2009. The work was scheduled to be completed within 24 months including rainy seasons i.e. February 2015. The work was completed in December 2015 with time extension up to December 2015 but final payment was not released by the Department as final approval of Chief Engineer awaited for excess/extra

⁶⁴ ₹ 3.00 crore (₹ 239 lakh expenditure on RCC Duct + ₹ 61 lakh expenditure on diversion channel)

quantity of work. The 42nd running bill for value of work done of ₹ 53.62 crore was paid (May 2016) to the contractor.

According to general note of the schedule of the agreement, the contractor is bound to utilise stone, earth and any useful material obtained from excavation or as directed by Engineer-in-charge or by the Department. Utilisation of excavated material within construction area include re-handling, dressing, finishing/shaping with all leads and lifts without extra payment to the contractors.

As per clause 3.11 (A) of the tender forming part of the agreement, the quoted rates of the contractor were inclusive of the leads and lifts for any material. The contractor would bring approved quality of materials and for that different quarries were indicated in Annexure "C" showing locations of the quarry on map. It further stipulated that details shown in Annexure "C" were only as guide to the contractor and the contractors before tendering should satisfy himself regarding quality and quantities available of mineral and the contractor should provide for any variation in lead, lifts and place etc. in his tendered rate.

Audit scrutiny of records (May 2015 and 2016) of Executive Engineer, Pancham Nagar Project Survey Division, Hatta, revealed that in clubbing statement of above work lead of sand from 100 km was included in the cement concrete item at the rate of ₹ 507.78 per cu m. Further, it was noticed that 65,068.563 cu m of excavated hard rock was issued to the contractor, which was used by the contractor for manufacturing sand in his own manufacturing plant near the work site and utilised for cement concrete



Sand crusher at site

work. Therefore payment of ₹ 1.58 crore⁶⁵ on procurement of sand (classified as lead of sand from 100 km) included in terms of the amounts in the clubbed rate of cement concrete item was unjustified.

On this being pointed out, the Engineer-in-Chief stated (November 2016) that the estimates and clubbed rate was not a part of agreement and there was no separate provision for payment of lead and payment was made as per the rate mentioned in the agreement. During manufacturing of sand, contractor incurred excess expenditure in comparison to the amount of lead. During discussion (October 2016), the Additional Secretary stated that lead chart was appended in the tender document only for general guidance and contractor had liberty to collect the material as per his convenience. During execution, hard rock was obtained and permission for manufacturing of sand at the site was

⁶⁵ ₹ 1,58,48,890 (Quantity of sand utilised in work 29,997.233 cu m * ₹ 507.78 per cu m rate of lead for sand + tender premium of 4.05 per cent above)

also given to the contractor and Department deducted issue rates and royalty charges. The Department has not paid any amount on account of lead to the contractor.

The reply is not acceptable as Division paid ₹ 1.58 crore to the contractor on the leads for transportation of sand from quarry, despite it being aware of the fact that the contractor was not bringing sand from the quarry and the sand manufactured near work site from excavated hard rock was being utilised in CC works. Since estimate and USR are eventual driver of the cost, any deviation/over estimation leads to extra cost in the work. The reply also indicated that the officials responsible for scrutiny of bill and approval of payments were either not familiar with the contract terms or were deliberately negligent. This matter needs further investigation by the Department.

3.3.14 Extra cost due to preparation of incorrect clubbed rate

Adoption of incorrect clubbed rate of earthwork instead of adoption of complete item for earthwork resulted in extra cost of ₹ 1.31 crore.

The Department awarded (November 2011 and September 2013) the works of construction of main canal, distributaries and minors including earthwork, structures and lining work of main canal of Indla Tank Project Manawar and construction of earthwork and lining of Right Bank Main Canal (RBMC), sub- minor, structures, etc. of Kachhal Tank Project Shajapur to contractors at the cost of ₹ 10.89 crore and ₹ 11.53 crore on percentage rate tender⁶⁶ to complete the works within 18 months and 15 months including rainy season respectively. The work orders were issued in May 2013 and August 2014 respectively. The canal work of Indla Tank project was completed in June 2014 (with time extension up to June 2014) and 28th final bill of ₹ 10.59 crore was paid (December 2015) to the contractor. The canal work of Kachhal Tank Project was completed in May 2015 (with time extension up to May 2015) and 24th final bill of ₹ 11.86 crore was paid (August 2015) to the contractor.

According to the general note 9 (b) of the chapter 4 of Unified schedule of Rate (USR) of WRD (February 2009), in canal excavation the earth excavated from surplus reaches should be utilised in adjoining deficit reaches so that the land acquisition for disposal of surplus earth and borrow areas in deficit reaches is reduced to a minimum. For this purpose on the basis of starting levels a shifting statement should be prepared which will form the basis for shifting of earth and computation of net payable quantity of earthwork and lead charges.

Further, the clubbed rate for excavation for earth work for bund, Cut off Trench (COT), canal and all other item by head load may be carried out up to a limit of estimated unit rates as contained in USR item no. 415 A (ii) and (iii) (₹ 43 per cu m and ₹ 54 per cu m respectively) as per amendment (January 2010) for bund and COT filling respectively.

⁶⁶ In case of Indla Tank Project Manawar at 2.08 per cent below the estimated cost of ₹ 11.12 crore and in case of Kachhal Tank Project Shajapur 17.71 per cent above the estimated cost of ₹ 9.79 crore respectively.

Audit scrutiny of records (February 2016⁶⁷ and April 2016⁶⁸) revealed that as per cost estimation of these works, the clubbed rate of earthwork was prepared by the division with provision of 0.5 km and 2 km lead as contained in USR item no. 2904 (5) (at ₹ 62.64 per cu m and ₹ 74.52 per cu m respectively). In the case of Manawar, item no. 415 (c) with free lead up to 50 m was included at the rate of ₹ 31 per cu m, additional lead up to 500 m was included at the rate of ₹ 62.64 per cu m as per item no 2902(5) and clubbed rate was worked out to ₹ 90.44 based on the quantitative calculations. Similarly, in the case of Shajapur, the item of excavation 401 (b) was taken for excavation of hard soil and lead of ₹ 74.52 per cu m was taken from item no. 2904 (5) (2) of chapter 29 transportation of material to work out clubbed rate of ₹ 89.18 on the basis of quantitative calculations. Thus, inclusion of additional rate for lead in clubbed rate of earthwork instead of adoption of complete item for earthwork 415 A (ii) and (iii) resulted in extra cost of ₹ 1.31 crore to the works as detailed in **Appendix 3.26 and 3.27**.

On this being pointed out, the Engineer-in-Chief (E-in-C) stated (August 2016) that the estimate gives the value of work on the date of enforcement of USR and was not up-to-date value of work. The estimate and clubbing statement are not part of the bid document and the bidders after considering the market rates, site conditions, ease of doing work, availability of material/labour/machinery and other factors prevailing at the area where work was to be executed, quotes the rate of item. Hence, the quoted rates were not based on the clubbed rate of item of estimates and the department did not pay separately any amount on the part of the lead. However, the E-in-C accepted that to avoid such incidents in future, the current USR enforced in department from April 2016 had incorporated the rates of all items in USR inclusive of all lead, lift transportation of materials. The Additional Secretary reiterated the same in the meeting held on October 2016.

The reply is not acceptable as the estimated rate based on the clubbing statement is the base of the quoted rate of the bidders. Further, item number 415 (c) of USR was deleted (January 2010) and replaced by item applicable for maintenance and repairs of bunds and canals (at ₹ 38 per cu m). Also, excavation for earthwork for bund, COT, canal and all other item was carried out within the limit of estimated unit rate of item 415 A (ii) and (iii) as per USR Chapter-4, hence, additional lead was not admissible. As the agreements were overall percentage rate, failure of the Department to take due diligence while preparing the clubbed rate resulted in extra cost of ₹ 1.31 crore.

⁶⁷ EE WRD Division Shajapur
⁶⁸ EE WRD Division Manawar

3.3.15 Extra cost due to incorrect adoption of rates for cohesive non-swelling soil

Adoption of higher rates for providing and placing of Cohesive non-swelling item resulted in extra cost of ₹ 1.09 crore.

The Department awarded (February 2013 to February 2015) 10 works⁶⁹ under six⁷⁰ divisions for construction and repair, remodeling and reconstruction of canal lining under different agreements at the cost of ₹ 94.13 crore. The contractors had executed (March 2016) 2,36,233.53 cu m Cohesive non-swelling soil (CNS) in canal works.

The Chief Engineer, Bureau of Design (BODHI), Water Resources Department, Madhya Pradesh (December 2012), amended the Unified schedule of rates⁷¹ (USR) and revised the rates for providing and placing of CNS soil including collection, spreading, watering and compaction, etc. from ₹ 94 per cu m to ₹ 52 per cu m.

Audit scrutiny of records (January 2016 to March 2016) revealed that the Department awarded 10 works in six divisions without incorporating the reduced rate in the estimates, which resulted in an extra cost of ₹ 1.09 crore to the work as detailed in **Appendix 3.28**.

The Government in its reply stated (August 2016) that the process of bidding was transparent and wide open to all participating agencies. The estimate and clubbing statement were not part of bid document. The bidders, after considering the market rates, site conditions, ease of doing work, availability of material/labour/machinery and other factors prevailing at the area where work was to be executed, quotes the rates of item. Thus, the quoted rates were not based on the rate of item of estimate. However, instructions to all field engineers for immediately incorporating the amended rates in the estimate have been issued to prevent occurrence of such incidents in future. During discussion (October 2016), the Additional Secretary reiterated the above facts.

The reply is not acceptable as the estimate and USR are important documents as they are the eventual driver of cost. Further, the agreements were based on overall percentage rate tender. Hence, any deviation in the clubbed rate would affect the rates quoted by the contractor. Also, the amendment in rates for CNS item were issued by the Department prior to issuance of Notice Inviting Tenders for all the works. However, the respective divisions did not comply with the amendment and prepared the estimates without incorporating the reduced rate for CNS. Thus, incorrect adoption of rates for CNS resulted in extra cost amounting to ₹ 1.09 crore on execution of the work.

⁶⁹ One in Deolond, three in Ganj Basoda, one in Katni, two in Narwar, two in Shajapur and one in Shivpuri Division

⁷⁰ Deolond, Ganj Basoda, Katni, Narwar, Shajapur and Shivpuri.

⁷¹ Vide amendment no. 09, (complete item No. 2503 (c) of USR)

3.3.16 Avoidable extra cost due to execution of tamping in canal

Incorrect provision and execution of tamping in canal work as a separate item resulted in extra cost of ₹ 77.36 lakh. However, after being pointed out by audit, an amount ₹ 12.56 lakh has been recovered.

According to clause 4.9.7.1.3 of chapter 4 volume-I of the Irrigation Specifications, tamping is to be provided in locations where compaction of the earth fill material by means of roller is impracticable or undesirable. The earth fill shall be specifically compacted in such locations.

The Department awarded (November 2011 to June 2015) 12 canal lining works for 11 schemes in seven⁷² divisions at a cost of ₹ 140.07 crore. The schedule of quantities, forming part of the agreements for the works of cement concrete lining of canal, *inter alia* envisaged two items, viz. (i) providing and placing approved Cohesive Non-Swelling (CNS) soils below lining in canal bed and side slopes including saturation in soil of canal up to 30 cm depth, breaking of clods, laying in layers of 15 cm thickness, cutting and finishing in required bed grade and side slopes including dressing, watering and compaction at optimum moisture content to dry density not below 90 per cent by light rollers, i.e. non-powered rollers or sheep foot earth-masters or hand rammers, or mechanical/vibratory compacters, and (ii) tamping in canal bed and sides including saturation up to 30 cm depth for preparation of earthen sub-grade before laying in-situ cement concrete lining.

Audit scrutiny of records (January 2016 to April 2016) revealed that in the 12 canal lining works, total 2,62,382.40 cu m CNS item was executed by the contractors and in the same reaches tamping in canal beds and side slopes was also provided and executed in total area of 6,61,756.61 sq m at a cost of ₹ 77.36 lakh. Since the item of providing and filling CNS included ramming⁷³, watering and compaction, separate provision and execution of tamping was unwarranted in the reaches where CNS was laid. Thus, unwarranted provision and execution of tamping resulted in avoidable extra cost of ₹ 77.36 lakh on the work as detailed in **Appendix 3.29**. However, after being pointed out by audit, an amount of ₹ 12.56 lakh has been recovered⁷⁴ on account of tamping from the contractor by WR division, Damoh.

The Engineer-in-Chief in his reply stated (September 2016) that as per clause 25.3 of Irrigation Specification, a CNS material of required thickness, depending on the swelling pressure of expansive soil was to be sandwiched between the soil and the rigid lining material in order to counteract the swelling pressure and prevent deformation of the rigid lining material. In order to ensure proper density, provision of watering and compaction was made in the item of CNS. Further, as per Irrigation Specification, the provision of tamping for preparation of earthen sub-grade before laying CC lining was a must even though compaction has been done while laying CNS.

⁷² Sanjay Sagar Project division, Ganjbasoda, Sindh Project Right Bank Canal Division, Narwar, and WRD divisions Damoh, Dewas, Katni Manawar and Rajgarh.

⁷³ A form of heavy tamping or the like by means of blunt tool forcibly applied.

⁷⁴ In agreement number 25/2014-15 (₹ 5,09,433) and in agreement number 20/2014-15 (₹ 7,46,117).

During discussion (October 2016), the Department stated that execution of item of tamping was done only in the filling reaches of canals. Department further assured to verify the matter.

The reply is not acceptable as the compaction of the earth fill material was included in 'providing and placing approved CNS soils below lining in canal bed and side slopes'. Thus, separate provision and execution of tamping was unwarranted.

Bhopal
The 10 March 2017


(DEEPAK KAPOOR)
Accountant General
(Economic and Revenue Sector Audit)
Madhya Pradesh

Countersigned

New Delhi
The 10 March 2017


(SHASHI KANT SHARMA)
Comptroller and Auditor General of India

