

Performance Audit

Forest Department

2.1 Working of Tiger Reserves, National Parks and Sanctuaries

Executive Summary

The Wild Life (Protection) Act, 1972 empowers the State Government to declare an area of adequate significance to wild life and its habitat as a Sanctuary, a National Park or a Tiger Reserve to protect, propagate and develop it.

- Planning for conservation and protection of wild life and its habitat was deficient as Tiger Conservation Plans essential to ensure protection of wild life were not prepared. There were delays in incorporation of buffer area. New Ratapani tiger reserve in Sehore, one national park and two sanctuaries in Khandwa were not notified by the Government and wild life corridors were not declared as conservation reserves, which affected the conservation of wild life.

(Paragraphs 2.1.7.1 to 2.1.7.3)

- Compared to the year 2006, population of tiger was stable in 2010. The population of great Indian bustards, chitals, sloth bears and wild dogs declined in two sanctuaries. The proposed translocation of barhasinga could not be done and inefficiency in translocation of blackbucks resulted in high mortality. Presence of commercial activities, residential infrastructures in core areas affected efforts for conservation of wild life and its habitat.

(Paragraphs 2.1.8.1 to 2.1.8.4)

- Protection of wild life was not adequately ensured as electric lines passing through the protected areas were not insulated, veterinary infrastructure was not available. Wireless sets and other surveillance instruments were lying idle. Online monitoring system for wild life offence was deficient. Beat inspections were not carried out as prescribed.

(Paragraphs 2.1.9.1 to 2.1.9.5)

- Eco-development through Eco-Development Committees was not ensured. Biotic pressure could not be reduced due to failure to produce fuel wood from plantations and establish sale depot facilities for villagers.

(Paragraph 2.1.10.1 to 2.1.10.2)

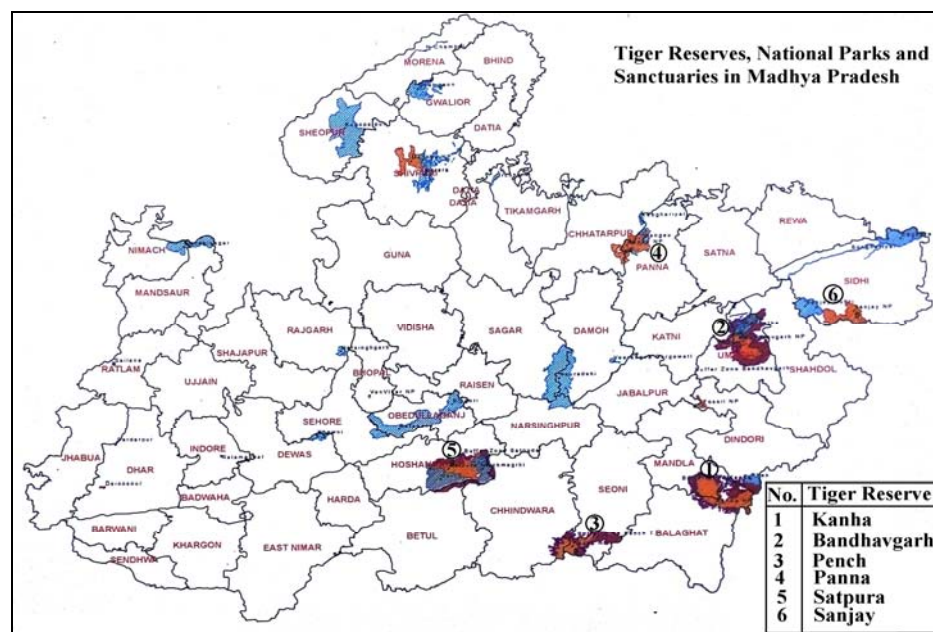
2.1.1 Introduction

The Wild Life (Protection) Act, 1972 (Act) empowers the State Government to declare any area of adequate ecological, faunal and floral, geomorphological¹, natural or zoological significance as a Sanctuary, a National Park (NP) or a Tiger Reserve (TR) for the purpose of protecting, propagating and developing wild life or its environment and make rules for implementing the provisions of the Act. A forest area with substantial

¹ Geomorphology is a scientific study of landforms and the processes that shape them.

presence of tigers with due recommendation of National Tiger Conservation Authority (NTCA) is considered for declaration as TR. The NPs have greater degree of restrictions compared to Wild Life Sanctuaries (WLSs), as grazing and passage of livestock and land rights to a person is allowable in WLSs, whereas it is prohibited in NPs. The provisions for penalties for similar offences are greater in TRs compared to NPs and WLSs.

As of November 2014, the Government of Madhya Pradesh (GoMP) notified six TRs, four NPs and 19 WLSs spreading over an area of 16,370.288 sq km² which is 17.29 per cent of total forest area of 94,689 sq km³ in Madhya Pradesh. Six tiger reserves of the State are shown in the map below:



The Wild Life Wing of the Forest Department was created in February 1977 to manage these Protected Areas (PAs).

2.1.2 Organisational set-up

The Forest Department (Department) is headed by the Principal Secretary at Government level. The Principal Chief Conservator of Forests (PCCF)-Apex is the functional head of the Department. The Wild Life Wing is headed by Principal Chief Conservator of Forests (Wild Life), he works as Chief Wild Life Warden (CWLW). The TRs/ NPs and Sanctuaries are headed by Field Directors/ Directors and Divisional Forest Officers/ Superintendents respectively. The organisational set up of Wild Life Wing of Forest Department is given in the **Appendix 2.1**.

² 10,989.247 sq km protected and 5,381.041 sq km buffer area of TRs
³ As per Administrative Report of the Department for the year 2011-12

2.1.3 Audit objectives

The performance audit seeks to assess whether:

- planning for conservation and protection of wild life such as preparation of conservation plans, formation of protected areas and updation of planning documents etc. was adequate;
- adequate measures were taken for conservation of wild life and its habitats such as phasing out of activities not in consonance with the Act, translocation of endangered species, habitat development, etc.;
- protection of wild life and its habitat such as establishment of well equipped veterinary infrastructure, staff, etc. was efficient and effective; and
- the initiatives for eco-development such as participation of local inhabitants, their requirements, etc. were ensured.

2.1.4 Audit criteria

Audit findings are based on criteria derived from:

- Wild Life (Protection) Act, 1972;
- Wild Life (Protection) Madhya Pradesh Rules, 1974, *Vikas Nidhi* (Revised) Rules, 2009;
- Orders of the Supreme Court, guidelines and orders issued by the GoI and by GoMP and
- Conservation and Management Plans for Protected Areas.

2.1.5 Scope and methodology of audit

Performance Audit was carried out during November 2013 to July 2014 through test check of records of 10 divisions (four TRs⁴, one NP and five WLSs) including buffer zones of TRs selected on the basis of stratified random sampling covering the period 2009-14 (**Appendix 2.2**).

The audit objectives, scope, methodologies and criteria of audit were discussed (13 February 2014) in an entry conference with the Principal Secretary. In the exit conference held on 3 November 2014 with the Secretary, audit findings were discussed. The Government accepted all the audit recommendations. The responses of the Government on audit observations have been suitably incorporated in the Performance Audit.

2.1.6 Allotment and expenditure for Protected Areas

Funds for the management of TRs, NPs and WLSs are allotted by both GoI and State Government. A total amount of ₹ 619.70 crore (GoI: ₹ 404.29 crore and GoMP: ₹ 215.41 crore) was released for wild life conservation and protection, against which expenditure of ₹ 569.73 crore (GoI: ₹ 372.62 crore and GoMP: ₹ 197.11 crore) was incurred during the period 2009-10 to 2013-14. Year-wise details are given in the table below:

⁴ Kanha Tiger Reserve (KTR), Mandla covers Phen Sanctuary and Buffer Area of KTR.

Table 2.1: Scheme wise and year wise expenditure and savings

(₹ in crore)								
Years	Expenditure and Savings	Project Tiger	Integrated Development of Wild Life Habitats	Finance Commission Grants	Other Central Grants	Total Central Grant	State Schemes	Grand Total
2009-10	Expenditure	47.68	6.42	8.29	0.41	62.8	0.1	62.9
	Savings	4.99	1.11	1.22	0.22	7.54	0.06	7.6
2010-11	Expenditure	47.53	6	0	0.08	53.61	0.21	53.82
	Savings	4.34	2.15	1.85	0.91	9.25	13.09	22.34
2011-12	Expenditure	64.25	5.22	0	0	69.47	5.46	74.93
	Savings	2.22	1.4	0	1	4.62	2.54	7.16
2012-13	Expenditure	96.22	0	7.39	0	103.61	6.64	110.25
	Savings	9.08	0	0.61	0	9.69	0	9.69
2013-14	Expenditure	69.24	0	13.89	0	83.13	184.7	267.83
	Savings	0.46	0	0.11	0	0.57	2.3	2.87
Total	Expenditure	324.92	17.64	29.57	0.49	372.62	197.11	569.73
	Saving	21.13	4.66	3.75	2.13	31.67	18.3	49.97

(Source: information provided by CWLW)

It would be seen from the above that Central funds of ₹ 31.67 crore could not be utilized during the period 2009-14. During 2013-14, expenditure under State Schemes increased significantly mainly due to incurring expenditure of ₹ 164.61 crore on account of compensation for rehabilitation of villages from the protected areas.

In order to supplement development activities in and around the Protected Areas (PAs), the Department, decided (February 1997) to set up a *Vikas Nidhi* for each PA. The entry fees received in the respective TRs, NPs and WLSs through tourism were to be deposited in *Vikas Nidhi*. Its management was governed under *Vikas Nidhi* Rules. During the period 2009-14, total collections in the selected PAs were ₹ 72.17 crore (**Appendix 2.3**). Deficiencies noticed in the management of *Vikas Nidhi* were as under:

Due to keeping of funds in saving bank account, the Department suffered loss of interest of ₹ 51.69 lakh.

- We observed significant unspent balances in the *Vikas Nidhi*, up to ₹ 1.51 crore in Pench TR and ₹ 8.70 crore in Kanha TR. There was no plan for utilisation of these funds. The Department suffered a loss of ₹ 51.69 lakh⁵ on account of interest due to keeping the funds in savings bank accounts instead of higher interest bearing modes.
- We observed that in five⁶ out of 10 test checked PAs the account of *Vikas Nidhi* were not prepared. While two PAs (Kheoni WLS and Kuno WLS) did not maintain the cash book, two other PAs (Bandhavgarh TR and Satpura TR) did not make entries in cash books. Further, in Satpura TR, ₹ 68.66 lakh was retained in the form of demand draft for more than two years resulting in loss of interest of ₹ 9.31 lakh.

⁵ Interest forgone is the difference between the interest received at savings bank interest rate and the interest receivable at interest rate of term deposit for less than one year (minimum rate of 5.75 per cent during the period 2009-14 has been adopted).

⁶ DFOs, Dewas, Gwalior, Kuno and Obedullaganj, WLS (each since April 2009) and Deputy Director (DD), Bandhavgarh TR (since January 2014)

The Government stated in the exit conference that instructions would be issued for proper maintenance of *Vikas Nidhi* accounts including cash book and action would be taken against officers responsible for the lapses.

2.1.7 Planning for conservation and protection of wild life

2.1.7.1 Plan for Tiger Reserves

According to Section 38 V of the Wild Life Protection Act, the State Government shall prepare a Tiger Conservation Plan (TCP), generally for a period of 10 years for proper management of each TR⁷. The Act further provides for formation of a Buffer zone⁸ for each TR to ensure the integrity of critical tiger habitat. In accordance with the requirements under Section 33 of the Act, management plan is prepared for each NP/ WLS to control, manage and maintain them.

The NTCA has the power to approve the TCP. A tri-partite agreement for each TR was signed (November 2009) between NTCA, State Government and concerned Field Directors of the six TRs⁹. The agreement stipulated presentation of TCP for each TR within a period of two years.

We noticed the following:

- Out of total six TRs, TCP of only Kanha TR was approved (March 2013). Out of the area of 940 sq km in Kanha NP, 917.43 sq km was notified as TR in December 2007. However, no Management Plan was prepared for the remaining 22.57 sq km area of Kanha NP as of November 2014.
- For the remaining five TRs, TCPs were not approved as of November 2014. Thus, the requirement of protection and conservation and site specific habitat inputs for viable population of tigers could not be ensured as per requirement of TCPs.
- In four test checked TRs, the buffer area existed only in Kanha TR since September 1976. The buffer area of Bandhavgarh, Satpura and Pench TRs were transferred between July 2013 and February 2014, after delays ranging from 66 to 76 months from the notification of their core areas¹⁰.

The Government stated in the exit conference that the preparation of Management Plan for residual area of Kanha would be taken up. It was further stated that TCPs would be sent to NTCA for approval. It also stated that the process of incorporation of buffer area was delayed due to prolonged process of consultations with nearby villagers and Territorial Divisions.

The reply is not acceptable as the consultation with nearby villagers and Territorial Divisions should have been obtained prior to declaration of TRs.

2.1.7.2 Declaration of Wild Life Corridors as Conservation Reserves

According to Section 36A of the Act, the State Government may declare an area adjacent to NPs and WLSs and those areas which link one PA with the other (corridor), as a Conservation Reserve (CR) for protecting landscapes,

Five Tiger Reserves were functioning without approved Tiger Conservation Plans, essential to ensure protection and site specific habitat inputs.

⁷ Tiger Reserve, for the purpose of this section includes core and buffer zones.

⁸ Buffer zone has a lesser degree of habitat protection.

⁹ Bandhavgarh, Kanha, Panna, Pench, Sanjay and Satpura TRs

¹⁰ Core areas were notified in December 2007

seascapes, flora and fauna and their habitat. Further, while returning the proposed TCPs to the CWLW, the NTCA observed that intensive forms of land uses e.g. commercial mining, setting up of industries etc. should be avoided in the corridors, to safeguard the wild life and its habitats.

NTCA guidelines, 2008 and 2012 stipulate that isolated population of wild animals face the risk of extinction owing to insularisation. This also prevents gene flow in the landscape.

Due to non-declaration of corridors as Conservation Reserves, gene flow of wild life in the landscape was not ensured.

We noticed that Plan for corridor connecting Kanha and Pench TRs was prepared and sent (January 2014) to Ministry of Environment and Forests (MoEF) for approval, which was returned (March 2014) due to non-inclusion of provisions for management of wild life in the plan. No area was notified as Conservation Reserve in respect of any corridor connecting other protected area. There was nothing on record to show that any initiative was taken in this regard by the Department. As per online forest offence management system in respect of wild life maintained by the Department, there were instances of man-animal conflict resulting in death of 3,595 wild animals due to poisoning, electrocution, accidents etc. besides killing of 102 human beings, injury of 2,050 and deaths of 5,881 cattle during the period 2009 to 2013. Not notifying the corridor for connecting the PAs would affect the achievement of the objective of minimising the risk of extinction through gene flow of wild animals in the landscape.

The Government stated in the exit conference that survey for identification of all corridors was being taken up and necessary action would be taken up.

2.1.7.3 Planning and notification of new Tiger Reserves, National Park and Sanctuaries

Delay in notification of new PAs affected conservation and protection of wild life.

The objective of notifications of an area as a TR, NP or WLS is to protect, propagate and develop wildlife and its environment. Deficiencies in issuance of notifications of new PAs noticed during audit are discussed below.

(a) Declaration of Ratapani Sanctuary as Tiger Reserve

In-principle sanction for declaration of Ratapani sanctuary as TR was granted by National Tiger Conservation Authority, GoI, in August 2008. The CWLW submitted (September and December 2008) a proposal comprising an area of 1,107.735 sq km (Core: 793.984 sq km and Buffer: 313.751 sq km) to the State Government for final notification of TR. The Forest Department, GoMP directed (December 2010) to CWLW to notify core area and buffer area separately. The CWLW submitted (December 2011) a revised proposal comprising core area of 849.027 sq km, stating that revenue and private lands of 55.043 sq km were not incorporated in the Sanctuary notified earlier. However, no action was taken by the Government to notify the WLS as TR. The failure to notify Ratapani sanctuary as TR even after lapse of six years affected the conservation and protection of tigers and other wild animals.

(b) Conservation of wild life of forest land diverted for Indira Sagar Project

The MoEF, GoI while according sanctions (October 1987) for diversion of 41,111.97 ha forest land for Indira Sagar Multipurpose Irrigation Project (ISP) in Khandwa district, directed the State Forest Department for

constitution of a Committee for conservation and management of wild life in the area. According to Census 2001, there were 1,737 carnivores including tigers and leopards, 13,839 herbivores and 1,107 different types of birds in the affected area of ISP. The proposed Committee was formed in January 1988, which submitted its report in August 1993.

We noticed that GoMP submitted (August 2007) an undertaking before the Supreme Court in reply to a writ petition (202 of 1995) to the effect that one NP (Omkareshwar) and two WLSs (Mandhata and Singhaji) along with two Conservation Reserves (CRs) would be constituted as per recommendation of the Committee. The CWLW sent (December 2010) a draft notification for declaration of only two CRs, which were pending with GoMP as of November 2014. No proposal for declaration of the NP and sanctuaries was sent to Government as of November 2014. Thus, the proposed NP, WLSs and CRs were not notified by the GoMP despite directions of the MoEF, jeopardising the conservation and protection of wild life in that area.

The Government stated in the exit conference that the process of consultation with various stake holders (local inhabitants) was going on and the final action on formation of TR, NP, WLS etc. was not taken (November 2014).

The Tiger Conservation Plans of all Tiger Reserves should be prepared and notification of new Tiger Reserve, National Park, Sanctuaries and Conservation Reserves may be expedited.

2.1.7.4 Maintenance of Compartment histories for plan and strategies of management

Compartment histories were not updated which affected management plan and strategies for conservation and protection of wild life.

Compartment¹¹ history (CH) which includes details of compartment boundary, stream and riparian system, roads, perennial pools, reservoirs, lakes, groove of old large trees, villages, agriculture land, operations performed etc., is an important document for deciding plan and strategies of management. Range Officer (RO) is required to update CHs on annual basis, which are to be checked by the senior officers up to Division level.

We noticed that CHs of three selected TRs test checked by us were not updated¹². In Satpura TR, out of 557 CHs made available to us, 17 CHs were updated for various periods up to 2008-09 (nine CHs), 2010-11 (three CHs) and 2011-12 (five CHs). The CHs of Great Indian Bustard Sanctuaries (GIB) Gwalior, Kheoni, Kuno and Singhori WLSs were not updated since 1973, 1982, 2008 and 2010 respectively. In Ratapani WLS, only 48 CHs were updated. As the CHs record the activities undertaken and changes occurred (Floral/ Faunal/ Geomorphological) in that compartment year by year, the Management Plan and strategies for conservation and protection of wild life in these TRs and WLSs would not be appropriate and effective.

The Government stated in the exit conference that the instructions were being issued for updation of compartment histories.

The Compartment histories should be updated regularly.

¹¹ Compartment is the smallest unit of forest for management.

¹² Bandhavgarh TR: since 1991, Kanha TR: since 1980 and Pench TR: since 2005

2.1.8 Conservation

The Act provides for measures to be taken for protection and conservation of wild life and its habitats. Conservation includes safeguarding of wild life and its habitat from any change, loss or damage such as, grassland development/ weed eradication, water conservation, translocation of endangered species, etc. Issues relating to conservation of wild life and its habitat have been discussed in succeeding paragraphs.

2.1.8.1 Population of tigers

As per tiger population census, 2010, there were 262 tigers in Madhya Pradesh. The population of tigers in the year 2010 remained stable in three regions¹³ and increased in three regions¹⁴ compared to the year 2006 as reported by Wild life Institute of India, Dehradun (WII). However, in Panna TR, the population sharply decreased from 24 in 2006 to 4 in the year 2010.

The population of tigers¹⁵ in the State in different NPs, TRs and other areas during 2006 and 2010 is given in the table below:

Table 2.2: Statement showing the region wise details of Tiger population

Regions of location	Tiger population		Increase/ decrease/ stable in population as reported by Wildlife Institute of India, Dehradun
	2006	2010	
Kuno-Shivpuri-Madhav NP	5	3	Stable
Raisen	10	16	Increase
Indore-Dewas	Not Estimated	7	Not Estimated
Satpura TR	39	43	Increase
Panna TR	24	4	Decrease
Pench TR	33	65	Increase
Bandhavgarh TR	47	59	Stable
Kanha TR	89	60	Stable
Sanjay-Dubri -Guru Ghasidas	Not Estimated	5	Not Estimated
Total	247	262	

(Source: Information provided by CWLW)

During the period January 2009 to May 2014, deaths of 69 tigers in Madhya Pradesh were reported by the divisions to CWLW. Of these, deaths of 55 tigers occurred in six divisions test checked by us. The reasons of mortalities were diseases (17), poaching (1), territorial fight (19), poisoning (3), electrocution (7), accident (4), cannibalism (8), natural death (3) and others (7). Reasons for death



Tigers at Panna Tiger Reserve

¹³ Bandhavgarh, Kanha TRs and Kuno-Madhav NP

¹⁴ Pench, Raisen and Satpura TRs

¹⁵ The census of wild life population for 2014 is likely to be published in November 2014 by WII, Dehradun.

of tigers such as, diseases, poaching, poisoning and electrocution which were controllable indicate weaknesses in preventive measures of the Department.

We noticed (July 2014) that out of 69 cases of tigers' death, 18 cases (26 per cent) pertained to Bandhavgarh TR. We observed that the range Tala of Bandhavgarh TR having an area of 109.740 sq km housed 34 tigers (i.e. 3.23 sq km available for each tiger), though an area of 10 sq km was estimated for each tiger as per NTCA guidelines. Thus, there was insufficient space for tigers. This could be the reason for territorial fight, cannibalism and resulting in dispersal in adjoining village areas.

The Government stated in the exit conference that death of tigers was due to territorial conflicts among them and the measures to reduce conflict among them were being taken. It was further stated that plan for translocation of tigers was also being explored.

2.1.8.2 Decline in population of wild animals in Sanctuaries

Sanctuaries are notified as such with the aim to conserve and protect wild animal and its habitat. As per census report, there was decline in population of wild animals in two WLSs, as discussed below:

- The Great Indian Bustard (GIB) Sanctuary, Gwalior was established (May 1981) to conserve GIB, also known as Son Chiraiya, an endangered species. The population of the Son Chiraiya declined from eight in 2005 to three in 2008 and 2009 and further reduced to one in 2011. The number was zero in the years 2012 and 2013.

We observed that during the period 2009-10 to 2013-14, 806 cases of illegal mining of stone involving an area of 1.259 ha were registered in Ghatigaon Range, which was natural habitat of Son Chiraiyas. The wide spread illegal mining in the area of natural habitat of Son Chiraiya could be the major cause of vanishing the bird in the sanctuary. Thus, the objective of establishing the sanctuary for conservation of this endangered bird was not fulfilled.

- According to Management Plan of Phen Sanctuary for the period 2011-2022, the objective of the sanctuary is to manage wild life habitats for supporting a good population of ungulates¹⁶. The population of chital, sloth bear and wild dogs was 225, 51 and 28 in the year 2006 which was 121, 23 and 5 in the year 2010, exhibiting decrease in population by 47, 55 and 82 per cent respectively.

There was nothing on record to show that the Department had conducted any study to analyse reasons for the decline in the population during 2006 to 2010 and taken remedial measures to arrest the declining trend. The current management plan also did not have specific provision to arrest the declining population of these species.

The Government accepted the facts in the exit conference and stated that the Son Chiraiya is migratory bird and to attract them suitable cropping pattern was being planned in the GIB sanctuary and habitat improvement works were being taken up in Phen WLS to arrest the declining trend.

The population of Son Chiraiya and chital, sloth bear and wild dog declined in two WLSs.

¹⁶ Ungulates are animals which have hard part of the foot such as cow, chital, sambhar etc.

2.1.8.3 Translocation of Wild life

Indiscriminate destruction of wild life habitat, shrinkage in forest cover, hunting/ poaching of animals and various other factors have posed serious threat of extinction to a number of species in the wild. In view of this, the Forest Department, GoMP planned (August 2011) translocation of endangered species to various TRs. The species-wise status of translocation and shortcomings noticed in audit are described in subsequent paragraphs:

(a) High mortality of Blackbucks

Blackbucks were translocated at Kanha TR without conducting habitat viability study and without mobilising them, resulting in high mortality.

MoEF permitted (June 2011) translocation of 50 Blackbucks to Kanha TR from the area of Narsinghpur District with the condition that habitat viability analysis of relocation site be carried out before undertaking translocation of Blackbucks. The CWLW directed (July 2011) the Field Director, Kanha TR to shift 50 blackbucks after chemically immobilising them, as stipulated in the permission of the MoEF.

We noticed (June 2014) that 50 blackbucks were shifted at Kanha TR from the Seoni District¹⁷ during the period 14 November to 21 November 2011 without conducting habitat viability assessment. Field Director, Kanha TR reported (January 2012) that the blackbucks were translocated without immobilising. During the period November 2011 to January 2012, out of 50 translocated blackbucks, 22 died in the enclosures. The MoEF report¹⁸ stated (January 2012) that the grass was hard and habitat was unbearable to the blackbucks. Thus, non-adherence to directions of MoEF resulted in high mortality of blackbucks and endangered survival of remaining blackbucks due to adverse condition at new site.

(b) Non-translocation of Barasingha to Satpura TR

Translocation of Barasingha could not materialise in specified period and the project was abandoned midway.

The Kanha TR, Mandla commands the unique distinction of supporting the last world population of 475 hard ground barasingha. The CWLW ordered (June 2011) translocation of 20 barasingha from Kanha TR to Satpura TR in view of sanction (May 2011) of MoEF, GoI. A detailed project report for



Hard Ground Barasingha, the State animal at Kanha

translocation, at a cost of ₹ 89 lakh, was approved by the CWLW in June 2011. The Time plan set for the project was from July 2011 to March 2012. The CWLW again directed (August 2011) the Field Directors to translocate the barasingha between 20 January and 30 January 2012. The MoEF directed (November 2011) to stop translocation of

barasingha till further orders due to high mortality of blackbucks,

¹⁷ Based on survey report (August 2011) of Park Superintendent, Kanha TR Blackbucks were brought from Seoni district of the State in place of Narsinghpur district.

¹⁸ Matter was investigated by Chief Conservator of Forest (Central) Bhopal under MoEF.

translocated in Kanha TR. The MoEF finally directed (May 2013) that new areas for re-introduction may be considered only after colonisation of barasingha in the available evacuated areas of relocated villages in Kanha TR in addition to Phen WLS. Thus, due to non-implementation of translocation the expenditure of ₹ 89.55 lakh¹⁹ incurred on the project remained unfruitful.

The Government stated in the exit conference that the translocation of barasingha from Kanha TR to Satpura TR would be completed by December 2014 and postmortem report of blackbucks had revealed that the mortality was due to lacunae in process of capturing. The reply is not acceptable as the MoEF report indicated unbearable habitat to be cause of blackbuck deaths, but the reply is silent in this respect.

2.1.8.4 Activities inside Sanctuaries and core areas of Tiger Reserves

Section 32 read with Section 35(8) of the Act provides that in a National Park (NP) no person shall use chemicals, explosives or any other substances which may cause injury to or endanger any wild life therein. According to Paragraph 4.17 of Comprehensive Guidelines (February 2008) of NTCA, the core or critical tiger habitat would not be used for any form of tourism and the ongoing tourism activities in such areas should be moved out without affecting its corridor value. According to Section 33 of the Act, construction of commercial tourist lodges, hotels, zoos and safari parks shall not be undertaken inside a sanctuary except with the prior approval of the National Board for Wild Life (NBWL). The instances of deviations from the above provisions, noticed by us, are described below:

Petrol pump was being operated in the Kanha TR in violation of provisions of the Act.

- In Kanha TR, a petrol pump was operational in core area of TR in the name of RO, Kisli. Thus, the wild life in core or critical tiger habitat area was placed at risk due to operation of a petrol pump. The TCP for 2011-2021 of the Kanha TR (approved in March 2013) also mentioned that operation of petrol pump as weakness for conservation. Action for relocation of petrol pump was, however, not initiated by the management of the Kanha TR as of November 2014.

Commercial activities and presence of residential infrastructures in Kanha Tiger Reserve reduced inviolate space to wild life.

- As per TCP, Interpretation Complex and Forest Rest houses were being run on commercial basis by the Forest Department and Baghira hut²⁰ was being run by MP State Tourism Development Corporation (MPSTDC) in the core area of Kanha TR. Staff colony and other residential quarters/ offices were also located in the core area of the TR. Phasing out of these infrastructures from the core area was not initiated by the Department so far (November 2014).

We further noticed that a Jungle camp in Ratapani sanctuary, run by MPSTDC since September 2008 and two rest houses²¹ in Kuno WLS run by the Forest Department on commercial basis were operational as of November 2014. Approval of the NBWL for operation of these commercial facilities inside the sanctuaries could not be shown to us when enquired.

¹⁹ ₹ 82.37 lakh at Satpura and ₹ 7.18 lakh in Kanha TR for construction of enclosure, habitat development etc.

²⁰ A lodge, for which forest land was diverted in October 1978.

²¹ Constructed in 1956-57 and 1997-98.

The location of these tourist facilities and staff colonies reduces the availability of inviolate space for wild life.

The Government stated in the exit conference that the facilities were established earlier based on necessity. It was further stated that identification of activities which were in contravention to the Act/ Rules would be carried out and necessary action would be taken to phase them out from the Protected Areas. The Government also stated that phasing out of petrol pump and Baghira hut of Kanha TR and tourist huts at Ratapani sanctuary was in process.

The commercial activities such as petrol pumps, hotels etc. located in Protected Areas should be phased out and translocation of endangered species should be carried out expeditiously.

2.1.8.5 Rehabilitation of human settlements from protected areas

The Protected Areas (PAs) needs to be free from human population so as to reduce biotic pressure and prevent human and wild life conflict to preserve the habitat in the best possible natural conditions.

Deficiencies noticed in relocation of human settlement are discussed below:

- As of April 2009, there were 736 villages located inside PAs. Out of these, only 40 were either excised or relocated, and 696 villages were not excised or relocated from PAs as of August 2014.

The Government stated in the exit conference that delays in relocation was due to non-availability of funds.

- In Bandhavgarh TR, Umaria, there were 10 revenue patches²² which were to be acquired. Out of these, award for acquisition of six patches²³ was passed (2007) by the Commissioner Rewa. However, acquisition of the same was still pending. In case of three patches²⁴, required compensation amount had been paid (March 2008) to the Land Acquisition Officer but award was not passed as of November 2014. Process for acquisition of tenth revenue patch (Mairi) was not initiated. There was no evidence of pursuance by the Field Director and at higher level for early award and acquisition of the land. Thus, none of the revenue patches could be acquired even after payment of ₹ 2.95 crore for acquisition of nine revenue patches. Therefore, the objective of providing inviolate space to wild life remained unfulfilled.

The CWLW stated in the exit conference that the matter would be pursued with the collector to acquire patches.

2.1.8.6 Removal of forest produces from the protected areas

Section 29 and 35 (6) of the Act provides that no person shall destroy, exploit, damage, remove or divert any wild life, its habitat and forest produce from a NP and WLS without a permit in this respect granted by the CWLW after the authorisation of the State Government.

None of the 10 revenue patches in Bandhavgarh TR could be acquired as envisaged in the Management Plan.

²² Revenue patches are small parts of revenue land on which people of adjoining villages have ownership rights.

²³ Damna, Ghaghaur, Gidari, Kudarwar, Kumharra and Kusharwah

²⁴ Gohari, Mahaman and Pathari

Forest produce seized in illicit felling were transported to depot without permission of competent authority.

We noticed in four WLSs and three TRs that during the period 2009 to 2013, 5,085 cases of illicit felling of 33,296 trees were registered. The seized forest produce²⁵ were transported to depots (**Appendix 2.4**). The large scale illicit felling and its removal without the permission of the CWLW/ the State Government affected the ecology of the protected area. In the absence of such permission, necessity of removal of forest produce for the improvement and betterment of wild life was not established.

In the exit conference, the Government accepted the facts and stated that for the purpose of evidence in the case of illicit felling of trees, it was transported to the depots. It was further stated that permission of competent authority was required and individual cases would be reviewed.

2.1.8.7 Execution of Conservation works in National Parks and Sanctuaries

According to the guidelines issued (April 2010) by MoEF, for execution of works through Annual Plan of Operation²⁶ (APO) in respect of PA under the Centrally Sponsored Scheme 'Integrated Development of Wild life Habitats (IDWH)', the State Government shall bear all financial commitments for all recurring and non-recurring expenditure, which are not provided by the Central Government.

We observed that for Van Vihar NP and five WLSs under the programme IDWH, ₹ 105.93 crore was proposed for the period 2010-14. Against this, GoI sanctioned ₹ 13.25 crore and released ₹ 12.03 crore. The Department did not provide any more funds and ₹ 4.59 crore of Central funds remained unspent (**Appendix 2.5**). We observed that Government did not provide funds for important programme activities such as relocation of villages, construction of water bodies, chain link fencing, procurement of survey and surveillance instruments, which were proposed by CWLW, under the Scheme. Non-release of funds from State Government as well as short utilisation of funds by the divisions adversely affected the conservation activities.

The Government stated in the exit conference that State resources were utilised in Management Plans for the PAs and position of funds was improving. The works provided in the Management Plan were being executed also from other sources such as, State Plan, Planning Commission and *Vikas Nidhi* etc. The reply is not acceptable since above stated important activities proposed in the Annual Plan by the CWLW were not carried out.

2.1.9 Protection

Protection encompasses the safety and security of wild life and its habitat. The major activities for protection are safeguarding wild life against electrocution, establishment and maintenance of patrolling camps/ chowkies, wireless network, patrolling, procurement of arms and ammunitions, field gear, night vision devices and vehicles. Deficiencies in safety and security measures for protecting wild life and its habitat noticed in the test checked Protected Areas (PAs) have been discussed in succeeding paragraphs:

²⁵ 19,607 poles, 1,519.649 cu m logs, 1,634 number and 1.227 notional ton Bamboos, etc.

²⁶ APO flows from the long term Management Plan.

2.1.9.1 Electric lines passing through the protected areas

Out of 501.30 km electric lines passing through PAs, insulation work was assigned for 18.80 km only which was yet to be completed.

According to paragraph 4.11 of revised guidelines (February 2008) of NTCA, the high tension electric lines passing through TRs, cause mortality of wild animals due to electrocution by poachers. The guidelines provide for several safeguards including retrofitting²⁷ measures for the wild life.

We noticed (December 2013 to June 2014) that high tension electric lines in total length of 501.30 km were passing through the four TRs including Buffer Zone of Kanha TR. Out of 366.20 km, insulation of 158.60 km electric lines passing through Bandhavgarh, Pench and Kanha TRs only was planned during the period 2009-10 to 2013-14.

Further, insulation of 135.10 km electric lines passing through Kanha and Satpura TRs was not planned. Against Plan, insulation work of 18.80 km of electric lines only at a cost of ₹ 1.29 crore was assigned (March 2013 and March 2014) to different agencies by Pench TR and Kanha Buffer Zone (**Appendix 2.6**). There was no record in the divisions to show monitoring of progress of the work and its completion. Besides, action for insulation or laying underground electric lines of remaining 482.5 km length was not initiated by the Department though envisaged in the guidelines of the NTCA. Thus, protection measures for safety of wild life were inadequate.

The Government stated in the exit conference that due to paucity of funds the insulation/ laying of underground of electric lines could not be executed.

The Government should complete the works of insulation/ laying of underground electric lines on priority basis.

2.1.9.2 Veterinary infrastructure

Well equipped veterinary laboratories with supporting staffs were not established.

The guidelines (April 2010) of MoEF recommend improving the veterinary facilities for health care of wild animals and thereby controlling diseases.

We noticed (December 2013 to July 2014) in all selected divisions that five Veterinary Assistant Surgeons in four TRs and one NP were posted but there was neither veterinary dispensary nor hospital with well equipped laboratory in the selected PAs. The posts of supporting veterinary staff²⁸ were sanctioned only in the Kanha TR, but the posts were lying vacant. Thus, well equipped field veterinary facilities were not established.

Non-establishment of veterinary facilities hampered the routine surveys and epizootiological studies²⁹ and therefore the protection measures for wild animals were not adequate. We observed that out of total 69 cases of death of tigers in the State, 17 tigers died due to disease and four due to accidents.

The Government stated in the exit conference that the job of supporting veterinary staff was being carried out by the Forest staff who gained experience. The fact remains that qualified supporting staff and veterinary facilities were not available for the PAs.

²⁷ To provide a machine with a new part. There are two measures currently being adopted-insulation and laying underground electric cables.

²⁸ Compounder, Lab Assistant and Technical Assistants, etc.

²⁹ This deals with ecology and causes of outbreak of animal diseases at substantially higher rate.

The Government may arrange posting of qualified supporting staff and establish veterinary facilities in each PA.

2.1.9.3 Surveillance instruments

The surveillance instruments such as, Personal Digital Assistants (PDA), Global Positioning System (GPS) and Wireless facilitates day-to-day monitoring of wild life and therefore, is useful in their protection. Instances of inadequacies in maintenance of these devices are enumerated below:

(a) Application of Personal Digital Assistant/ Global Positioning System

The Wild Life Management System (WLMS) is a GPS enabled PDA based application which uses combination of Geographical Information System (GIS) and Management Information System (MIS) technologies.

None of the test checked divisions recorded readings/ observations in the MIS despite availability of 425 PDA and 190 GPS sets. Therefore, observation registers were also not updated during 2009-14. We also observed that 126 PDA sets sent (2010-12) by DD Kanha (Core) TR to the PCCF (IT) for repair were not received back as of November 2014.

Thus, due to deficiencies in application of GIS devices, the movement of wild life could not be traced regularly, indicating lack of preparedness for their protection.

The Government stated that directions would be issued to all the concerned for recording of GIS readings in MIS and updation of observation registers.

(b) Wireless sets

We noticed (December 2013 to July 2014) that in four TRs, Van Vihar NP and four WLSs, 1,561 wireless sets were provided to the field staff as of July 2014. Of these, 941 sets (60 per cent) were in working condition (**Appendix 2.7**). Wireless sets were not made available in GIB sanctuary.

Thus, non-availability of sufficient wireless sets in working condition affected strengthening of measures for protection of wild life.

The Government stated in the exit conference that due to non-deposit of license fee to the GoI for use of wireless sets, new wireless sets could not be procured to add the existing facility or replace the non-working sets. The fact remains that wireless sets could not be made available to the field staff.

The Government should ensure the availability and application of surveillance instruments for efficient protection of wild life.

2.1.9.4 Protection and monitoring by Tiger Strike Force

For protection of tiger and wild life, a State level Wild Life Crime Control Cell was in existence, which was renamed as 'Tiger Strike Force' (TSF) in December 2008. Five regional units at Indore Itarsi, Jabalpur, Sagar and Satna were also created, each unit consists of the existing CCF/ CF/ ACF, Forest Rangers and Forest Guards, etc. In addition to strengthening the intelligence network, the TSF is required to collect, maintain and analyse the database related to wild life offences, arrested offenders, etc. based on the information uploaded by the forest divisions on the website.

Personal Digital Assistant sets were lying idle with PCCF (IT), since these were not repaired/ distributed/ used.

Only 60 per cent of the available wireless sets in six PAs and one buffer zone were in working condition.

(a) We observed that the requisite details in the database were not being filled in by the test checked divisions. Thus, the database was inadequate and hence not fully useful for effective monitoring. Due to improper maintenance of database, there were mismatch in the data of wild life offences in the different formats maintained by the Department as shown below:

Table 2.3: The details of Wild Life Offences

Year	As per Wild Life Forest Offence Management	As per APCCF/ Protection	As per FOMS
2008	240	628	628
2009	295	740	768
2010	322	652	752
2011	303	657	698
2012	264	612	720
2013	249	668	810

(Source: Information provided by Forest Department)

There was no effort to reconcile these figures from actual data at division level.

(b) In order to strengthen the TSF, the Standing Finance Committee of the State Government sanctioned (July 2008) ₹ 74.73 lakh for purchase of 438 wireless sets and 74 revolvers for distribution to the patrolling camps. However, none of the wireless sets could be procured due to non-availability of license required for the purpose and only 26 revolvers were procured. Thus, despite passage of more than four years period the CWLW could not procure the required wireless sets and revolvers.

The Government stated in the exit conference that due to paucity of funds, required number of revolvers could not be procured. Further, the Government accepted the facts of defaults in updation of data and stated that instructions would be issued for regular updation as well as review of the system.

The Tiger Strike Force should be provided necessary equipment and online monitoring system should be streamlined.

2.1.9.5 Beat Inspection

Beat inspections were not carried out as prescribed.

According to the instructions issued (June 2004 and January 2009) by the APCCF (Protection), forest officers³⁰ are required to conduct monthly beat inspections³¹ for controlling forest offence.

We noticed (December 2013 to June 2014) that in Bandhavgarh TR, roaster for beat inspection was not prepared and beat inspection was not at all carried out. In four WLSs (GIBs, Kheoni, Ratapani and Singhori) and two TRs (Kanha buffer and Satpura) there were significant shortfalls up to 118 numbers of inspections in a year (**Appendix 2.8**). Thus, the objective of controlling forest offence through beat inspections was diluted.

The Government stated in the exit conference that the system of beat inspection and its applicability in PAs would be reviewed and necessary actions would be taken.

³⁰ Range Assistant, Range Officer, SDO, DFO/ Deputy Director (DD).

³¹ Two inspections each for DFO, RO and Range Assistant (RA) and three for SDO as prescribed in roaster.

Protection works like chain link fencing, labour residence quarters, material for Rescue Squad etc. were not executed.

2.1.9.6 Non-execution of protection works

Chainlink fencing is used for crop protection and cages are used to confine problematic animals for avoiding man-animal conflict and conservation and protection of grass lands etc.

We noticed (May 2014) that in Bandhavgarh TR, 13.6 km chain link fencing was planned (May 2011) for fencing of border area of villages at a cost of ₹ 1.04 crore. Chainlink was procured (February and March 2013) at a cost of ₹ 51.89 lakh but fencing works could not be started (May 2014).

We also noticed in Bandhavgarh, Pench TRs and Van Vihar NP that purchase of material for development of Rescue Squad, chain link fencing, labour residence quarters etc. were sanctioned (May 2009 to October 2012) for ₹ 3.49 crore from *Vikas Nidhi*. These works were not started even after lapse of 17 to 53 months from date of sanction (**Appendix 2.9**). Due to such lapses, the protection system could not be strengthened.

The Government stated in the exit conference that the cases would be looked into and the works would be taken up soon.

2.1.9.7 Court cases of wild life offence

The CWLW issued (1986) instructions to DFOs for submitting evidences and proofs to the concerned officers for taking legal action against offenders.

We noticed (December 2013 to July 2014) in eight out of 10 selected divisions that 438 cases of forest offences relating to wild life were pending in various courts. The pendency of these cases ranged from 5 to 25 years. Out of 126 cases decided by the Courts during the period 2009-2014, 97 cases were decided against the Department (**Appendix 2.10**).

The Government stated in the exit conference that the services of legal experts were being utilised, the staff were being trained to collect evidences, preparation of cases and pursuance in the court and build up capability.

2.1.10 Eco-development

The guidelines (April 2010) of MoEF, GoI envisaged a people inclusive conservation resime aimed at reducing negative dependency on bio-resources and improving local livelihood. The activities will include providing safe drinking water, energy saving initiatives like fixing of electrical or solar street lights, supply of improved chullahs, LPG, solar cookers, gohar gas plants etc. besides supporting alternate livelihood practices such as promoting agriculture suited to local ecological condition.

2.1.10.1 Participation of Eco-Development Committees

Paragraph 4 of the Resolution (October 2001) of Forest Department, GoMP provides for constitution of Eco-Development Committees (EDCs) headed by elected Chairman in the villages situated in and around the NPs and WLSs for obtaining public participation in management of forest. Shortcomings noticed in five out of 10 selected divisions in functioning of the EDCs have been discussed in following paragraphs.

- The EDC was to prepare Micro Management Plans (MMPs) with the help of forest divisions. We observed that in two divisions (GIB-Gwalior and

Kheoni-Dewas) the MMPs were not prepared during 2009-14, though there were 26 registered EDCs. No funds were provided for these EDCs for works relating to security, minor construction, community development etc.

- Though 171 EDCs³² were constituted in the Kanha TR the MMPs for these EDCs were not prepared. The protection works, such as daily patrolling, rescue, fire protection, monsoon patrolling etc. were got executed through Kanha Workers Society (KWS)³³. The expenditure of ₹ 5.13 crore (incurred during December 2011 to April 2014) on work done by the KWS was not verifiable, as it was outside the purview of audit.

Fund of ₹ 1.21 crore was transferred to EDCs without assigning works to them.

- We noticed that State Level Co-ordination Committee sanctioned ₹ 1.21 crore from *Vikas Nidhi* and provided³⁴ to 210 EDCs of Bandhavgarh and Pench TRs. The amount was provided to the EDCs without executing agreement with them for any specific work. The funds remained idle with the EDCs as of November 2014.

The Government stated in the exit conference that from October 2014; one third of the receipts from tourism activities would be provided to EDCs of the concerned PAs. However, no comments were offered regarding execution of works through KWS. The Government also stated that directions would be issued to obtain proposals from concerned EDCs for utilisation of funds and accordingly the funds would be utilised.

The participation of Eco-Development Committees in conservation and protection activities should be ensured.

2.1.10.2 Reduction of biotic pressure on protected areas

The PCCF emphasised the need of production of fuel wood to minimise biotic pressure on the forests and directed (April 2007) plantation of Su-babul and other species of babul which give good coppice and grow faster and expected production of 20 ton per ha fuel wood four years after its plantation. We noticed the following:

Against the estimation of 4,400 ton fuel wood for local dwellers to reduce biotic pressure, there was no production.

- In Kuno Wild Life and Kanha Buffer Divisions, species like, Nilgiri (Eucalyptus), Su-babul, other species of babul etc. were planted in 90 hectare (ha) and 40 ha during the years 2008-09 and 2009-10 respectively. Against the anticipated production of 4,400 ton, no fuel wood could be obtained as of November 2014. Thus, the objectives to reduce biotic pressure through production of fuel wood could not be achieved.

The Government stated that the scheme of *Urja-Van* had been abandoned due to non-availability sufficient funds.

³² 28 EDCs in core and 143 EDCs in buffer area of Kanha TR

³³ KWS was formed in April 2001 in Kanha TR under the Society Act with a view to replace existing system of muster roll.

³⁴ Bandhavgarh ₹ 66.50 lakh (February 2009 and March 2010) and Pench TR ₹ 54.90 lakh (March 2013)

***Nistar* facility for villagers to reduce their dependence on forest was withdrawn.**

- The Management Plan 2010-20 of Kuno WLS stipulates that to prevent illicit extraction of poles, fuel wood, bamboos, fodder and thorny bushes by the relocated villagers, *Nistar*³⁵ facility may be set up separately. We noticed that, four *Nistar* depots were operated up to December 2013, thereafter these were discontinued. Thus, the objective to reduce illicit extraction of forest produce through opening of *Nistar* depot remained unfulfilled.

2.1.11 Conclusion

- Planning for conservation of wild life was deficient, since the proposed Ratapani tiger reserve at Sehere, one national park and two sanctuaries at Khandwa were not notified by the Government. Besides, wild life corridors were not declared as conservation reserves.
- Presence of commercial activities and residential infrastructures in the protected areas adversely affected conservation of wild life and its habitats.
- The proposed translocation of barhasinga was not done and high mortality occurred due to inefficiency in translocation of blackbucks.
- Protection of wild life suffered since the veterinary infrastructure for health care of wild life was not established and the insulation/ underground laying of electric lines passing through tiger reserves were not executed.

³⁵ It is a sale depot which provides fuel wood, bamboo, poles to nearby inhabitants at concessional rate.

Water Resources Department

2.2 Estimates of Medium Irrigation Projects

Executive Summary

Water Resources Department is responsible for planning, designing, survey, construction and maintenance of Medium irrigation projects in the State. Formulation of estimates is a pre-requisite before taking up a project and a basic component of planning. Preparation of accurate and realistic estimates of irrigation projects is essential for completion of project on time and within the sanctioned cost as well as for planning and management of resources. Estimates also provide a basis for assessing reasonability of rates quoted by a contractor to ensure economy as well as quality in works.

As on 31 March 2014, 31 medium projects were in progress at different stages on which ₹ 3,250.44 crore has been spent including cost of land.

A performance audit revealed deficiencies in preparation of estimates of selected ongoing Medium Irrigation Projects, as mentioned below:

In all test checked projects the detailed project reports were prepared with improper or without survey and investigation. The administrative approval was accorded by Government and technical sanction accorded by departmental authorities based on deficient detailed project reports without ensuring conduct of mandatory detailed survey and investigation.

(Paragraph 2.2.1)

The level books containing the levelling records, reports of geological investigations and material survey, which are the basis of preparation of estimates, were not available with the divisions. Significant increase in volume of works (19.54 per cent to 486.54 per cent) during execution raised doubt about conduct of proper survey and investigation.

(Paragraph 2.2.6.1)

Before inviting tender and award of work, technical sanction were either not obtained or issued on the basis of improper/ inadequate survey. Subsequent changes in designs, location, volume of items of works etc. during execution of the projects resulted in increase in cost by ₹ 52.36 crore.

(Paragraph 2.2.6.2)

Incorrect provision of lead for hard rock and soil and additional lead for Cohesive Non-Swelling soil resulted in increase in estimates in seven projects.

(Paragraphs 2.2.7.1 and 2.2.7.2)

While preparing the estimates, Cohesive Non-Swelling soil was provided without conducting mandatory test for ascertaining its necessity in cement concrete lining work. Unrequired or inadmissible quantities and items were included and locally available metal was not considered for utilisation in filter in violation of the provisions of Unified Schedule of Rates and Irrigation Specifications.

(Paragraphs 2.2.7.3, 2.2.7.5 and 2.2.7.6)

Due to inaccuracies in preparation of detailed estimates, estimated total cost of 12 projects (₹ 681.90 crore) inflated by ₹ 21.29 crore.

(Paragraph 2.2.7.1 to 2.2.7.7)

2.2.1 Introduction

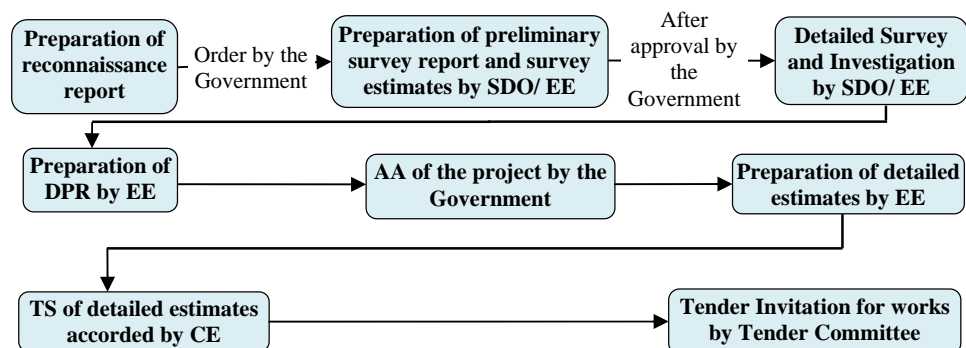
In Madhya Pradesh, total irrigation potential created by Water Resources Department (WRD) through Major, Medium and Minor projects, was 31.89 lakh hectare (ha) as of March 2014. The Irrigation projects having irrigation area more than 10,000 ha is classified as Major project, 2,000 ha to 10,000 ha as medium project and below 2,000 ha as Minor projects. In Madhya Pradesh there are 13 completed and 09 ongoing Major projects, 110 completed and 31 ongoing Medium projects and 4,658 completed and 734 ongoing Minor Irrigation Projects. WRD is responsible for planning, designing, survey, construction and maintenance of these projects in the State.

Formulation of estimates is a pre-requisite for taking up an irrigation project and a basic component of planning. It is also essential to avoid significant changes in items and quantities of work during execution so as to prevent increase in cost of the project and dispute with the contractors.

Para 2.026 of Madhya Pradesh Works Department (MPWD) Manual provides that detailed survey and investigation of the project will be started after receipt of administrative approval (AA) from the Government and technical sanction (TS) of competent authority for survey work. On completion of survey and investigation, Detailed Project Report (DPR) will be prepared and submitted to the Government. The AA to the project will be then accorded by the Government.

As per para 2.006 of MPWD Manual, for every work, a properly detailed estimate must be prepared for the sanction of the competent authority (known as TS to the estimates). This sanction must be obtained before the work is commenced. Detailed estimates are prepared based on the estimated quantities of different item assessed after detailed survey and investigation and rates given in Unified Schedule of Rates (USR) issued by WRD keeping in view the irrigation specifications published by concerned authorities³⁶.

A flow chart depicting the different steps of preparation of estimates and TS of a Medium Irrigation Project is shown below:



³⁶ Engineer-in-Chief (E-in-C), WRD.

As per para 2.080 of MPWD manual in the irrigation projects, tenders are called for against the estimated cost of work. Reasonability of the tendered rates for award of work is adjudged on the basis of percentage rates above or below the estimated cost keeping in view prevailing tendered rates in a basin or region for similar nature of work. Inflated estimated cost of work by including extra items and quantities of work make the tendered rates apparently reasonable, even if the rates are on higher side.

Appendices 2.13, 2.18 and 2.14 of MPWD manual stipulate three types of standard tender forms. In percentage rate tender, payments are made on the basis of percentage of tender premium or tender rebate quoted by contractor on estimated rates. Thus, any inflation in the estimated rates of different items of work, due to inclusion of inadmissible lead, items and quantities in the estimates result in extra payment to contractors. In lump sum tender, payments are made on lump sum cost quoted by contractor against the estimated cost. Therefore, inclusion of unwarranted items/ quantities in the estimates but not executed results in financial benefit to contractor. In item rate tender, payment for each item of work is made at rate quoted by contractor up to 10 *per cent* in excess of the estimated quantities. However, executed quantities in excess of 10 *per cent* of estimated quantities of any item would be paid at the estimated rate of the item on the date of invitation of tender *plus* or *minus* the overall percentage of accepted tender, above or below, as the case may be to the total cost of work at the estimated rates. Thus, incorrect estimation of quantity results in subsequent increase in volume of work and payment for the same at inflated estimated rates.

As on 31 March 2014, execution of 31 medium projects with designed irrigation potential of 2,79,810 ha, approved at the sanctioned cost of ₹ 5,084.19 crore³⁷, were in progress. Out of these, 16 projects were taken up before April 2009. The Department incurred expenditure of ₹ 3,250.44 crore up to 31 March 2014 on these 31 ongoing projects. Expenditure during the period 2009-10 to 2013-14 was ₹ 2,763.34 crore including the cost of land against budget allotment of ₹ 2,850.90 crore.

2.2.2 Organisational set-up

The WRD is headed by a Principal Secretary at Government level and the E-in-C at Department level. The Department is divided into 8 basins each headed by Chief Engineers (CEs), 36 circles each headed by Superintending Engineers (SEs) and 129 divisions headed by Executive Engineers (EEs). The EEs are assisted by Sub-Divisional Officers (SDO) at sub-division level and Sub-Engineers at sectional level.

As per para 7.003 of MPWD Manual, Sub-Engineers entrusted with the surveys shall be fully responsible for the correctness of surveys and levels. SEs, EEs and SDOs are responsible for checking the work of Sub-Engineer up to the specified percentage.

As defined in Appendix 2.31 under para 2.006 of MPWD Manual, for the medium projects, CE has full power to accord TS of designs and estimates of

³⁷ Including the cost of land and rehabilitation

head works³⁸. For canal works, power for TS of designs and estimates is delegated to EE, SE and CE depending upon discharge capacity of the canal. As defined in para 2.028 of MPWD Manual, the officer according TS to the estimates is responsible for soundness of design and for incorporating all items with reference to drawings.

2.2.3 Audit objectives

The audit was conducted to assess whether:

- prerequisite activities were adequately undertaken before preparation of estimates and
- prescribed procedures were followed to ensure preparation of accurate estimates.

2.2.4 Audit criteria

The audit findings were based on criteria derived from the following sources:

- Madhya Pradesh Works Department Manual;
- Guidelines issued by Central Water Commission (CWC), Ministry of Water Resources, Government of India;
- Specification for irrigation projects issued by WRD (Irrigation specifications) and technical circulars issued by the Department time to time and
- USR issued by E-in-C, Bureau of WRD, Madhya Pradesh.

2.2.5 Scope and methodology of audit

The audit was conducted (November 2013 to June 2014) through test check of records relating to 12 out of 31 medium irrigation projects. Divisions executing the medium projects were selected by using Monetary Unit Sampling method³⁹, covering five basins, six circles and nine divisions. Out of the 25 estimates for head works and canal works of these 12 projects, we examined 23 estimates; aggregated cost being ₹ 681.90 crore excluding the cost of land. Names of the selected projects, the implementing divisions, approved cost, expenditure incurred on the projects and physical progress up to March 2014 is given below:

Table 2.4: Status of selected projects as of March 2014

Sl. No	Name of the project	Division	Administrative approval	Month and year of AA/ Revised AA	Expenditure	Physical completion in percentage	
						Dam	Canal
1	Bagharu	Vidisha	64.17	April 2013 [#]	68.29	95	70
2	Bilgaon	Dindori	182.22	December 2011 [#]	103.55	40	15
3	Ghoghra	Sehore	97.84	December 2010	103.30	70	50
4	Kachhal	Shajapur	91.39	June 2013 [#]	81.22	100	30

³⁸ Head works include main dam, spill way and diversion works.

³⁹ Monetary unit sampling method gives a conclusion based on monetary amounts.

Sl. No	Name of the project	Division	Administrative approval	Month and year of AA/ Revised AA	Expenditure	Physical completion in percentage	
5	Keetkhedi	Shajapur	66.47	March 2012	52.71	90	17
6	Kushalपुरा	Rajgarh	81.88	December 2010 [#]	84.60	100	93
7	Majhngai	Panna	358.99	November 2012	42.63 ⁴⁰	0	0
8	Rehati	Ganjbasoda	53.41	May 2013 [#]	50.68	100	90
9	Sagar	Ganjbasoda	296.64	May 2013 [#]	248.80	100	80
10	Sanjay Sagar Bah	Ganjbasoda	291.95	May 2013 [#]	253.41	98	75
11	Semari	Raisen	110.90	March 2012 [#]	69.23	55	0
12	Upper Kaketo	Sheopur	183.06	January 2008	204.23	98	0
Total			1,878.92		1,362.65		

[#] Month and year of revised administrative approval
(Source: Information provided by E-in-C office, WRD)

The audit objectives, criteria and methodologies were discussed with the Principal Secretary, WRD during the entry conference held on 12 February 2014. In the exit conference held on 10 November 2014 with the Principal Secretary WRD, audit findings were discussed and their views have been suitably incorporated in the Audit Report. The Government accepted all the audit recommendations.

Audit findings

Shortcomings such as, non-availability of records relating to survey and investigation for the purpose of preparation of estimates, provision of excess lead, inclusion of inadmissible items and quantities in estimates, abnormal increase in quantities during execution, etc. have been discussed in the succeeding paragraphs.

2.2.6 Pre-requisite activities before preparation of estimates

2.2.6.1 Detailed survey and investigation

As per CWC guidelines and MPWD Manual, detailed estimates are required to be prepared after carrying out necessary survey and investigation including geological investigation, construction material survey and hydrological investigation and necessary records relating to these are required to be maintained by the divisions.

We observed in audit (November 2013 to June 2014) that essential records relating to detailed survey and investigation were either not maintained or improperly maintained by the Department which raised doubts about conduct of survey and investigation and the basis for preparation of estimates as discussed in succeeding paragraphs.

(a) Non-maintenance of Level books

As per para 7.004 of MPWD Manual, level books⁴¹ having machine numbered pages shall be used for recording levels during detailed survey and

⁴⁰ ₹ 40.45 crore was paid to Land Acquisition Officer (LAO), Panna for land acquisition and balance amount was paid on works.

⁴¹ Level Book is maintained for the purpose of recording levels of ground during the survey.

Records of issue and return of level books were not available with the divisions, raising doubt about conduct of survey and investigation.

investigation. Level books are the basis of preparation of estimates and the accounts of quantities of work done and should be kept carefully. A register of level books shall be maintained in the division/ sub-division office. The level books shall be issued by the Division to the SDOs/ Sub-Engineers who shall return those to division office for record after the plotting is done.

In 10 selected projects⁴², records relating to issue of level books to Sub-Engineer for recording levels and its return after plotting were not available with the divisions as intimated by the Divisional Officers (DOs) (November 2013 to May 2014). The relevant records were maintained in other projects (Semari and Upper Kaketo). In the absence of level books, genuineness of conduct of survey for the purpose of the estimation of quantities and determination of quantities of earthwork and concrete in the estimates was doubtful.

We observed instances of non-maintenance of level books and significant increase in quantities of earthwork in two estimates, discussed in following paragraphs:

- In Ghoghra Main tank, in certain reaches of approach and spill channel, measurements of excavation of Disintegrated Rock/ Soft Rock (DR/ SR) and executed quantity were worked out without recording the pre-commencement level and final executed level in measurement books⁴³, though required as per para 7.012 of MPWD Manual.

Since level books were not maintained, the initial levels were also not recorded in respect of this project. The TS of the estimates was revised four times and the last TS was accorded *post-facto* in May 2012 on the basis of measurements recorded in Measurement Books (MB) during execution of work. During execution, quantity of soft rock and disintegrated rock increased abnormally from 41,357.70 cu m to 7,00,868.86 cu m i.e. by 1,594.65 *per cent* of estimated quantity as detailed in item number 22 of **Appendix 2.11**.

- In Ghoghra feeder tank work, level books were not maintained during survey. Thus, there was no basis of levels recorded in detailed estimates. We observed that the levels recorded in the MB during execution of the work widely differed from the levels initially recorded in the detailed estimates. We also observed that, quantities of excavation, filter, cut-off trench⁴⁴ (COT) and pitching increased by 27 *per cent* to 104 *per cent* which resulted in increase in cost, as shown in serial numbers 27 to 30 of **Appendix 2.11**.

In the exit conference, the E-in-C stated (November 2014) that instruction would be issued to all Divisional Officers for maintenance of level books. Regarding Ghoghra project, he stated that action had been taken against the EE.

⁴² Bagharu, Bilgaon, Ghoghra, Kachhal, Keetkhedi, Kushalpura, Majhhgai, Rehati, Sagar, Sanjay Sagar Bah

⁴³ As for instance, pre-commencement level and final executed level in respect of the reaches RD m 950 to RD m 1150 in the Measurement Book No. 2035.

⁴⁴ Cut off trench: A barrier of impervious material to reduce seepage of water below foundation of dam.

(b) Geological investigation reports and results not available

As per CWC guidelines (July 2002) and Appendix 7.02 of MPWD Manual geological investigation for ascertaining soil classification of project site is mandatory at the stage of preparation of project report for submission and clearance from CWC and detailed investigation stage for preparation of detailed designs and estimates.

Records of geological investigation for preparation of designs and estimates were not made available to Audit.

In nine projects⁴⁵, reports/ documents relating to geological investigation for preparation of designs and estimates were not made available to Audit (November 2013 to June 2014). In two projects⁴⁶, geological investigation reports were obtained (April 2012 and October 2013) by the divisions from Geological Survey of India (GSI) after preparation of detailed estimates and TS. In the absence of geological investigation reports before preparation of detailed estimates and before according TS, quantities of different types of soil could not be estimated correctly. Quantities of different types of soil in respect of six projects increased from 19.54 per cent to 486.54 per cent as shown in **Appendix 2.11**.

We also noticed that quantities of excavation of soil (DR and SR) which were not utilisable in the work, increased from estimated quantity of 6.83 lakh cu m to 15.03 lakh cu m during execution. As a result of this variation, quantities of soil payable to contractor increased⁴⁷ and consequently cost⁴⁸ of the project increased.

In the exit conference, the E-in-C stated that hence forth geological investigation reports would be regularly maintained and made available to Audit. Regarding variation in quantities from estimates, the Government stated that these were inevitable in view of the very nature of the work and the works were awarded through competitive bidding.

The reply is not acceptable as reports of mandatory geological investigation for foundation and spill channel before preparation of detailed estimates were not available as required under the MPWD manual.

(c) Records of construction material survey not available

Test reports of construction material survey were not available with the divisions.

As per para 6.004 of MPWD Manual and technical circular number 53 (February 2006) issued by WRD, before preparation of project report, survey of construction material is required to be carried out for suitability, quality and quantity of the material. Suitable construction material should be available within nearest approachable lead⁴⁹.

We observed in eight projects⁵⁰ that records relating to construction material survey were not available with the divisions as intimated by the Divisional

⁴⁵ Bagharu, Ghoghra, Kachhal, Kushalpara, Majhhgai, Rehati, Sagar, Sanjay Sagar Bah and Semari

⁴⁶ Bilgaon and Upper Kaketo

⁴⁷ Quantity of soil for earthwork to be brought from borrow area increased to the extent of 1.65 lakh cu m

⁴⁸ Sl. No. 1, 5, 22 and 27 of Appendix 2.14

⁴⁹ Lead: Horizontal distance covered during transportation of material

⁵⁰ Bagahrru, Bilgaon, Kushalpara, Majhhgai, Rehati, Sagar, Sanjay Sagar Bah and Upper Kaketo

officers. In two other projects⁵¹, tests for surveys of construction material were conducted (December 2011 and March 2012) only after preparation of detailed estimates and TS, defeating the purpose of the surveys. Non-conduct of construction material survey for suitability and lead of the material to be utilised results in increase in estimates in terms of cost of extra lead, as also discussed in paragraph 2.2.7.1.

We further noticed that lead for different items of works taken for the purpose of estimates in respect of seven projects⁵² were in excess of actual lead indicating inadequate construction material survey. As a result, estimates of these projects were inflated by ₹ 10.10 crore as shown in **Appendix 2.12** and paragraphs 2.2.7.1 and 2.2.7.2.

In the exit conference, the E-in-C stated that the construction material survey was relevant when department got mineral quarries allotted and specific quarry was mentioned in tenders. He further added that USR of 2009 was under revision and in the revised USR, freedom available with the contractor for lead (distance) was proposed to be dispensed with.

The reply is not convincing as the requirement of construction material survey has not yet been dispensed with. Besides, construction material survey facilitates preparation of a realistic estimate for assessing the reasonability of rate quoted by the contractors.

The Government should ensure that records of level books and reports relating to geological survey and construction material survey are maintained properly to establish conduct of survey and investigations for preparation of estimates.

2.2.6.2 Technical Sanction to estimates

As per para 2.006 of MPWD manual, for every work a properly detailed estimate must be prepared for sanction of the competent authority. This sanction is known as "Technical Sanction to the Estimate" and must be obtained before the work is commenced. As per para 2.026 (ii) of MPWD manual, a project report (detailed estimate) is prepared after completion of survey and investigation. Further, as per para 2.028 of MPWD 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.

We observed (November 2013 to June 2014) instances where technical sanctions were accorded without detailed survey and investigation. Even work was awarded without TS, as discussed in succeeding paragraphs:

(a) Changes in designs, location, volume of items of works, etc. during execution

We noticed in six agreements of five projects⁵³ that after preparation of estimates and TS, major changes were done during execution, such as changes in designs and drawings and number of radial gates, changes in

⁵¹ Kachhal and Semari

⁵² Bagahrru, Bilgaon, Ghoghra, Kushalpura, Rehati, Semari and Upper Kaketo

⁵³ Bagharru, Ghoghra, Keetkhedi, Sagar and Sanjay Sagar Bah

position and type of spillway, changes in classification of soil and increase in length of dam due to presence of hillock noticed during execution, indicating that the TSs were accorded without detailed survey and investigation, fixation of levels, finalisation of designs and drawings. These changes resulted in increase in cost by ₹ 49.11 crore in these five projects during 2009-14. Details are given in **Appendix 2.13**.

Major changes in items of works after technical sanctions of five projects led to increase in cost by ₹ 49.11 crore.

Further, in three projects⁵⁴, lump sum provision of ₹ 48.48 crore was made (March 2011 to May 2012) for construction of canal and its structures in the estimates based on preliminary survey and investigation, but without finalisation of designs and drawings, as detailed in **Appendix 2.13**. Due to lump sum provision in the estimates without detailed survey and investigation, quantities of items in canal and structures would vary during execution.

In the exit conference, the Government stated (November 2014) that in Ghoghra project, central spillway was avoided by the E-in-C which reduced cost and in spillway excavation, the EE erred in choosing the site. It was also stated that in Ghoghra feeder, hillock could have been avoided and land acquisition could have been reduced. In Bagharru project, the E-in-C admitted that cost saving could have been effected by avoiding radial gates. Regarding Keetkhedi project, he stated that projects were completed within the cost and time. No reply received regarding Sagar and Sanjay Sagar Bah projects. Regarding lump sum provisions in three projects, the E-in-C stated that in these cases tenders had been invited on stage-1 estimates and now, the systemic corrective action was being taken and tenders were being invited only after detailed survey and investigation.

(b) Incorrect provision of length of canal in estimates

For Kushalpur Canal project, the CE accorded (September 2003) TS at a cost of ₹ 10.32 crore to develop CCA⁵⁵ of 6,300 ha. The EE Narsinghar Division⁵⁶ awarded (April 2006) the work of construction of Kushalpur canal project on lump sum cost of ₹ 11.32 crore to a contractor for completion by April 2008. The scope of the work included construction of total 106.56 km canal system including distributaries and minors. The work was commenced in April 2006 but stopped by the contractor in December 2012 without assigning any reason. Thus, the work remained incomplete even after spending an amount of ₹ 11.74 crore (including price escalation) as of January 2014.

Provision of 33.47 km of excess length in estimate resulted in inflation of estimated cost by ₹ 3.25 crore.

We noticed that in the revised AA (December 2010), length of canal was reduced from 106.56 km to 73.09 km on the ground that revised length was sufficient to develop the same CCA. As such, the scope of work was also reduced. Since the work was awarded on lump sum contract and as per agreement, contract price would not be reduced on reduction in quantities for developing 6,300 ha CCA, reduction in agreed price could not be effected by the Division. Thus, the TS for the work with provision of excessive length of canal was accorded due to inadequate survey and investigation, the estimated

⁵⁴ Bagharru, Bilgaon and Ghoghra

⁵⁵ CCA: Culturable command area or irrigation area

⁵⁶ The project was subsequently transferred to Rajgarh Division.

cost inflated by ₹ 3.25 crore⁵⁷, which resulted in extra cost of ₹ 3.69 crore⁵⁸. The Division stated (February 2014) that initial length of canal was estimated on the basis of preliminary survey which was not final.

In the exit conference, the E-in-C stated that in a lump sum contract, coverage of designed CCA is a fixed parameter and contractor can improve lay out by cutting down length or structures of canal network.

The reply is not acceptable because preparation of unrealistic estimate based on preliminary survey instead of detailed survey and investigation resulted in extra cost to the work.

(c) Non-detection of hillock due to inadequate survey

Hillocks in spill channel were not detected in two works at time of the survey resulted in increase in cost of works.

- For Ghoghra feeder tank of Ghoghra project, TS was granted (May 2011) for construction of earthen dam from RD m 0 to RD m 900 and spillway from RD m 900 to RD m 1020. The work was awarded by the Department in July 2011 for completion by June 2012. During inspection (November 2012) by the CE at the time of execution of the work, presence of hillock was observed in spill channel in front of the spillway, while substantial earthwork of dam was already completed. This indicated inadequate survey. Due to presence of hillock, length of earthen bund was increased from RD m 900 to RD m 1020 and spillway location was shifted from RD m 1020 to RD m 1100. As a result, cost of earthwork was increased by ₹ 1.37 crore as per the revised TS issued in November 2012. The work was in progress as of November 2014. Presence of hillock could have been noticed had the survey and investigation done properly.

- In Sanjay Sagar Bah project, work of central spillway and earthen dam was awarded in July 2006 for completion by July 2008. Presence of hillock in spill channel was observed in June 2011 after completion of about 90 *per cent* of earthen dam and the central spillway. The TS for removal of hillock was accorded in July 2012 and the work was completed in February 2014 at a cost of ₹ 1.60 crore. The work of spillway and earthen dam was in progress as of March 2014.

Non-detection of hillock in spill channel of the two projects indicates lack of survey and investigation during preparation of estimates. As a result, cost of the projects was increased by ₹ 2.97 crore (₹ 1.37 crore *plus* ₹ 1.60 crore).

Regarding Ghoghra feeder tank, the E-in-C stated in the exit conference that it was due to change of spillway position. In respect of Bah project he stated that it was a case of deferred cost, as an effort was made to observe if the work was possible to avoid.

The fact remains that in Ghoghra feeder tank, change in spillway position was due to non-detection of hillock which could have been avoided as also admitted by the E-in-C. In Bah project, there was nothing on record to suggest that presence of hillock was observed initially.

⁵⁷ ₹ 10.32 crore * (106.56-73.09) km/ 106.56 km

⁵⁸ ₹ 3.25 crore *plus* quoted price 13.42 *per cent* above the estimated price

(d) Incorrect computation of storage capacity

For developing CCA of 6,300 ha and supply of six mcm⁵⁹ of drinking water, Government accorded (December 2010) revised AA of Kushalpur project for live storage capacity⁶⁰ (LSC) of 46.446 mcm water at a revised cost of ₹ 81.88 crore (original cost ₹ 52.51 crore) as estimated by WRD in revised DPR.

Targeted benefits from Kushalpur project cannot be achieved due to incorrect computation of storage capacity.

After completion of the head work and filling the reservoir, the CE observed and reported that LSC of the dam actually achieved was only 15.058 mcm against the targeted LSC of 46.44 mcm. Thus, LSC in the reservoir was abnormally low and can develop CCA of only 1,540 ha from actual available 9.058 mcm⁶¹ water. The E-in-C in his letter (September 2013) to the SE, WRD, Guna mentioned that the designed LSC was taken on higher side due to calculation mistake in computing capacity of the reservoir. As a result of reduction in actual LSC and consequently less availability of water, targeted benefits of 6,300 ha CCA cannot be achieved.

In the exit conference, the Government accepted (November 2014) that it was a technical failure and corrective action was being taken to increase water storage capacity.

The fact remains that the mistake committed in the design could not be detected before according TS indicating that scrutiny of the estimate was not adequate.

(e) Award of work without technical sanction

The EE, Panna Division invited (January 2013) tender for the work of approach, feeder and exit channel for Majhhgai project at probable amount of ₹ 9.73 crore before the detailed estimates were submitted by the EE to the SE and without obtaining TS. The basis for volume of work and estimated cost mentioned in the Notice Inviting Tender (NIT) was neither on records nor stated. The work was awarded to a contractor at a tendered cost of ₹ 9.20 crore. The EE issued work order in March 2013 to commence construction of the project and submitted the detailed estimates to the SE for approval by the CE only in December 2013. The TS for the work was not accorded even as of September 2014. Thus, the work was commenced (March 2013) without approval of TS by the competent authority.

Since, reasonability of the tendered price cannot be correctly assessed, in the absence of approved estimates, award of work at higher rate or at an unworkable price leading to compromise in quality by the contractors cannot be ruled out.

In the exit conference, the Government stated that the matter relating to expenditure on Majhhgai project without TS would be examined.

The Government should ensure that technical sanction for projects are issued based on detailed survey and investigations.

⁵⁹ Million cubic metre

⁶⁰ LSC: Storage capacity of utilisable water in dam

⁶¹ 9.058 mcm = (15.058 mcm- 6 mcm for drinking water) on the basis of normative 170 ha per mcm water for Rabi crop as followed by the Department.

Inadequate survey and investigation resulted in abnormal increase in quantities of different items during execution and consequent increase in cost.

2.2.6.3 Instances of increase in quantities and cost during execution

As already discussed in the preceding paragraphs, level book, records relating to geological investigation and construction material survey for preparation of designs and estimates were not available with the divisions in respect of the projects indicating inadequate/ non-conduct of survey of sites for according TS. This resulted in abnormal increase in quantities of different items as well as cost of the projects by ₹ 24.40 crore as detailed in **Appendix 2.11**.

In the following cases, there was substantial increase in quantities resulting in increase in the cost of the works:

- In Rehati project, length of main canal was estimated to 20.36 km which was reduced to 8.82 km during execution of work on the ground that same CCA would be developed. Despite, substantial reduction in length of canal, quantities of DR/ SR and concrete were increased compared to the estimated quantities indicating inadequate survey and investigation. This resulted in net increase in cost of the project by ₹ 1.14 crore⁶².
- In Kushalpur central spillway work, quantities of earthwork for bund increased from estimated 20,770 cu m to 1,21,824.99 cu m during execution.
- In Upper Kaketo head work, there was significant increase in excavation in hard rock by 214.88 per cent, excavation in hard soil/ hard morrum by 50.77 per cent, grouting by 79.01 per cent, M-25 controlled concrete by 94.14 per cent and steel reinforcement bars by 52.52 per cent.
- In Ghoghra main tank, excavation in DR/ SR increased by 1,594.65 per cent, excavation in hard rock increased by 251.60 per cent, filter blanket increased by 310.13 per cent and boulder pitching increased by 152.83 per cent.

The Government stated (November 2014) that due to avoidance of central spillway, which was taken to effect cost saving in Ghoghra Project, quantity of earthwork increased. Regarding variation in quantities of different types of soils and rocks in the projects, it was stated that in the proposed revised USR the classification of soils and rocks was being reduced to two categories namely, 'all type of soils' and 'all type of rocks'.

The fact remains that quantities of items increased abnormally during execution due to inadequate survey and investigation.

2.2.7 Inaccuracies in preparation of detailed estimates

As per para 2.028 of MPWD 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. For the medium projects CE is responsible for according TS of the estimates of headworks. In respect of canal work, the power has been delegated to EE, SE and CE depending upon the discharge capacity of the canal.

⁶²

M-10 PCC	4,266.12 cu m	@ ₹ 2,289	= ₹ 97,65,149	
DR/ SR excavation	17,660.01 cu m	@ ₹ 90.86	= ₹ 16,04,589	= ₹ 1,14,09,750
HR excavation	217.75 cu m	@ ₹ 183.75	= ₹ 40,012	(say 1.14 crore)

Instances of inaccuracies in preparation of estimates included inaccurate provisions of lead, incorrect provisions of CNS layer, adoption of richer specification, inclusion of inadmissible items and quantities, non-utilisation of local material and incorrect preparation of abstract of cost due to non-adherence to provisions of MPWD manual, USR, specification of irrigation projects and technical circulars were observed, as discussed below:

2.2.7.1 Inaccurate provision of lead in estimates

Incorrect provision of lead for hard rock and soil resulted in increase in cost of estimates by ₹ 10.10 crore.

As provided in note 9 of Chapter 4 of USR, lead for earthwork shall be measured from the centre of borrow area to the centre line of dam embankment and shall be measured as crow flies with additional five *per cent* to cover circuitous path. As per note 8 (h) of the Chapter 4, estimates for earthen dam embankment should be sanctioned on the basis of approved design, considering utilisation of useful available material from excavation of approach/ spill channels. Estimates for approach/ spill channel should be sanctioned only for the balance excavation which cannot be utilised.

We observed the following:

(a) As shown in the estimates of six projects⁶³, hard rock was available from excavation of approach, spill channel⁶⁴ and COT for utilisation at same site in the head work. Therefore, lead from centre of borrow area to central line of bank embankment (ranging from free lead of 100 m to 2 km) was admissible. We observed that, cost of lead of 3 km to 35 km for hard rock (metal/ shingle/ boulder) was added in the estimates. This resulted in increase in estimated cost by ₹ 2.20 crore as detailed in serial nos. 1 to 5 of **Appendix 2.12**.

(b) As per the detailed estimates of Upper Kaketo project, suitable soil from excavation was available at the site for utilisation in dam and COT. It was specified in the DPR that borrow area for requirement of extra soil was situated within a lead of three km. Besides, the rate of earthwork for embankment of dam adopted was the highest rate for maximum lead. Therefore, no separate provision of lead was to be provided in the estimates. We observed that for determining the estimated rates of earthwork in embankment and COT, extra lead of five km was added separately. In addition, lead of three km was also provided while determining estimated rate of excavation of soil utilisable in the work, though the item of earthwork filling in embankment and COT covered cost of all leads. Further, for disposal of un-utilisable soil obtained from excavation at the site, lead of three km was added in estimated rate though it could have been disposed of near the site as being done in other projects. Reason for provision of its disposal at distant place was not on records. This resulted in increase in clubbed estimated rates and the estimated cost by ₹ 7.84 crore as detailed in serial number 7 of **Appendix 2.12**.

During execution, quantities of said items increased beyond 10 *per cent* of estimated quantities which were paid for on the basis of estimated rates as per the terms of the item rate agreement. As the estimated rates were fixed

⁶³ Bilgaon, Ghoghra, Kushalpara, Rehati, Semari and Upper Kaketo

⁶⁴ Spill channel: Channel to lead flood water from spill way to the original nalla or river.

on higher side, this resulted in extra cost of ₹ 62.66 lakh⁶⁵ on quantities beyond 10 per cent of estimated quantities.

Provision for excess lead and excess rate for lead in these six projects resulted in increase in estimates by ₹ 10.10 crore as detailed in **Appendix 2.12**.

The Government stated that the bidders take into account site conditions, including availability of material and lead and therefore, variations in estimated and actual lead do not lead to extra expenditure. Regarding Upper Kaketo project, the Government further stated that bids were obtained by competitive process, wherein bidders quoted rates taking into account site conditions. Hence, variations in lead in estimates did not lead to any increase in cost or extra expenditure.

The reply is not convincing as estimated cost serves as a financial benchmark for quotation by bidders and inflated estimates make the tendered rates apparently reasonable even if it is on higher side. Thus, inflated rates of different items in estimates due to inclusion of inadmissible lead, items and quantities result in extra payment to contractors in percentage rate and lump sum contracts as well as for excess executed quantity beyond 10 per cent of estimated quantity in item rate contracts.

The Government should ensure that detailed estimates are prepared after taking into account the utilisable soil/ hard rock available from excavation and locally available construction material.

2.2.7.2 Incorrect provision of lead for Cohesive Non-Swelling soil for cement concrete lining

Provision of additional lead for CNS soil resulted in increase in estimates by ₹ 2.53 crore.

As per amendment to USR 2009 made (July 2010) by the E-in-C, BODHI, WRD, rates of complete item of Cohesive Non-Swelling (CNS)⁶⁶ soil for Cement Concrete lining was fixed as ₹ 94 per cu m with lead of water limited up to 100 m. The rate of the item was reduced to ₹ 52 per cu m limiting the lead of soil to 50 m and water up to 100 m by the amendment of December 2012 in the USR. Thus, before December 2012, element of lead of CNS soil was added in the item of CNS as per USR and no additional lead of CNS soil was to be added.

We observed (November 2013 to June 2014) in Bagharu, Rehati and Semari canal works that though CNS soil was a complete item, additional lead of 5 km to 15 km for CNS soil was added in the estimates. This resulted in increase in estimated cost by ₹ 2.53 crore⁶⁷.

The E-in-C stated (November 2014) that he would personally look into the matter and would submit a reply.

⁶⁵

Excavation in soil	34,277.39 cu m	@ ₹ 79.11 per cu m	= ₹ 27,11,684	= ₹ 62,66,234
Excavation in hard rock	44,465.22 cu m	@ ₹ 79.94 per cu m	= ₹ 35,54,550	

⁶⁶ CNS: Soil of non-expanding/ swelling nature when wet.

⁶⁷

Bagharu	35,031.19 cu m	@ ₹ 153.6 (lead: 15 km)	= ₹ 53,80,790	= ₹ 2,52,88,348
Semari	1,17,812.83 cu m	@ ₹ 129.78 (lead: 10 Km)	= ₹ 1,52,89,749	
Rehati	46,986.25 cu m	@ ₹ 98.28 (lead: 5 km)	= ₹ 46,17,809	

2.2.7.3 Provision of Cohesive Non-Swelling soil without ascertaining necessity

As per para 2.5.3 of Specifications for Irrigation Projects, a layer of CNS soil is provided between the sub-grade soil and lining in the canal work based on swelling pressure and resultant deformation of sub-grade after testing the sub-grade soil. This was reiterated by BODHI, WRD in its orders of December 2012 and February 2013.

Provision of CNS soil valued ₹ 1.92 crore was made without conducting mandatory test and ensuring its necessity in the work.

We observed that in four projects, provision of CNS soil was made below lining without conducting mandatory test and assessing the requirement of CNS soil. Thus, the provision of CNS soil valued at ₹ 1.92 crore⁶⁸ was made without ensuring its necessity in the work. This increased the estimated cost of the work and accordingly impacted the quoted contract price.

The E-in-C stated that as a thumb rule, CNS is provided on eye estimation and at the time of execution, CNS is allowed, if required, based on soil conditions and swelling pressure tests.

The reply is not acceptable as requirement of CNS is to be assessed during detailed survey and investigation before preparation of estimates and technical sanction so as to ensure that estimated cost is realistic.

2.2.7.4 Adoption of richer specification

As per Technical Circular issued in January 1984 by the E-in-C, cement concrete (CC) of M-10 grade⁶⁹ is to be provided in CC lining in irrigation projects.

We observed that in two projects (Kachhal and Semri canal) out of seven projects⁷⁰ of canal work, richer mix of M-15⁷¹ grade CC was provided in the estimates of lining in place of M-10 grade CC. This resulted in increase in estimates by ₹ 62.82 lakh⁷² and would entail extra expenditure on execution of the work.

The E-in-C stated that now M-10 is not being allowed and replaced by M-15 in IS code which overrides technical circulars and USR provision.

The reply is not acceptable as provision of M-10 is still existing as per technical circulars and prevailing USR, according to which M-10 concrete is sufficient for lining of canal.

2.2.7.5 Inclusion of inadmissible items and quantities in estimates

As per provisions of MPWD Manual and CWC guidelines, estimates shall be complete and correct and based on reliable and accurate data.

⁶⁸				
Bagharu	35,031.19 cu m	@ ₹ 94.00	= ₹ 32.92 lakh	
Ghoghra	19,935.17 cu m	@ ₹ 94.00	= ₹ 18.74 lakh	
Kachhal	14,440.31 cu m	@ ₹ 203.67	= ₹ 29.41 lakh	
Semari	1,17,812.83 cu m	@ ₹ 94.00	= ₹ 110.74 lakh	= ₹ 191.81 lakh

⁶⁹ M-10 grade concrete contains cement, sand and coarse aggregate in the ratio of 1:3:6.

⁷⁰ Bagharu, Bilgaon, Ghoghra, Kachhal, Kushalpur, Rehati and Semari

⁷¹ M-15 grade concrete contains cement, sand and coarse aggregate in the ratio of 1:2:4.

⁷² Kachhal canal (₹ 17.40 lakh) and Semari canal (₹ 45.42 lakh)

Inclusion of unrequired or inadmissible quantities and items in the estimates resulted in increase in estimated cost by ₹ 5.63 crore.

We observed in six⁷³ projects that unrequired or inadmissible items were included in deriving estimated rate of different items, resulting increase in estimated total cost of the works by ₹ 5.63 crore (**Appendix 2.14**). Instances of increase in estimated cost by inclusion of inadmissible items and quantities are described below:

(a) Bagharu head work

The cost of separate formwork⁷⁴ with plain concrete cement (PCC) and reinforced concrete cement (RCC) was added in estimates though the item (formwork) was included in the concreting work as per Chapters 7 and 16 of USR. This resulted in increase in estimated cost by ₹ 39.97 lakh.

In the exit conference, the E-in-C stated that while item was provided for in contract, the same was not executed.

(b) Bilgaon head work

Quantity of excavation for river training work required for guiding the alignment of river was added in the estimate of project with the item of seepage drain though there was no supporting document to indicate that requirement of the item was assessed. However, inclusion of the item increased the estimated cost by ₹ 55.49 lakh.

The E-in-C stated that initially river training work was considered necessary but item was not executed.

(c) Semari canal

- Separate provision of excavation for housing⁷⁵ for sleepers, CNS soil, concrete lining and filter was included in the estimates though not required to be included, as the items of earthwork include housing for sleepers, CNS soil, concrete lining and filter as per the Irrigation Specifications. This increased the estimated cost by ₹ 41.66 lakh. The work was yet to be awarded (February 2014).
- Separate provision of tamping (compaction by hand) in canal bed and sides for laying CNS soil was made in estimates though not required as earthwork on bed and sides in new canal work include compaction. This increased the estimated cost by ₹ 20.97 lakh.
- Higher rate of controlled concrete⁷⁶ was incorrectly adopted for preparation of estimates instead of adopting rate of nominal mix⁷⁷ of concrete for cement concrete lining work as per the USR. This increased estimated cost by ₹ 10.12 lakh.

⁷³ Bagharu, Bilgaon, Ghoghra, Sagar, Semari and Upper Kaketo

⁷⁴ Form work: A temporary structure made up of wood or iron to support and provide required shape of concrete before setting of concrete.

⁷⁵ Housing: Creating of space in earthwork of canal by excavation for laying sleepers, CNS and concrete lining.

⁷⁶ Rate of controlled concrete (concrete in designed proportion of selected ingredients by weight to achieve the desired strength): Bed – ₹ 2,859.00 per cu m, Side slope ₹ 3,344.00 per cu m

⁷⁷ Rate of Nominal mix (concrete in fixed proportion of ingredients by volume): Bed- ₹ 2,739.00 per cu m, Side slope - ₹ 3,268.00 per cu m

The E-in-C stated regarding use of soil obtained from housing, separate provision of tamping and higher rate of controlled concrete that these items were not executed yet and was not paid for.

(d) Upper Kaketo head work

- Cost of steel in the item 'dowel bar for rock in open foundation' was added in the estimates separately though the item is inclusive of cost of steel. This increased the estimated cost by ₹ 15.29 lakh.
- Additional provision was made in the estimates for shifting of drilling equipment from one drill hole to another hole for grouting and wet percussion drilling though it is not separately payable for drilling as per the USR. This increased the estimated cost by ₹ 68.91 lakh.
- In terms of note 8(h) of Chapter 4 of USR, quantity of all items payable separately shall be deducted to arrive at net quantity of earth work. Therefore, estimates for the earthwork of embankment of dam shall be sanctioned for net quantity of earthwork filling on the basis of approved design considering utilisation of available utilisable material obtained in excavation.

We observed in detailed estimates that quantity of utilisable soil obtainable from excavation of COT payable under excavation and housing for pitching not payable separately were not deducted to arrive at the net total quantity of earthwork. Apart from that, quantity of soil required for filling the excavated area of stripping was added twice in quantity of earthwork and utilisable quantity of soil obtained from excavation was added instead of deducting it to arrive at the net total quantity of earthwork in filling. This led to increase in estimates by ₹ 83.61 lakh as shown in serial number 15 of **Appendix 2.14**.

In case of inclusion of cost of steel in estimates, the E-in-C agreed with the fact. Regarding calculation of net earthwork quantity, he stated that extra quantity was not paid for.

(e) Ghoghra head work

Quantity of utilisable soil obtainable from excavation of spill channel and separately payable items of filter blanket, rock toe, were not deducted in detailed estimates to arrive at the net total quantity of earthwork. This led to increase in estimates by ₹ 69.22 lakh.

While agreeing to the audit observation the E-in-C stated that it was not paid for.

The replies given in respect of above mentioned projects are not convincing as estimated cost prepared by the Department serves as a base for bid and therefore the mistake in estimates, which the contractor is not aware of influence the bid price.

(f) Sagar head work

As per technical circulars⁷⁸ for protection of dam, stone pitching is provided in upstream slope of dam embankment to check erosion due to water wave

⁷⁸ Technical circular numbers 9 of August 1987 and 8 of March 1994 for irrigation works

action and turfing⁷⁹ is provided in downstream slope.

We observed that in the estimates, pitching on downstream side of embankment was provided in the estimates and executed instead of turfing. This resulted in increase in estimates as well as extra cost of ₹ 60.25 lakh⁸⁰ due to use of 27,706.23 cu m pitching in downstream slope of dam considering only labour cost i.e. excluding cost of metal which was already available.

The E-in-C stated that pitching was executed due to availability of material at site.

The reply is not acceptable, as even if pitching material was available at site, use of turfing on downstream slope would have been economical as compared to the labour cost for pitching.

Inclusion of unrequired or inadmissible quantities and items in the estimates in these six projects mentioned above resulted in increase in estimates by ₹ 5.63 crore in these projects as detailed in **Appendix 2.14**.

The Government should ensure compliance with provisions of MPWD Manual/ Irrigation Specifications/ USR in order to ensure economy and quality in works.

2.2.7.6 Non-utilisation of local cheaper material (Filter)

In the estimates of the 12 projects, locally available material was not considered for utilisation in filter though certificates of non-availability of metal locally were not available.

As per general note 9 of Chapter 21 of USR, for items of filter for drainage, locally available material (stone/ boulders) should be used as a first preference. If it is not available locally, stone obtained from excavation of hard moorum with boulder or rock-cut can be used as a second alternative, provided it is certified by the EE that stones/ boulders are not available from nearby *nallas* or river while submitting estimate for sanction.

We observed (November 2013 to June 2014) in the estimates of all the test checked 12 projects that the estimates included costlier material for filter without exploring the availability of local material. There was nothing on records to establish that suitable material for filter was not available in any of the 12 projects. In the absence of certificates of non-availability of local material for filter or evidence in support of non-suitability of material obtained from excavation of hard moorum, correctness of estimates could not be ascertained in audit.

Non-utilisation of locally available suitable material in the works will entail extra cost due to increased cost of transportation of the material.

The E-in-C stated that availability of local/ cheaper metal is taken in to account for all projects and non-recording of availability/ non-availability of the local/ cheaper material was a procedural lapse. He assured that directions would be issued so that in future the EE concerned, issues necessary certificate

⁷⁹ Turfing: Grass provided on the downstream slope of the dam to protect against soil erosion.

⁸⁰

Cost of pitching (in 45 cm thickness)	27,706.23 cu m @ ₹ 225	= ₹ 62,33,902
Cost of turfing	61,569.40 sq m @ ₹ 3.40 per sq m	= ₹ 2,09,336
Cost difference		= ₹ 60,24,566

regarding availability of material.

The Government should ensure that detailed estimates are prepared after detailed survey and investigation by taking into account locally available construction material as per provisions of USR.

2.2.7.7 **Incorrect preparation of abstract of cost for technical sanction**

Detailed estimates are prepared on the basis of detailed survey and investigation. The abstract of cost for the purpose of granting TS is prepared on the basis of quantity and items given in the detailed estimates.

We observed (November 2013 to June 2014) in three projects⁸¹ that detailed estimates were prepared indicating quantities of different items of works. But, the quantities recorded in the abstract of cost were more than the quantities given in detailed estimates for these projects. Due to mistakes in quantities in the abstract of cost and non-deduction of the same during granting of TS, the amount of sanctioned estimates increased by ₹ 49.11 lakh. Details are given below:

Table 2.5: Increase in quantities of items in abstract from detailed estimate

Name of the project	Item	Quantity as per detailed estimate (in cu m)	Quantity included in abstract (in cu m)	Difference in quantities (in cu m)	Rate (₹)	Amount (₹) (5*6)
1	2	3	4	5=(4-3)	6	7
Bagharu Canal	Earthwork	109580.60	136764.60	27184	31	842704
Ghoghra main tank	Hard soil	25656.57	9621.21	(-)16035.36	26	(-) 442920
Excavation of COT	Hard moorum	64141.42	9621.21	(-) 54520.21	36	(-) 1962727
	Disintegrated rock	19242.426	89797.98	70555.55	71	5009445
	Soft rock	12828.28	19242.40	6416.16	122	782530
Rehati head work	Utilisation of soil in earthwork	Nil	14506.00	14506.00	47	681782
Total						49,10,814

The Government stated that responsibility would be fixed and action for the lapse would be taken.

The Government should ensure accuracy and correctness of estimates before according technical sanction.

2.2.8 Conclusion

There were deficiencies in pre-requisite activities in preparation of estimates for medium irrigation projects by the WRD leading to inflated/ incorrect estimates and resultant increase in tendered rates/ cost.

- In all test checked projects the detailed project reports (DPRs) were prepared without or with improper survey and investigation. The administrative approval of the project cost was accorded by the Government and technical sanction accorded by departmental authorities based on these

81 Bagharu, Ghoghra and Rehati

deficient DPRs without ensuring conduct of mandatory detailed survey and investigation.

- The Divisions did not have the records relating to pre-requisite activities for preparation of estimates such as level books, geological survey reports etc; leading to incorrect estimation and increase in quantities of works during execution. In six substantially completed projects the increase in quantities ranged from 19.54 *per cent* to 486.54 *per cent*.
- Due to non-adherence to provisions relating to specifications, schedule of rates etc; availability of soil and hard rocks at the site of projects was ignored and extra leads for soil/ hard rocks were provided in the estimates significantly increasing the estimated cost of the projects and consequent extra cost of project.
- Inclusion of unrequired or inadmissible items and quantities in the estimates resulted in increase in estimated cost of the projects, due to which higher rates quoted by contractor appeared reasonable for tender evaluation. In the test checked projects, costlier material was provided in the estimates without ascertaining availability of cheaper local material for utilisation in filter of works. Due to inaccuracies in preparation of detailed estimates, estimated total cost of 12 projects (₹ 681.90 crore) inflated by ₹ 21.29 crore.

Public Works Department

2.3 Repair and maintenance of roads in Madhya Pradesh

Executive summary

Public Works Department, Government of Madhya Pradesh is engaged in planning, designing, construction of roads and Government buildings. Besides, the construction of roads, repairs and maintenance of roads is also undertaken by Public Works Department utilising fund for maintenance of roads, received under annual repair plan through the State Budget. In the State, the Department constructed 19,574 km Major District Roads, 7,044 km Other District Roads and 17,045 km Village Roads up to 2013-14.

Details of renewal cycle and renewal diagrams were not maintained in the divisions so as to keep watch over timely renewal of the roads. Works costing ₹ 46.95 lakh were taken up for execution within the guarantee period and on roads transferred to other organisation.

(Paragraph 2.3.7.1)

The adoption of richer specifications for renewal of 200 roads resulted in extra cost of ₹ 29.77 crore.

(Paragraph 2.3.8.1)

The divisions paid ₹ 30.96 crore in respect of 107 works requiring use of packed bitumen, though bulk bitumen was used by contractors or use of packed bitumen was not ascertained. Besides, ₹ 105.26 crore was paid for bituminous work without verifying original vouchers from public sector refineries as required. In 19 road works, bitumen consumption was lesser than the theoretical consumption and seal coat was not provided after execution of Open Graded Premix Carpet and Bituminous Macadam on the roads which affected the quality.

(Paragraphs 2.3.8.2 to 2.3.8.4)

The accounting of bitumen, sand, metal, moorum etc. showing receipts and issues and reference of Measurement Books were not shown to us, indicating non-maintenance of adequate records and improper measurement of works.

(Paragraph 2.3.8.9)

The road works were split in three or more parts and awarded separately and thereby avoided the requirement of approvals for acceptance of tenders by higher authority and advertisement through newspapers was avoided.

(Paragraph 2.3.9.1)

In respect of road works, evidence of employment of technical expertise and use of motor grader could not be produced to us. Job mix formula required to ensure strength of surface course of roads was not found on records.

(Paragraphs 2.3.9.2 to 2.3.9.4)

There were delays in execution/ completion attributable to the contractors but liquidated damages amounting to ₹ 1.32 crore was not imposed or short imposed.

(Paragraph 2.3.9.5)

2.3.1 Introduction

The safety and convenience of traffic using the roads are governed to a large extent by the quality of roads. Proper maintenance of roads, therefore, assumes greater significance for safe and convenient road.

Public Works Department (PWD), Government of Madhya Pradesh (GoMP) is responsible for planning, designing and construction of roads. Besides, repairs and maintenance of roads is also undertaken by the Department. Funds for maintenance of roads are provided under the Head of Account, Annual repair and maintenance in the State Budget. The repair and maintenance activities can be broadly classified under the following three sub-heads:

- Annual repair is routine maintenance work, necessary to preserve and keep a road close to its constructed condition. It embraces pothole patching, sealing of cracks etc.
- Renewal works include provision of renewal coat to the wearing surface at a predetermined frequency, to safeguard the pavement crust and also improve the riding quality. As per the MPWD manual, the renewal of a road is planned for completion in five years by preparing road renewal cycle covering 20 *per cent* of road length in each year.
- Special repair works include minor improvement in curves, visibility, repairs to culverts, bridges etc.

According to the administrative report of the Department for the year 2013-14, 19,574 km Major District Roads (MDRs), 7,044 km Other District Roads (ODRs) and 17,045 km Village Roads (VRs) were constructed in the State up to the end of 2013-14. MDRs are important roads within a district serving areas of production and markets and connecting these with each other or with the main highways. ODRs are roads serving rural areas of production and providing them with outlet to market centres, taluka/ tehsil headquarters, block development headquarters or other main roads or groups of villages with each other and to the nearest road of a higher category. VRs are those roads which connect villages and the nearest road of higher category. A map showing major district roads and other roads in Madhya Pradesh is appended (**Appendix 2.15**).

2.3.2 Organisational set-up

The Department is headed by Principal Secretary at Government level. Engineer-in-Chief (E-in-C) is the technical head of the Department, who is assisted by seven Chief Engineers (CEs) in zones. There are 14 Superintending Engineers (SEs) at circle level. The SEs are assisted by 55 divisions, each headed by an Executive Engineer (EE) for construction as well as repair and maintenance of roads and building works.

2.3.3 Audit objectives

The performance audit was conducted with a view to assess whether:

- pre-award activities of identification and selection of roads for repairs and maintenance were as per the guidelines laid down in Madhya Pradesh Works Department (MPWD) Manual;

- execution of repair and maintenance works was carried out economically and efficiently, as per the provisions of Indian Road Congress (IRC) specifications and
- tendering, award of work and management of contracts were done efficiently.

2.3.4 Criteria for audit

The audit findings were based on criteria derived from following:

- MPWD Manual, Central Public Works Accounts (CPWA) Code,
- Specifications of IRC, Ministry of Road Transport and Highways (MORT&H),
- Schedule of Rates (SORs) published by PWD,
- Guidelines and instructions issued from time to time relating to works by the Department,
- Terms and conditions of agreements for repair and maintenance works.

2.3.5 Scope and methodology of audit

The scope of the performance audit is limited to repair and maintenance works of MDRs, ODRs and VRs, which are generally low value works⁸² executed by Executive Engineer and supervised up to the level of Superintending Engineer. Repair and maintenance works are undertaken through 55 divisions under seven zones and 14 circles of the Department. The performance audit was conducted through test check of records/documents for the period 2009-14 in 19 divisions⁸³, which were selected using Stratified Simple Random Sampling method. Out of total 4,828 executed agreements for repair and maintenance of roads, 1,412 agreements (29 per cent) valued ₹ 300.64 crore were selected for scrutiny. For this purpose, high value agreements were selected in test checked units.

The audit objectives, criteria and methodology were discussed with the Principal Secretary, PWD, Madhya Pradesh during the entry conference held on 11 March 2014. In the exit conference held on 03 November 2014 with the Principal Secretary, PWD, audit findings were discussed and their views have been suitably incorporated in the audit report. The Government accepted all audit recommendations.

2.3.6 Budget allotment and expenditure

During the years 2009-10 to 2013-14, the Department incurred expenditure of ₹ 2,697.20 crore against the allotment of ₹ 2,914.37 crore on annual repairs and renewal of roads in the State. The year wise details of allotment and expenditure are shown in the table below:

⁸² Value of test checked works ranged between ₹ 2 lakh and ₹ 19 crore, at an average of ₹ 21 lakh each .

⁸³ Ashok Nagar, Balaghat, Barwani, Burhanpur, Chhattarpur, Dewas, Guna, Gwalior II, Katni, Khargone, Mandsaur, Neemuch, Raisen, Rewa, Sagar, Sehore, Tikamgarh, Ujjain and Vidisha

Table 2.6: Statement showing expenditure on repairs and maintenance of roads**(₹ in crore)**

Sl No	Year	Annual repair works		Renewal works	
		Allotment	Expenditure	Allotment	Expenditure
1.	2009-10	195.64	188.29	79.01	78.37
2.	2010-11	198.89	198.25	125.01	124.70
3.	2011-12	158.38	156.71	227.01	226.73
4.	2012-13	216.39	215.64	550.01	546.89
5.	2013-14	599.02	406.52	565.01	555.10
Total		1368.32	1165.41	1546.05	1531.79

(Source: Information provided by the E-in-C, PWD)

Thus, there were savings of ₹ 217.17 crore (7.5 per cent) of total allotment of ₹ 2,914.37 crore during the period 2009-14.

In 19 selected divisions, expenditure incurred on annual repairs and renewal of roads was ₹ 415.82 crore and ₹ 584.99 crore respectively during the period 2009-14. Division-wise allotment is not made in the State budget. The Department also did not provide the same to Audit. The Department also did not maintain MDR/ ODR/ VRs wise expenditure, since budget allotment was made under the heads “renewal of roads” and “annual repair of roads”.

Audit findings

During performance audit, we noticed that mechanism for identification of roads for renewal was poor, costlier specification was adopted for renewal, quality and quantity of bitumen used in works was not ensured, works were split to facilitate accepting tenders etc. Shortcomings noticed in execution of repair and maintenance of road works are discussed in the following paragraphs.

2.3.7 Identification of repair and maintenance works

2.3.7.1 Renewal cycle and programme diagram

Renewal cycle of bituminous surfacing of a road depends on the traffic density, rainfall and lane width as defined in the paragraph 6.5 of IRC-82 1982. Renewal cycle of MDRs, ODRs and VRs varies from three to six years according to traffic density and rainfall.

As per paragraph 2.047 of the MPWD Manual, a renewal cycle and programme diagram should be maintained for each road in a sub-division and division in prescribed form to show collection and consolidation of construction material used for construction/ repair work in a particular reach of the road during the previous five years. These diagrams are to be considered to determine reaches of a road for renewal during the ensuing financial year.

We noticed (February 2014 to June 2014) that in none of the 19 selected divisions, details of renewal cycle and renewal diagrams were maintained. As a result, the Department could not ascertain reach specific necessity of renewal of roads. Instances of renewal of roads covered under performance guarantee period and of the roads already transferred to Madhya Pradesh Rural Road Development Authority (MPRRDA) are discussed in succeeding paragraphs:

Details of renewal cycle and renewal diagrams were not maintained in the divisions so as to keep watch over timely renewal of the roads.

Divisions took up the renewal works of four roads within the guarantee period and incurred expenditure of ₹ 46.95 lakh.

(a) Repairs of roads covered under performance guarantee period

In three divisions⁸⁴, repair of two ODRs and two MDRs⁸⁵ which were executed through five agreements was under performance guarantee for the guarantee period of one year from the date of completion of the roads as per terms of agreements for construction of these roads with the contractors.

We noticed (February 2014 to June 2014) that the divisions took up (2010-11 to 2012-13) renewal works of these roads and awarded works to contractors, though the works were within the guarantee period; and expenditure of ₹ 46.95 lakh was incurred on these works, as detailed below:

Table 2.7: Statement showing details of repair of roads which were under performance guarantee

(₹ in lakh)							
Sl. No.	Name of Division	Agreement No./ Year	Name of roads/ KMs	Date of completion of works	Guarantee period	Date of work orders	Recoverable amount from original contractors
1	Raisen	173/ 11-12	Entakhadi-Ajitnagar Road (km 5 to km 14)	15.05.12	16.05.12 to 15.05.13	30.05.12	15.61
2	Khargone	192/ 10-11	Nagjhiri-Ghutti road (km 5 & km 6)	14.04.11	15.04.11 to 14.04.12	28.11.11	08.27
3	Chhattarpur	96/ 11-12	MLCA road (km 49, km 50 & km 51)	05.03.12	06.03.12 to 05.03.13	06.03.12	08.04
4	Chhattarpur	96/ 11-12	Londi-Mahoba road (km1& km 2)	05.03.12	06.03.12 to 05.03.13	06.03.12	05.36
5	Chhattarpur	140/ 10-11	MLCA road (km 38)	20.10.11	21.10.11 to 20.10.12	01.02.12	09.67
Total							46.95

(Source: Information provided by the Divisions)

Thus, the planning was defective, as the roads were required to be maintained under performance guarantee. The divisions also failed to enforce compliance with the contract by the concerned contractors to take up the repair works under performance guarantee.

No action was initiated by the Department to recover the cost incurred on renewal of these roads from the contractors who executed the original works and sponsored guarantee for the works.

(b) Renewal of transferred roads

₹ 27.26 lakh incurred on renewal of such roads which have already been transferred to MPRRDA.

In Neemuch Division, two roads (ODRs) were transferred in March 2009 to Madhya Pradesh Rural Road Development Authority (MPRRDA) for upgradation. The division, nevertheless, issued work orders for renewal of these roads⁸⁶ in March 2012 and October 2012 respectively and completed those at a cost of ₹ 27.26 lakh. The MPRRDA in response to our letter, intimated (May 2014) that it had issued work orders for upgradation of these roads⁸⁷ during July 2009 and November 2012 and took up the work for execution. Thus, the Department incurred expenditure on the roads which

⁸⁴ Chhattarpur, Khargone and Raisen

⁸⁵ Chandla-Ajaygarh road (MDR), Entakhadi-Ajitnagar Road (ODR), Londi-Mahoba road (MDR), Malahara-Laundi and Nagjhiri-Ghutti road (ODR)

⁸⁶ Rewali- Dewali road (March 2012) , Bhatkhedi- Jamunia- Rawji road (October 2012)

⁸⁷ Bhatkhedi- Jamunia- Rawji road (July 2009), Rewali- Dewali road (November 2012)

had already been transferred to MPRRDA, indicating deficiencies in planning and lack of co-ordination between two departments.

In the exit conference, the E-in-C stated that records relating to renewal cycle and diagrams have to be maintained and action would be taken against those divisions where the records were not being maintained. He intimated that software for history of road works and to watch/ monitor timely renewal of the roads by the Department was being developed. He also agreed to look in to the instances of irregular selection of roads for repair.

Renewal cycle and renewal diagrams of all roads should be maintained to ensure identification and selection of road requiring renewal and timely execution of renewal work.

2.3.8 Execution of repair and maintenance works

The terms and conditions of the agreements require that the works are executed strictly as per MORT&H specifications. Total 4,828 agreements were sanctioned and executed in test checked 19 divisions. Based on the SOR (April 2009), the average cost of per km road with 3.75 metre width of renewal of BT surface by semi dense bituminous concrete (SDBC), with open graded premix carpet (OGPC) and seal coat and with surface dressing were ₹ 4.91 lakh, ₹ 4.43 lakh and ₹ 1.91 lakh respectively. Deviations from the specifications and other shortcomings were noticed in 838 agreements (cost of ₹ 186.80 crore) out of 1,412 agreements scrutinised. This also entailed extra expenditure and recoverable amount from the contractors of ₹ 38.69 crore in respect of 336 agreements in 18 divisions as discussed in succeeding paragraphs.

2.3.8.1 Adoption of costlier specifications for renewal of roads

Paragraph 6.5 of IRC 82-1982 specification provides for renewal of MDRs, ODRs and VRs at an interval of three to six years with surface dressing. It was directed by the E-in-C (1992) that renewal on MDRs/ VRs should be done by Surface Dressing Method.

We noticed (February 2014 to June 2014) in 11 divisions (**Appendix 2.16**) that instead of applying surface dressing as prescribed by specifications for renewal of 53 MDRs and 147 ODRs including VRs (out of 1,028 road works), costlier method of renewal viz. SDBC or 20 mm OGPC with seal coat (admissible for National Highways and State Highways) were adopted during the period (April 2010 to March 2014). Adoption of costlier specifications resulted in extra cost of ₹ 29.77 crore (**Appendix 2.16**).

In exit conference, the E-in-C replied that the selection of method for renewal of roads was purely a technical subject and surface dressing was not a capable method for renewal of roads.

The reply is not acceptable, as surface dressing is a prescribed method for the renewal of MDRs/ ODRs/ VRs in the IRC specifications and no reason was given in the records for deviation from the specification.

Specifications prescribed for road works should be adhered to, in order to maintain economy as well as quality and strength of roads. Orders for changes in specifications wherever required should be issued with justification.

Adoption of richer specifications for renewal of 200 roads resulted in extra cost of ₹ 29.77 crore.

2.3.8.2 Use of bulk bitumen in place of packed bitumen and non-submission of invoices of bitumen by the contractors

Terms and conditions of the agreements for repair and maintenance of road works stipulated that payment of the bituminous work was to be authorised to contractors only after submission of the original vouchers/ invoices for procurement of bitumen from public sector refineries. This requirement was included in the agreement evidently with a view to ensure use of quality material in required quantity.

We noticed the following:

(a) In 527 agreements executed by 16 divisions for bituminous work of 90 MDRs and 437 ODRs/ VRs, original vouchers for procurement of bitumen from public sector refineries were not submitted or duplicate invoices were submitted for lesser quantity by the contractors. Thus, the use of quality bitumen in 16,161 MT quantities was not ensured in these works. A total amount of ₹ 105.26 crore was paid to contractors for these works (**Appendix 2.17**).

Further, 107 other agreements (for 13 MDRs and 94 ODRs/ VRs) in three divisions⁸⁸ out of the above mentioned 16 divisions, executed during 2011-14 *inter alia* included condition for use of packed bitumen in contracts. The contractors either supplied duplicate invoices of bulk bitumen instead of packed bitumen or did not submit invoices in support of purchase of packed bitumen. The Divisions, however, paid ₹ 30.96 crore to the contractors for the works without ascertaining use of packed bitumen as per terms of agreements. We further noticed that bulk bitumen was cheaper by ₹ 3,000 per Metric Tons⁸⁹ (MT) in comparison to packed bitumen. Therefore, an amount of ₹ 1.26 crore being the difference in cost of theoretical consumption⁹⁰ of 4,202 MT bitumen, was recoverable from the contractors (**Appendix 2.18**).

Besides, due to allowing use of bulk bitumen or not verifying original invoices in support of supply of packed bitumen, the quality of bitumen used in these works could not be ensured.

(b) Eighteen agreements (in respect of two MDRs and 16 ODRs/VRs) of four divisions⁹¹ (out of 16 divisions) were executed during the period 2010-11 to 2012-13 (**Appendix 2.19**). The contractors submitted vouchers in support of procurement of bitumen, which were already submitted by the contractors for other agreements/works or submitted the procurement receipts from sources other than the public sector refineries as verified in audit. The contractors were paid ₹ 6.72 crore for the bituminous work in these road works for which 967.73 MT of bitumen was required. Against this, genuine vouchers were submitted for 95.19 MT bitumen and inadmissible

Contrary to provisions of agreements, 16 divisions paid ₹ 105.26 crore to contractors without obtaining original invoices of bitumen in 527 agreements and paid ₹ 30.96 crore without ascertaining use of packed bitumen in 107 agreements.

⁸⁸ Balaghat, Neemuch and Vidisha

⁸⁹ Average rate of ₹ 3,000 per MT adopted based on rate published by Indian Oil Corporation during the period of execution. The rates of packed bitumen and bulk bitumen were ₹ 39,380 per MT and ₹ 36,380 per MT (exclusive of taxes) respectively as on Feb 2013 in nearest depot.

⁹⁰ Rate of theoretical consumption of bitumen as per specification, standard data book published by MORT&H and SOR applicable for road works

⁹¹ Balaghat, Chhattarpur, Dewas and Mandsaur

receipt/ vouchers were submitted for 451.29 MT bitumen as shown in **Appendix 2.19**. Moreover, the documents relating to 421.25 MT of bitumen were not found in records. Thus, the execution of bituminous works costing ₹ 6.72 crore was not adequately supported by purchase vouchers.

In exit conference, the Government agreed with the audit observations and assured to issue departmental circular in this regard. The fact, however, remains that the quality of bitumen was not ensured, payment of bituminous works was authorised to contractors without obtaining the invoices for procurement of bitumen from them and the recovery of difference of cost remained unrecovered.

Payment for bituminous work should be made after verification of original vouchers of purchase of bitumen and supply of packed bitumen should be ensured where provided in the agreements.

2.3.8.3 Application of seal coat over bituminous works

In nine road works, seal coat was not provided after execution of OGPC and BM, exposing the work valued at ₹ 34.49 lakh to faster deterioration.

Paragraphs 8.4.9.7 and 8.4.9.8 of the Manual for Construction and Supervision of Bituminous works published by MORT&H provides that OGPC used as a final surfacing of road should be covered by a seal coat within four to six hours after its laying and traffic should not be allowed over the premix carpet without seal coat.

We noticed that in three divisions (Balaghat, Chhattarpur, and Gwalior No. II) in respect of one MDR and eight ODRs/ VRs of renewal works, out of 614 works awarded during 2009-14, seal coat was not provided after execution of OGPC and BM as evident from the measurements indicated in final bills. The divisions paid final bills including the cost of OGPC/ BM to the contractors. Thus, the roads were opened to traffic without sealing the OGPC or BM which was not only against the specifications but exposed the work valued at ₹ 34.49 lakh to faster deterioration (**Appendix 2.20**).

In exit conference, the Government agreed that seal coat should have been laid and assured to look into the matter.

2.3.8.4 Use of bitumen in repair works

In 19 road works, bitumen consumption was less than the theoretical consumption for which amount of ₹ 40.94 lakh was recoverable from contractors.

Paragraph 507.3.2 of Specifications for Road and Bridge Works provide that quantity of bitumen in the mix⁹² for SDBC work must be as per the approved job mix formula for the work. The percentage of bitumen may vary in the mix in accordance with source of material and filler (lime or cement) used in mix. Theoretical quantity of bitumen in the mix is 115 kg per cu m of mix considering the weight of mix as 2,300 kg per cu m as per the standard data book published by MORT&H.

We noticed (February 2014 and May 2014) that in two MDRs and 17 ODRs/VRs works out of 189 works in Mandsaur Division, 11,135.39 cu m SDBC work was executed. But details of job mix formula, if any approved for the works, could not be made available to us when enquired. The Measurement Books (MBs) for the works indicated that the bitumen actually consumed was 11,17,324.40 kg⁹³ as against required quantity of

⁹² Mix for SDBC includes cement, aggregates and bitumen.

⁹³ at the rate of 100 kg per cu m of mix

12,80,569.85 kg of bitumen as per consumption norms. Since, actual consumption was lesser by 1,63,245.45 kg, the works were not executed according to specifications. As a result, required strength of the road was not ensured. An amount of ₹ 40.94 lakh (**Appendix 2.21**) was also recoverable from contractors for less consumption of bitumen.

In exit conference, the Government agreed to look into the matter.

2.3.8.5 Execution of additional wearing course

As defined in paragraphs 510, 511 and 513 of specifications for Road and Bridge Works, 20 mm OGPC with seal coat and surface dressing both are bituminous wearing course. Therefore, any one of them can be used for final surfacing of roads.

We noticed (February 2014 to June 2014) from MBs and other relevant records that in seven agreements⁹⁴ of ODR works executed in Guna and Gwalior-II Divisions during 2010-13, an additional layer of surface dressing was provided in the estimates and executed on the roads before executing 20 mm thick OGPC and seal coat. This resulted in extra expenditure of ₹ 18.95 lakh (**Appendix 2.22**) on surface dressing.

In exit conference, the Government agreed to look into the matter.

2.3.8.6 Acceptance of work not conforming to specifications

As per the general notes given in SOR published by PWD, if any work is found sub-standard but the Engineer-in-charge is of the opinion that the same can be accepted at a reduced rate, then the Engineer-in-charge shall submit proposals for the same, supported by an analysis i.e. justification of such reduction, to the SE concerned to obtain his approval. The approved analysis along with orders of the SE should be appended to the final bill of the contractors.

We noticed (February 2014 to June 2014) in five divisions⁹⁵ in respect of nine MDRs and 48 ODRs/ VRs works executed during 2009-10 to 2013-14 that the contractors were paid ₹ 3.41 crore (**Appendix 2.23**) after reducing rates of various items by 0.25 per cent to 20 per cent, indicating that the works were not executed as per the required specifications. Though required before making payment to the contractors, no proposal along-with analysis and justification for reduction in rates for substandard work, were found to have been sent to the SEs for approval in records of the divisions. Thus, acceptance of works not fully conforming to specifications and payment against that was irregular and unjustified.

In exit conference, the Government agreed to investigate the matter and assured to issue a departmental instruction in this regard.

2.3.8.7 Use of coarse aggregates and bitumen in OGPC works

According to clause 4.3.5.3 of the Manual for Construction and Supervision of Bituminous Works published by IRC, the size of coarse aggregate required

Sub-standard works costing ₹ 3.41 crore were accepted reducing the rates without approval of higher authority.

⁹⁴ Banjarapura to Dongarkhedi road in Guna Division and Murar-Chinore road (four agreements), Dabra-Chinire road and Baruaapproch road in Gwalior Division
⁹⁵ Balaghat, Chhattarpur, Gwalior no.II, Neemuch and Rewa

for the execution of OGPC should be 5.60 mm to 13.20 mm and quantity of bitumen/ emulsion required should be as per MORT&H specifications.

Over size aggregates and less bitumen was used in execution of work.

We noticed (March 2014) that three ODRs works⁹⁶ of Bituminous Top (BT) patch repair in Raisen division were awarded to a contractor on labour contract basis during 2012-13 under one agreement. As per the MBs, the contractor executed 10,877.33 sq m OGPC in 20 mm uniform thickness with use of the coarse aggregate of different sizes up to 45 mm size. Further, bitumen of 17.31 MT and emulsion of 3.80 MT was issued for the work from departmental store against theoretical consumption of 25.93 MT and 10.88 MT respectively. The value of the OGPC work worked out to ₹ 19.04 lakh⁹⁷ based on the SOR (April 2009). Execution of OGPC work with less quantity of bitumen and over size metal was doubtful.

In exit conference, the Government assured to examine the matter.

2.3.8.8 Measurement of repair works

In respect of 12 road works, contractors were paid ₹ 3.81crore without recording measurement of levels of bituminous macadam work and without measurement of stack of aggregates for BUSG work.

Paragraph 113 of Specifications of MORT&H for Road and Bridge Works provide that quantity of sub-base, base and bituminous courses shall be computed on the basis of levels taken before and after execution of works and paid on volume basis. Moreover, the SOR published by PWD from time to time stipulates for computing the quantity of the courses aggregates required for the work should be brought by the contractor, stacked at site, measured and recorded in MB prior to their use on work.

We noticed (February 2014 to June 2014) in six divisions⁹⁸ in respect of 12 road (one MDR & 11 ODRs/ VRs) that the contractors were paid ₹ 3.81 crore (**Appendix 2.24**) without recording measurement of levels before and after completion of BM work and without measurement of stack for Built-up Spray Grout (BUSG) work. For the purpose of payment to contractors, only surface area was considered for measuring BM & BUSG work. Therefore, volume of BM & BUSG works (considering thickness of the course) was not ascertained. Consequently, excess payment in these works cannot be ruled out.

In exit conference, the Government agreed to look into the matter.

Records showing receipts and issues of construction material with respect to a work and MBs showing measurement of level should be maintained.

2.3.8.9 Purchase of construction material for repair and maintenance works

Para 4.092 of the Manual provides for maintenance of a register of all road material in divisions and sub-divisions showing details of all receipts and issues and the number and page of the MB in which the bills for road material have been entered. Material is charged directly to works which are accounted for in Material at Site Account (MAS).

⁹⁶ NH 12 to Deori approach road, Chainpur-Gaganwara road 1 km to 10 km and Amrawad Bharkach road 1 km to 9 km & 14 km to 17 km

⁹⁷ Cost of OGPC work with Primer coat, Tack coat and Seal coat on 10,817.33 sq m, @ ₹ 176 per sq m.

⁹⁸ Barwani, Burhanpur, Katni, Rewa, Sagar and Ujjain division

Accounting of bitumen, sand, metal, moorum etc. showing receipts and issues and reference of MBs were not on records.

We noticed (February 2014 to June 2014) that bitumen was procured for repair and maintenance of roads departmentally at a cost of ₹ 2.36 crore in eight divisions (**Appendix 2.25**) from public refineries during 2012-13 and 2013-14. Similarly, sand, metal, moorum etc. were also purchased at a cost of ₹ 5.94 crore in 11 divisions (**Appendix 2.25**) during the same period. However, accounting of the material showing receipts and issues and reference of MBs or in MAS account could not be shown to us when requisitioned. In the absence of such records, necessity of purchase and utilisation of the material could not be ascertained in audit.

In exit conference, the Government agreed that records of receipts and issue of bitumen and material should have been maintained and assured to examine the matter.

2.3.8.10 Lack of control in execution of works

As per para 1.003 of MPWD manual, the Engineer-in-Chief will have overall supervisory powers over all the activities of the department and shall be responsible to the Government for proper functioning of the department. The Chief Engineers will be the heads of the respective zone. Further, MPWD manual and Departmental instructions stipulate that EEs and subordinate engineers are responsible for execution of works according to specifications, ensuring quality of works, maintenance of MAS accounts and MBs through supervision at the level of EEs and SEs.

We observed that there is no prescribed mechanism for monitoring the execution of works by the CE and E-in-C for ensuring economy and efficiency in execution. As already discussed, the works were executed with higher specifications, quality and quantity of bitumen used in bituminous work was not ensured, prescribed specifications were ignored during repair and renewal works and there were instances of incorrect measurement of work and non-maintenance of material accounts. These escaped the notice of the CEs and the E-in-C due to lack of controls in execution at their levels.

2.3.9 Contract management

Contract management is the process of systematically and efficiently managing contract creation, execution and analysis for the purpose of maximising financial and operational performance and minimising risk. Shortcomings in contract management noticed during test check of 1,035 agreements of road works costing ₹ 195.61 crore have been discussed in succeeding paragraphs.

2.3.9.1 Tendering and award of works after splitting the works

As per the order (May 2008)⁹⁹ of the Finance Department, GoMP, the EE is competent to accept tender for works up to the value of ₹ 20 lakh. The SE is competent to accept tender exceeding the value of ₹ 20 lakh and up to ₹ 2 crore, the CE is competent to accept tenders up to the value of ₹ 5 crore and the E-in-C is competent to accept tenders up to the value of ₹ 7.50 crore. As per para 2.077 of the Manual, tender for works costing above ₹ 2 lakh shall be advertised in newspapers. Rule 148(2) of Madhya Pradesh Financial Code

⁹⁹ Order no. 879/2008/Rules/4/395 dated 23 May 2008.

The works of 80 roads were split into 3 to 13 parts to avoid the requirement of approval for acceptance of tenders by higher authority and requirement of advertisement through newspaper.

provides that for the purpose of approval and sanctions, a group of works which forms one project should be considered as one work, and the necessity for obtaining the approval or sanction of higher authority is not avoided.

In seven divisions¹⁰⁰, 223 agreements of ODRs/ VRs at a total cost of ₹ 13.39 crore (**Appendix 2.26**) in respect of 80 roads were entered into during 2009-14. We noticed (February 2014 to June 2014) the following:

In respect of 27 roads, where cost of each road was more than ₹ 20 lakh and up to ₹ 1.76 core, the works were split by EE in 3 to 13 parts and awarded them separately on contracts keeping the cost of each part up to ₹ 20 lakh or below through 82 agreements. Thus, the requirement of approvals for acceptance of tenders by higher authority (SE) was avoided.

Further, in respect of 53 other road works, where cost of each road was more than ₹ 2 lakh, which were also split in three or more parts and 141 agreements were entered into, keeping the value of individual agreement ₹ 2 lakh or below. Thus, the requirement of advertisement through newspapers was avoided in these cases (**Appendix 2.26**). Therefore, opportunity of obtaining more competitive rates for these road works was lost due to not combining the works of same road.

In exit conference, the Government stated that the matter would be examined.

Adherence to the provisions of the Manual, Code and orders of the Finance Department regarding non-splitting of works and advertisement should be enforced.

2.3.9.2 Deployment of technical expertise by contractor

In respect of renewal works of 15 roads costing ₹ 14.11 crore, there was no record to show that the technical experts as required were employed.

As per general terms and conditions of agreements for repairs and maintenance of road works, contractor shall employ one graduate engineer when the work to be executed is valued more than ₹ 25 lakh. In the event of non-deployment of technical expertise by the contractor, penalty of ₹ 30,000 per month was to be recovered for default period.

We observed (February 2014 to June 2014) in six divisions¹⁰¹ in respect of renewal works of seven MDRs and eight ODRs/ VRs undertaken at a cost of ₹ 14.11 crore that evidences of employment of technical expertise, such as, appointment letter of engineers, proof of payment to engineers, qualification certificates of engineers, details of presence on the site in MBs or other records confirming deployment of the engineers on the works, could not be produced to us when requisitioned. Thus, an amount of ₹ 60.60 lakh was recoverable from contractors for non-deployment of technical expertise (**Appendix 2.27**).

In exit conference, the Government stated that the matter would be examined and adequate documents in this respect would be maintained.

¹⁰⁰ Balaghat, Chhattarpur, Gwalior II, Khargone, Mandasaur, Neemuch and Sehore
¹⁰¹ Barwani, Dewas, Katni, Rewa, Sagar and Tikamgarh

2.3.9.3 Deployment of motor grader by contractors

The condition of the agreements for repair and maintenance works provided that ownership of plant and machineries must be in the name of the contractor. As per the SOR, rates for the item of work of construction of embankment¹⁰², Granular Sub-Base¹⁰³ (GSB), Water Bound Macadam¹⁰⁴ (WBM) and shoulder is inclusive of the charges of deployment of motor grader¹⁰⁵ in the work. If motor grader is not deployed in work, the rates of the item are reduced by ₹ 25 per cu m for shoulder and embankment and ₹ 50 per cu m for GSB and WBM work.

In respect of 515 road works, evidence of deployment of motor grader and documents regarding ownership was not on record, ₹ 3.50 crore recoverable due to non-deployment was not recovered.

We observed (February 2014 to June 2014) in 15 divisions (**Appendix 2.28**) in respect of 515 agreements for 65 MDRs and 450 ODRs/ VRs road works executed during 2009-14, that the evidences for deployment of motor grader viz. purchase and ownership certificate, lease/ hiring certificate of motor grader were not on records nor could be made available for verification when requisitioned by us. Due to non-deployment of motor grader, ₹ 3.50 crore was recoverable (**Appendix 2.28**) from the contractors. However, we observed that no recovery was made from the running account bills of the contractors.

In exit conference, the Government stated that the matter would be looked into and envisaged that the SOR would be amended to exclude element of cost of motor grader as motor grader was not being utilised in repair and maintenance works.

Deployment of engineers and requisite plant and machinery on the works should be ensured as provided in the agreements and documented.

2.3.9.4 Submission of job mix formula by the contractors

In respect of 134 road works, payment for SDBC work valued at ₹ 22.26 crore was made though the job mix formula as required for the works were not found on records.

The terms and conditions of agreements for repair and maintenance of roads provide for execution of works according to specifications prescribed by MORT&H. According to Para 507.3.3 and 510 of specifications of MORT&H for Road and Bridge Works, the contractor shall inform the job mix formula of SDBC proposed for use in the works to the Executive Engineer and shall give full details for aggregate, binder, ratio of mix etc. Approval of the job mix formula shall be based on independent testing by the Executive Engineer.

We noticed (February 2014 to June 2014) in six divisions¹⁰⁶ that road works for 22 MDRs and 112 ODRs/ VRs were executed during years 2009-10 to 2013-14, for which job mix formula were not found on records. However, payment for SDBC work valued at ₹ 22.26 crore was made to the contractors

¹⁰² Embankment: An earthwork raised above the natural ground by the deposition of material to support construction at higher level.

¹⁰³ GSB: The work of laying and compacting Granular material such as natural sands, moorum, gravel, laterite, kankar on other naturally occurring or artificial soft aggregates, on prepared sub-grade.

¹⁰⁴ WBM: The surface layer of road in which the road metal has been consolidated with water and earthy material or rock particles.

¹⁰⁵ Motor grader: A machine provided with an adjustable blade or scraper within the wheel base for shaping the road, sub-grade or sub-soil by loosening or moving the superficial material laterally.

¹⁰⁶ Barwani, Balaghat, Dewas, Gwalior II, Mandasaur and Sagar

(Appendix 2.29). Thus, use of bitumen in execution of works according to the job mix formula as stipulated in the specifications for the required strength of executed works was not ensured.

In exit conference, the Government agreed to look into the matter.

2.3.9.5 *Imposition of nominal penalty beyond the scope of agreement*

As per provisions of agreement, the stipulated period of completion of work was to be strictly adhered to. In case, the completion of work is delayed, timely action for granting of time extension in terms of the provisions of agreement was to be taken. No payment was to be made till the approval/sanction of time extension.

We, however, observed that the completion of works was delayed abnormally but time extension had not been sanctioned by the competent authority even after release of final payment in respect of 21 MDRs and 196 ODRs/ VRs road works. Only ₹ 10.55 lakh were recovered against the recoverable amount of ₹ 1.43 crore for liquidated damages (LDs).

Further, the agreement provided that in the event of the contractor failing to give the proportionate progress of work, the compensation on account of LDs equal to 0.50 *per cent* to 0.0625 *per cent* of the value of work per week limited to six *per cent* value of work was to be levied. The decision of the CE in the case of dispute on any account except otherwise than specified in the agreement would be final.

It was, however, seen in audit that while finalising the time extension of 12 works of MDRs, the SE imposed nominal penalty ranging between 0.10 *per cent* and 0.80 *per cent* of the value of work, instead of 0.10 *per cent* to 0.80 *per cent* of the value of the work per week or ₹ 1,500 to ₹ 5,000 without analysing the period of delay attributed to the contractors. Thus, the imposition of nominal penalty in contravention to the scope of agreement and in disregard to delays resulted in undue financial benefit to the contractors of ₹ 1.32 crore as detailed in **Appendix 2.30**.

In exit conference, the Government agreed that delays in execution of the works should be analysed to ascertain delays on the part of contractors and time extension should be granted by competent authority in cases of delays not attributable to contractors.

Liquidated damages should be imposed on contractors for delays on their parts after analysing reasons for delays.

2.3.9.6 *Lack of control over contract management*

As per provisions of standard contract documents, the EE is responsible for ensuring fulfilment of contract conditions and maintenance of all documentary evidences. Besides, the power of imposing penalty vested to the CE.

We noticed in the above mentioned cases that works were sanctioned by the EEs after splitting of works. Maintenance of documents relating to deployment of technical expertise, use of motor grader by contractors and job mix formula were not ensured. Nominal penalty was imposed in cases of works delayed.

In respect of 217 road works, there were delays attributable to the contractors but liquidated damages amounting to ₹ 1.32 crore was either not imposed or short imposed.

Thus, there was lack of control in contract management of works of repair and renewal.

2.3.10 Conclusion

Pre-award activities of identification and selection of major district roads and other roads for repair and maintenance, execution of works and the contract management were deficient as evident from following points:

- Details of renewal cycle and renewal diagrams were not found maintained so as to ensure timely renewal of the roads. Works of renewals of the roads covered under performance guarantee period and works of the roads transferred to other organisation were also taken up.
- In execution of works, richer specifications for renewal of roads was adopted. Quality of bitumen used in these works was not ensured and bitumen consumption was lesser than the quantity as per the consumption norms prescribed. Seal coat on the roads was not provided after execution of bituminous base course and surface course.
- The accounting of bitumen, metal, moorum, sand etc. required in road works could not be shown to us when requisitioned, indicating non-maintenance of adequate records for these purposes, improper measurement of works.
- The road works were split and thereby the requirement of approvals for acceptance of tenders by higher authority and advertisement through newspapers were avoided.
- Evidences confirming deployment of the engineers and motor grader by the contractors for the works were not found in the records of the divisions. Job mix formula required to ensure strength of surface of the road were also not found in records. Divisions did not impose or short imposed liquidated damages for delays.

Animal Husbandry Department

2.4 Distribution of animals to cattle farmers in Madhya Pradesh

Executive summary

The Animal Husbandry Department aims at providing breed improvement facilities, nutritious animal protein for human consumption and employment opportunities for rural people. It contributes about 8 *per cent* of State Gross Domestic Product. Livestock population in the State was 4.07 crore (Cattle census 2007), fourth highest among all the States. In order to achieve the objectives, Department implemented various schemes involving distribution of animals to rural people. Performance Audit of six major schemes (*Nandishala, Sammunath, Distribution of Dairy Unit Scheme, Male Goat Scheme, Goat Unit and Intensive Goat Promotion Schemes*) revealed the following:

Out of 37,273 selected beneficiaries in 25 test checked districts, applications of 7,844 beneficiaries of Dairy Unit and Goat Unit Scheme were not available with the Deputy Director Veterinary Services, eligibility criteria of 3,926 beneficiaries of Male Goat Scheme was not obtained by four Deputy Director Veterinary Services and 1,162 beneficiaries of five schemes (except Goat Unit Scheme) did not fulfil the eligibility criteria. Thus, selection of 12,932 beneficiaries (35 *per cent*) was done without ascertaining the eligibility.

(Sub-paragraphs (a) of paragraphs 2.4.6.1 to 2.4.6.6)

Under five selected schemes (except Intensive Goat Promotion Scheme), 4,672 beneficiaries out of 36,804 selected beneficiaries of 25 test checked districts were not provided animals though subsidy of ₹ 6.53 crore was released to them and the amount remained unutilised in the bank accounts of the beneficiaries.

(Paragraphs 2.4.6.1(b), 2.4.6.2(c), 2.4.6.3(b), 2.4.6.4(b) and 2.4.6.5(b))

The Department did not have a mechanism for verifying the existence of animals distributed and its replacement in case of death within the breeding period as required in terms of agreements. There were instances of death of animals under three schemes (*Nandishala, Sammunath, and Male Goat Scheme*).

(Paragraphs 2.4.6.1(c), 2.4.6.2(d) and 2.4.6.4(d))

There were shortfalls in calf birth under *Nandishala Yojna* and *Sammunath Yojna* for breed improvement. Against the target of calf birth (cow: 4,65,024 and buffalo: 3,76,608) based on prescribed norms, the actual calf birth under *Nandishala* was 1,55,935 (34 *per cent*) and under *Sammunath* was 1,20,298 (32 *per cent*) during the period 2009-14.

(Paragraphs 2.4.6.1(d), 2.4.6.2(e))

Monitoring of schemes was not effective as reporting of 100 *per cent* physical and financial achievements was done without ascertaining actual distribution of animals to the selected beneficiaries. There were instances of multiple benefits under same scheme to same beneficiaries. Post implementation evaluation of the Schemes was not carried out to assess whether the economic upliftment of the cattle farmers benefited under the Schemes was achieved.

(Paragraphs 2.4.7.1 and 2.4.7.2)

2.4.1 Introduction

Cattle are the most important economic assets in the rural agrarian sector in Madhya Pradesh. As per the cattle census 2007, the State had fourth highest population of livestock (4.07 crore) among all the States, which accounted for 7.68 per cent total livestock population (52.97 crore) in the country. The Animal Husbandry Department is responsible for all-round development of livestock in the State. It contributed 8.05 per cent of the Gross Domestic Product of the State during 2012-13. The objectives of the Department include providing low cost and nutritious animal protein for human consumption, breed improvement of cattle and generating supplementary family income of the rural people through sale of livestock products such as milk, meat etc.

In order to achieve these objectives, the Department implemented various schemes involving distribution of animals to rural people. Six major State and Central schemes viz. *Nandishala Yojna*, *Sammunath Yojna*, Distribution of Dairy Unit Scheme, Male Goat Scheme, Goat Unit Scheme and Intensive Goat Promotion Scheme were covered in the Performance Audit (PA).

2.4.2 Organisational set-up

The Department is headed by the Principal Secretary, who is responsible for implementation of Government policies/ programmes relating to development of livestock. Overall administrative controls are vested with the Director, Veterinary Services, who is assisted by Joint Directors (JDs) and Deputy Directors (DDs) at headquarters and nine JDs at nine divisions. At district level, there are 50 Deputy Directors, Veterinary Services (DDVS). In addition, Government set up a State Public Sector Undertaking viz. Madhya Pradesh State Livestock and Poultry Development Corporation (MPSLDC) headed by a Managing Director, which is responsible for fixation of specifications of animals for all schemes and supply of animals under three¹⁰⁷ schemes.

2.4.3 Audit objectives

The PA was conducted with a view to assess, whether:

- selection of beneficiary and distribution of animals under various schemes was done efficiently after observing the scheme guidelines;
- the objectives of providing low cost and nutritious animal protein for human consumption, breed improvement facilities and generating supplementary income of the rural people were achieved and
- monitoring and evaluation of scheme implementation was adequate.

2.4.4 Scope and methodology of audit

The PA was conducted (October 2013 to July 2014) by test check of records relating to six selected schemes of distribution of animals covering the period 2009-14. Out of 50 DDVSs in the State, 25 DDVSs¹⁰⁸ were selected for the

¹⁰⁷ Nandishala, Sammunath Scheme (State and Central) and Distribution of male goats

¹⁰⁸ Barwani, Balaghat, Betul, Bhind, Damoh, Dewas, Dhar, Guna, Hoshangabad, Indore, Jabalpur, Khandwa, Mandla, Narsinghpur, Ratlam, Raisen, Rajgarh, Rewa, Sagar, Sehore, Seoni, Shivpuri, Sidhi, Tikamgarh and Umari

PA on simple random sampling system basis; besides information from the Directorate and MPSLDC. An entry conference was held with the Principal Secretary on 19 May 2014, wherein the audit objectives, audit criteria and methodology of audit were discussed. In the exit conference held on 10 November 2014, audit findings were discussed with the Principal Secretary. The replies of the Government and their views in the exit conference have been incorporated in the relevant paragraphs. In the exit conference the Government accepted all the audit recommendations.

2.4.5 Achievement under the livestock schemes

The Eleventh Five-Year Plan (2007-12) envisaged enhancement of milk and meat production to cope with the targeted growth of 9 per cent in the State. The State had almost achieved the targets set for 2007-12 for production of milk (359 lakh MT against target of 362 lakh MT) and meat (1.82 lakh MT against target of 1.47 lakh MT). The Twelfth Five-Year Plan also envisaged the same objectives of increasing production of milk, meat, etc. and additional income generation of the beneficiaries by providing improved breeding facilities, dairy development, goat development, animal health care, etc. Milk production in the State during 2012-13 was 88.38 lakh MT. The growth during the last 10 years ending March 2013 was 8.5 per cent, highest in the country.

In the State, 68,875 beneficiaries were covered under the six selected schemes during the period 2009-14. Out of ₹ 88.08 crore provided by Central and State Governments, expenditure was ₹ 86.87 crore. Fund allotment, expenditure and beneficiaries covered in the State and in selected districts are given below:

Table 2.8: Allotment and expenditure on six major schemes for the years 2009-14

(₹ in crore)

Name of scheme	For all the districts in the State			In 25 districts selected for audit			
	Allotment	Expenditure	Beneficiaries	Allotment	Expenditure	Beneficiaries	
Nandishala (State)	11.43	11.11	8552	5.56	5.55	4339	
Sammunath	State	10.97	11.00	2469	5.59	5.59	2906
	Central	4.52	4.52	7494	2.61	2.61	2104
Dairy unit (State)	8.75	8.31	3965	4.90	4.82	2384	
Male goat (State)	10.84	10.77	30821	5.67	5.31	16195	
Goat units	State scheme	5.15	4.74	5481	2.92	2.91	2513
	Central ¹⁰⁹	17.54	17.54	4089	9.19	9.19	3494
	Central ¹¹⁰	6.04	6.04	5461	3.99	3.80	2869
Intensive Goat Promotion Scheme (Central)	12.84	12.84	543	8.35	8.35	469	
Total	88.08	86.87	68,875	48.78	48.13	37,273	

(Source: Information provided by the Department)

Year-wise expenditure under the selected schemes is given in **Appendix 2.31**.

2.4.6 Implementation of schemes

In order to achieve the objectives of Five-Year Plans, the Department stressed upon the priority areas, such as breed improvement of local animals,

¹⁰⁹ Under Bundelkhand Package

¹¹⁰ Under Rashtriya Krishi Vikas Yojana (RKVY)

dairy development, goat development, increasing animal products and employment generation in Animal Husbandry sector. Accordingly, six schemes for distribution of animals were implemented by the Department through district offices, block offices and panchayat level institutions.

The Department assigns physical and financial targets of different schemes for the District offices. District offices, after receiving allotment of funds, select beneficiaries for the schemes and after ensuring deposit of beneficiary contribution, credit the amount of subsidy to the bank accounts of the beneficiaries. The cost of animals, Government subsidy, bank loans, beneficiary contributions are shown in **Appendix 2.32**. The beneficiary is required to withdraw the amount of subsidy along with his contribution from his bank account only after the animals are supplied for deposit it to the suppliers account. Up to 2009-10, the cost of animals was being deposited directly by the Department to the suppliers' account.

As per the guidelines of the Schemes, interested beneficiary is required to submit an application for a scheme to the concerned *Gram Panchayat*. Veterinary Assistant Surgeon posted in the block offices obtains the approval of *Janpad Panchayat* on the applications and submits the same to the DDVS of the District. The DDVS selects the beneficiaries, keeping in view the budget allotment and releases subsidy after obtaining the approval of the *Krishi Sthai Samiti* of *Jila Panchayat*.

Audit scrutinised records relating to 37,273 beneficiaries of selected 25 districts. We observed selection of 12,932 beneficiaries (35 per cent) was without ascertaining the eligibility criteria envisaged in the scheme guidelines. Besides, there was non-distribution of animals to 4,672 selected beneficiaries, subsidy amounts remaining blocked in banks, shortfall in calf birth compared to the norm, as discussed in the review.

2.4.6.1 Nandishala Scheme for distribution of cow bulls

The Government of Madhya Pradesh (GoMP) introduced (February 2006) *Nandishala* Scheme with the objective of providing natural insemination and thereby improving the breed of local (*deshi*) cow. Under the scheme, one cow bull having superior genetic potential was provided to animal fosters (*Pashupalak*) of rural areas who had agricultural land and minimum five cows or those who did not have agricultural land but had 20 or more cows. The cow bulls under the Scheme were to be provided by MPSLDC.

The selected beneficiaries were required to execute an agreement with the Department which stipulated certain conditions such as utilisation of cow bull for breeding, replacement of cow bull by beneficiary in case of death, etc.

(a) Assistance provided to ineligible farmers

During the period 2009-14, out of 4,339 selected applicants (farmers) to whom subsidies were provided, distribution of animal was made to 3,727 beneficiaries in the 25 test checked districts.

In 14 districts, 511 selected beneficiaries (11.78 per cent) did not fulfil the eligibility criteria.

We observed (November 2013 to July 2014) from the applications of selected beneficiaries that 511 beneficiaries in 14 districts¹¹¹, who did not fulfil eligibility criteria of having agricultural land or the minimum number of cows were also provided subsidy under the Scheme. The ineligible farmers were paid subsidy of ₹ 67.24 lakh. Utilisation of Scheme funds for the ineligible beneficiaries deprives the eligible beneficiaries of the scheme benefits.

The Government stated (November 2014) in exit conference that the benefit of the Scheme was given to eligible beneficiaries only and the application forms of beneficiaries in these cases had since been updated. Reply is not in order since updating of applications at later dates does not assure that the beneficiaries were fulfilling the eligibility criteria at the time of their selection.

The Department should ensure compliance with the eligibility criteria before selection of the beneficiaries and release of financial assistance.

(b) Distribution of cow bulls

In 12 districts, 612 beneficiaries (14.10 per cent) were not provided cow bulls and the amount of subsidy of ₹ 85.35 lakh remained blocked in their bank accounts.

After selection and approval of the beneficiaries, the amount of subsidy was to be deposited in bank account opened in the name of beneficiaries.

We noticed (November 2013 to July 2014) from the information provided by the test checked districts that against the total number of 4,339 approved applications, for whom subsidies were released, 612 farmers (14.10 per cent) in 12 districts were not provided cow bulls, due to non-supply of animals by MPSLDC (as detailed in the **Appendix 2.33**). Since the subsidy of ₹ 85.35 lakh remained blocked in the bank accounts of those 612 beneficiaries, there was possibility of irregular withdrawal of the subsidy amount. We observed that 22 beneficiaries of Balaghat District had withdrawn ₹ 2.86 lakh during the period 2010-14 and did not deposit the amount to suppliers' account.

The Government stated in exit conference that backlog in distribution of bull was due to constraints like adverse climatic conditions, unavailability of beneficiary himself, procurement issues of breed specific animals from outside the State and successive elections in the period under consideration.

The reply is not convincing since the constraints in distribution of animals could be foreseen before fixing the targets and release of subsidy and remedial measures should have been taken for effective implementation of the Scheme.

Purchase and distribution of animals to the beneficiaries should be completed immediately after deposit of subsidy in beneficiaries' bank accounts. The Department should evolve system of restricting withdrawal of subsidy amount from bank account by beneficiary only for the purpose of the scheme.

¹¹¹ Balaghat: 65, Barwani: 9, Betul: 6, Damoh: 37, Dewas: 05, Dhar: 63, Guna: 05, Khandwa: 36, Mandla: 170, Narsinghpur: 6, Ratlam: 39, Sagar: 33, Shivpuri: 1 and Tikamgarh: 36

There was no mechanism to ascertain existence of distributed cow bulls and its replacement in case of death within the breeding period.

(c) Replacement of cow bulls in case of their death

The standard terms of agreement executed between the beneficiaries and the Department provided for replacement of cow bulls by the beneficiary in case of death within the breeding period of five years. The DDVS, however, maintained only the data regarding the services done by bulls and calf birth.

We noticed (November 2013 to July 2014) that there was no mechanism in the Department to ascertain existence of the distributed cow bulls and its replacement in case of death, if any, within the breeding period, i.e. five years. The DDVSs of seven test checked districts intimated death of 376 cow bulls¹¹². The DDVSs, however, could not produce documentary evidence in support of reported death for verification by Audit and could not intimate the status of their replacement.

The Government stated (November 2014) in exit conference that existence of bulls is watched indirectly through services given by bull and calf production.

The fact remains that there was no prescribed mechanism for ascertaining existence of cow bulls and their replacement in case of death.

A mechanism should be evolved to ensure existence of distributed animals and their replacement in case of death.

(d) Shortfall in calf birth under Nandishala Yojna

There was shortfall of 66 per cent in reported calf birth against the norm.

As specified by the Department, each cow bull was to provide 80 natural insemination services each year with 60 per cent success rate. Serviceable life of a bull was prescribed as five years. A booklet was given to beneficiaries for maintaining service records of bulls under *Nandishala* Scheme, which provided that the beneficiary should accompany the bull when sent outside the premise.

We noticed (November 2013 to July 2014) from the information made available to us by 23 districts¹¹³ that during the period 2009-14, total 9,688 cow bulls were available for giving services under the Scheme. As per the norms, there should have been 4,65,024 calves¹¹⁴ during the period. Against this, the actual number of calf birth in 23 districts was 1,55,935 only. Thus, there was shortfall of 3,09,089 calves birth (66 per cent). Details are given in **Appendix 2.34**.

The Government during exit conference (November 2014) stated that shortfall in calf production was actually due to non-capturing of data relating to services of bulls provided in open range system¹¹⁵, where it was difficult to capture the services provided and calf produced by a bull.

The reply is not acceptable since the objective of breed improvement of cows as per prescribed norms was not ensured.

¹¹² Barwani: 64, Balaghat: 49, Dewas: 89, Guna: 42, Mandla: 105, Narsinghpur: 25 and Shivpuri: 02

¹¹³ DDVS of Bhind and Umari Districts did not provide information.

¹¹⁴ Total calves = 9,688 cow bulls * 80 insemination * 60 per cent = 4,65,024 calves

¹¹⁵ Open range system means insemination done when the bulls are sent outside the premises for grazing.

2.4.6.2 *Sammunath Scheme for distribution of buffalo bulls*

The Government introduced (1999-2000) ‘*Sammunath Pashuprajnan*’ Scheme under which one *murra saand* (buffalo bull) is to be provided to an animal foster or trained *Gosewak*¹¹⁶ with the objective to provide services of buffalo bull for natural insemination and thereby improving the breed of local buffaloes. Consequent upon the introduction (2010-11) of special Bundelkhand package, ‘*Sammunath Pashuprajnan*’ Scheme was replaced by ‘*Sammunath Yojna*’ in six districts¹¹⁷ of Bundelkhand Region. The buffalo bulls under the Scheme were to be supplied by MPSLDC.

(a) *Assistance provided to ineligible beneficiaries*

For “*Sammunath Yojna*” under Bundelkhand Package, the Department prescribed the criterion of holding of minimum five buffaloes by each beneficiary. However, no such criterion was prescribed for the State scheme “*Sammunath Pashuprajnan*” Scheme implemented in the remaining districts.

We observed from the applications of 1,398 selected beneficiaries in three districts¹¹⁸ of Bundelkhand Region that, 96 beneficiaries who did not have the minimum number of buffaloes were paid subsidy of ₹ 18.20 lakh during 2010-14. Utilisation of Scheme funds for the ineligible beneficiaries deprives the eligible beneficiaries of the scheme benefits.

The Government stated in exit conference that the applications were re-examined and animals with the beneficiaries were as per norms, after updation.

The reply is not acceptable as updating applications at later dates does not assure that the beneficiaries were eligible for the benefit at the time of their selection. Besides, reasons for excluding the criterion of minimum holding of five buffaloes in State scheme was not described in the reply.

Eligibility criteria of the beneficiaries under the schemes should be ensured by the Department during selection of applicants.

(b) *Supply of buffalo bulls contrary to the prescribed specification*

For *Sammunath* Scheme under Bundelkhand Package, MPSLDC had described (December 2010) the specification of buffalo bulls to be supplied to beneficiaries as three to three and half years of age.

We noticed that 208 buffalo bulls¹¹⁹, supplied in Damoh District under Bundelkhand package were below the age specified by MPSLDC (between eleven months and two and half years). In case of 56 buffalo bulls, the information regarding age was not recorded in pedigree sheets of animals. Due to providing under-aged buffalo bulls, the beneficiaries were forced to bear unwarranted expenditure on maintaining these bulls till they reach the breeding age.

Under Bundelkhand Package, 96 ineligible beneficiaries were given the benefit of this Scheme.

Buffalo bulls provided to 208 beneficiaries under Bundelkhand Package were not in accordance with the specifications prescribed by MPSLDC.

¹¹⁶ Gosewak is a person who has been given training in rearing of cows/ buffaloes.

¹¹⁷ Chhattarpur, Damoh, Datia, Panna, Sagar and Tikamgarh (of these Damoh, Sagar and Tikamgarh were covered in audit)

¹¹⁸ Damoh, Sagar and and Tikamgarh

¹¹⁹ 99 out of 208 supplied by MPSLDC and 109 out of 221 supplied by Government farms.

The Government stated that the buffalo bulls distributed to beneficiaries under Bundelkhand Package was according to the norms. The reply is, however, silent about distribution of under aged buffalo.

(c) Distribution of buffalo bulls

In 19 districts, 812 beneficiaries (16.20 per cent) were not provided buffalo bulls and subsidy of ₹ 1.38 crore remained blocked in their bank accounts.

After selection and approval of the beneficiaries under both the Schemes, the Department deposited subsidy of ₹ 8.19 crore in the bank accounts of 5,010 beneficiaries in 25 districts during the years 2009-10 to 2013-14.

We noticed (November 2013 to July 2014) that out of 5,010 beneficiaries selected for whom subsidies were released, only 4,198 beneficiaries (83.79 per cent) were distributed buffalo bulls. Thus, buffalo bulls were not distributed to 812 beneficiaries due to its non-supply by MPSLDC. Out of these, 277 beneficiaries¹²⁰ pertained to the years 2009-10 to 2012-13. Thus, these beneficiaries did not get the benefits of the Scheme even after one to four years of their selection. Since, the subsidy of ₹ 1.38 crore, as detailed in **Appendix 2.35**, remained blocked in the bank accounts of those 812 beneficiaries, there was possibility of irregular withdrawal of the subsidy amounts. We observed that six beneficiaries¹²¹ withdrew ₹ 1.07 lakh during the year 2013-14.

The Government stated in exit conference that distribution of buffalo bulls was a continuous process in which issues like choice of beneficiary and geographical access attained importance. It was further stated that 661 bulls had since (between April and November 2014) been distributed. The reply is not convincing since the constraints in distribution of animals could be foreseen before fixing the targets and release of subsidy.

After deposit of amount of subsidy in beneficiaries bank accounts purchase and distribution of animals to the selected beneficiaries should be completed expeditiously. The Department should evolve a system of restricting withdrawal of amount of subsidy by beneficiaries for the purpose of the scheme only.

(d) Replacement of buffalo bulls in case of death

Mechanism for monitoring existence of distributed buffalo bulls and its replacement in case of death within five years was absent.

The terms of agreement executed between the beneficiaries and the Department, under both the schemes, provided for replacement of buffalo bulls in case of death within the breeding period of five years.

We noticed (November 2013 to July 2014) that DDVSSs of 12 districts¹²² intimated death of 452 buffalo bulls. The DDVSSs, however, could not furnish the data regarding replacement of buffalo bulls in case of death. The DDVSSs could not furnish the documents regarding death of buffalo bulls for verification in audit.

The Government stated in exit conference that the existence of buffalo bulls is watched indirectly through services given by bull and calf production.

¹²⁰ 2010-11: 51, 2011-12 : 136, and 2012-13: 90.

¹²¹ Balaghat: 5, Tikamgarh: 1.

¹²² Balaghat: 13, Betul: 11, Damoh: 5, Dewas: 116, Guna: 86, Jabalpur: 15, Mandla: 41, Narsinghpur: 19, Rajgarh: 12, Shivpuri: 11, Seoni: 117 and Tikamgarh: 6.

The Reply is not acceptable, since absence of documents of cases of death indicated absence of mechanism for ascertaining existence of buffalo bulls distributed and ensuring their replacement in case of death.

Existence of distributed animals and their replacement in case of death within the breeding period of five years should be ensured.

(e) Shortfall in calf birth under Sammunath Yojna

There was shortfall of 68 per cent in reported calf birth against the prescribed norms.

We noticed (November 2013 to July 2014) from the information made available to us by 18 districts¹²³ that during the period 2009-14, 7,846 buffalo bulls were available for giving services under the Scheme. As per the prescribed norms as mentioned under paragraph 2.4.6.1(d), services by these bulls should have resulted in 3,76,608 calf birth¹²⁴. Against this, the number of actual calf birth was 1,20,298 only. Thus, there was shortfall of 2,56,310 calf birth (68 per cent) as detailed in **Appendix 2.36**.

The Government stated in exit conference that shortfall in calf production was due to non-capturing of data relating to services provided by buffalo bulls in open range system.

The reply is not acceptable since the objective of breed improvement of local buffaloes as per prescribed norms was not ensured.

2.4.6.3 Dairy Unit Scheme for distribution of milch animals

The State Government introduced (2008-09) Dairy Unit Scheme (Milch unit) with the objective of improving the economic condition of the beneficiaries through increased milk production and ensure availability of milk for the people. Under the Scheme, three milch animals¹²⁵ were to be provided to a beneficiary.

(a) Selection of ineligible beneficiaries

In 22 districts, applications of 1,837 beneficiaries for Dairy Unit Scheme were not available with the districts officers to ascertain fulfilment of eligibility criteria by them.

The benefit of this Scheme was available to marginal and small farmers¹²⁶ who had experience of rearing cows/ buffaloes. During the period 2009-14, 1,930 beneficiaries in 25 districts were distributed dairy units against 2,384 selected beneficiaries¹²⁷.

During scrutiny (November 2013 to July 2014) of applications of 547 selected beneficiaries in three districts we noticed, that 44 beneficiaries¹²⁸ who did not have agricultural land, were given the benefit (₹ 5.93 lakh) under the Scheme. In 22 other districts, fulfilment of eligibility criteria by all the 1,837 beneficiaries could not be verified in audit due to non-maintaining of records related to the applications with DDVSSs. Thus, Scheme funds were utilised in extending benefits to the ineligible beneficiaries.

¹²³ Except Barwani, Indore, Jabalpur, Khandwa, Sagar, Sehore and Tikamgarh Districts

¹²⁴ Total No. of calves = 7,846 (No. of bulls) * 80 insemination * 60 percent = 3,76,608

¹²⁵ Three local breed cows or three sankar (cross) breed cows or three Murra graded buffaloes as per choice of the beneficiary

¹²⁶ Farmers having agricultural land up to 2 hectares

¹²⁷ Target of 2,482 beneficiaries was fixed.

¹²⁸ Dhar (30 out of 272), Indore (4 out of 169) and Ratlam (10 out of 106)

The Government stated in exit conference that the scheme was a bankable scheme, as such applications were maintained in the banks. Necessary instructions were being issued to concerned officials for keeping a copy of the application.

The fact remains that in absence of application forms or copy thereof we could not verify eligibility of 1,837 beneficiaries in 22 districts. The reply is also silent about non-maintenance of essential records by the DDVSs.

Eligibility criteria of the beneficiaries under the schemes should be ensured during selection of applicants.

(b) Distribution of cows/ buffaloes

The guidelines for Dairy unit scheme did not specify the procedure for purchase and distribution of animals to beneficiaries. On being enquired the DDVS Indore stated that a Committee consisting of an officer from the Department, one member from the bank and the concerned beneficiary is constituted for purchase of animals from the local market.

In 18 districts, 454 beneficiaries were not provided dairy units and subsidy of ₹ 78.97 lakh remained blocked in their bank accounts.

We noticed that in 25 districts, 2,384 beneficiaries were identified for distribution of dairy units during the period 2009-14. District offices intimated that 1,930 beneficiaries (80.96 per cent) were distributed dairy units. However, records relating to sanction and disbursement of loan to beneficiaries, purchase and distribution of units etc. were not available for verification in audit. Thus, 454 beneficiaries (247 beneficiaries¹²⁹ pertaining to the years 2009-10 to 2012-13) in 18 districts were not distributed dairy units, reportedly due to non-cooperation of bankers. Subsidy of ₹ 78.97 lakh was still lying in the bank accounts of the beneficiaries (**Appendix 2.37**). Due to delays in distribution of animal (one to four years) to beneficiaries the intended benefits of the Scheme were not realised for them.

The Government stated in exit conference that procurement and distribution of animal takes place only after disbursement of bank loan. The DDVSs had been instructed to pursue the cases and expedite disbursement of loan and supply of animals. The reply is not acceptable since the Department could not sort out the issues with the banks, before release of funds.

Thus, achievement of the objective of improving the economic condition of the cattle farmers through increased milk production was not ensured.

After deposit of amount of subsidy in beneficiaries bank accounts, purchase and distribution of animals to the selected beneficiaries should be completed expeditiously.

2.4.6.4 Distribution of male goat Scheme

This Scheme was introduced (2008-09) by the State Government with the objective to improve the local breed of goats. Under the Scheme, one *Jamunapari*¹³⁰ male goat was provided to goat herd man¹³¹ on subsidy basis.

¹²⁹ 2009-10: 112, 2010-11: 57, 2011-12: 35, and 2012-13: 43

¹³⁰ A breed of male goat

¹³¹ A person whose job is to take care of a group of goats.

In 13 districts, eligibility criteria of the scheme were ignored; relevant information was not obtained from 3,926 beneficiaries.

(a) Selection of ineligible goat herd man

As per Scheme guidelines, beneficiaries having minimum five female goats are eligible for getting benefit under the Scheme. During the period 2009-14, 15,269 beneficiaries (94.28 per cent) in 25 test checked districts were distributed male goats against the target of 16,195.

We observed (December 2013 to June 2014) that in respect of all the 3,926 beneficiaries of four districts¹³² the information regarding holding of female goats was not obtained in the application forms. Further, scrutiny of 7,067 applications of beneficiaries of nine other districts revealed that 413 beneficiaries¹³³ had less than five female goats. Of these, 28 beneficiaries were not having any female goats and 67 beneficiaries did not furnish the information about holding of female goats in their application forms.

The Government stated in the exit conference that the Scheme did not have the provision for holding minimum number of female goats for a beneficiary to become eligible. The reply is not acceptable because the condition of holding minimum five female goats existed in Scheme guidelines up to 2012-13. No reason was given for subsequent withdrawal of the condition.

The Department should ensure that the selected applicants fulfil all the eligibility criteria under the schemes.

(b) Distribution of male goats

In 12 districts, 926 beneficiaries (5.72 per cent) were not provided male goats and the amount of subsidy of ₹ 36.11 lakh remained blocked in their bank accounts.

We noticed (November 2013 to July 2014) that out of 16,195 beneficiaries selected in 25 districts 15,269 (94.28 per cent) were provided animals. The short distribution of 926 male goat was in 12 districts (total applicants 6,109) as detailed in **Appendix 2.38**. Subsidy of ₹ 36.11 lakh remained blocked in the bank accounts of those beneficiaries. Shortfall in distribution to 130 beneficiaries¹³⁴ pertained to the years 2011-12 to 2012-13. We observed that 390 beneficiaries of five districts withdrew subsidy amount ₹ 14.63 lakh, before supply of animals.

The Government stated in the exit conference that distribution was a continuous process constrained by weather/ climatic conditions, beneficiaries' choice and 648 male goats had been further (between April and November 2014) distributed. Reply is not acceptable since the constraints could be foreseen.

After deposit of amount of subsidy in beneficiaries bank accounts, purchase and distribution of animals to the selected beneficiaries should be completed expeditiously. The Department should evolve a system of restricting withdrawal of amount of subsidy by beneficiaries for the purpose of the scheme only.

¹³² Balaghat (1,292), Bhind (1,473), Guna (946) and Sagar (215)

¹³³ Damoh (20), Hoshangabad (128), Jabalpur (112), Mandla (94), Narsinghpur (25), Raisen (14), Rajgarh (13), Shivpuri (2) and Tikamgarh (5)

¹³⁴ 2011-12 : 68, 2012-13: 62

Government did not prescribe any mechanism for ascertaining existence of distributed animals and its replacement in case of death within its breeding period.

(c) Replacement of male goats in case of their death

The terms and conditions of the agreement with the beneficiaries of the Scheme provided for replacement of male goat by the beneficiary in case of death within its breeding period (five years) out of the amount of insurance claim received and his own contribution in case of shortfall in meeting the cost of replacement.

We noticed that the Department did not have any mechanism of ascertaining existence of distributed male goats. As such, a consolidated information regarding death of male goats within the breeding period and its replacement by the beneficiaries were not available with DDVSs.

We observed (February to June 2014) from the records of subordinate offices in six districts¹³⁵ that out of 2,196 male goats supplied to the beneficiaries, 1,183 male goats¹³⁶ (54 per cent) were either found dead or sold by the beneficiaries. There was no information available in the records of these districts about the replacement of male goat after its death.

The Government stated in the exit conference that a mechanism of verifying existence of a male goat distributed to beneficiaries existed and instructions had been issued to the DDVS to provide necessary veterinary aid to minimise mortality among male goats. The fact remains that DDVSs of the test checked districts could not provide information regarding number of deaths and replacement of male goats, which indicated non-existence of system for ascertaining death of male goats and their replacement.

Thus, the objective of improving breed of local goats was not fully achieved.

A mechanism should be evolved to ensure existence of distributed animals and their replacement in case of death.

2.4.6.5 Goat unit scheme

The Goat unit scheme (State Scheme) was introduced (2008-09) by the State Government with the objective of improving the breed of local goats, increase production of meat and milk and bring improvement in the economic condition of beneficiaries. In 2009-10, the Government of India (GoI) introduced a special Bundelkhand Package for districts of Bundelkhand Region. GoI provided ₹ 17.55 crore under the package which was utilised for distribution of 5,061 goat units during the period 2009-12. In addition, GoI provided ₹ 6.04 crore under the *Rashtriya Krishi Vikas Yojana* (RKVY) during 2010-11, which was utilised for providing 5,461 goat units¹³⁷.

Under these Schemes, a unit of 10 local breed female and one male goat belonging to Jamunapari/ Barbari/ Sirohi or Bital breed was to be provided. The State Scheme and the RKVY Scheme were implemented in all the 25

¹³⁵ Information was received only in respect of six district viz. Balaghat, Betul, Bhand, Jabalpur, Mandla and Narsinghpur.

¹³⁶ Balaghat (281 out of 578), Betul (153 out of 588), Bhand (72 out of 162), Jabalpur (156 out of 223), Mandla (273 out of 341), Narsinghpur (248 out of 304)

¹³⁷ 4,435 units of 10 female goats and one male goat each and 1,026 units of 20 female goats and two male each

test checked districts. The Scheme under Bundelkhand Package was implemented in six districts¹³⁸ replacing the State Scheme and RKVY Scheme in those six districts during the period 2009-12.

(a) Selection of ineligible beneficiaries

The Scheme was available for landless agricultural labourers, small and marginal farmers having experience in goat rearing.

We noticed (November 2013 to July 2014) that application forms of beneficiaries were available in the three selected districts¹³⁹ under Bundelkhand region, but application forms of 6,007 beneficiaries of 22 other districts were not available with the concerned DDVSs. Due to non-maintenance of records of applications we could not examine whether the selected beneficiaries were eligible for getting benefit under the Scheme.

(b) Distribution of goat units

The guidelines for Goat unit scheme did not specify the procedure for purchase and distribution of animals to the eligible beneficiaries. On being enquired in audit the DDVS Indore stated that a committee was formed for purchase of animals from the local market.

We noticed the following:

- Under the State Scheme, against 2,573 targeted beneficiaries in 25 test checked districts 2,513 beneficiaries were selected for distribution of goat units during the period 2009-14. Out of them, 1,913 beneficiaries (76.12 *per cent*) were distributed goat units. Thus, 600 beneficiaries were not distributed goat units for which subsidy of ₹ 66.66 lakh was deposited in the bank accounts of beneficiaries (**Appendix 2.39**).
- Under RKVY, 3,677 beneficiaries were targeted in 22 districts (other than three selected Bundelkhand districts), against which 3,494 beneficiaries were selected for providing goat units during the year 2011-12. Against this, only 2,643 beneficiaries (75.64 *per cent*) were provided goat units. Thus, 851 beneficiaries in eight districts were not distributed goat units. Subsidy of ₹ 82.49 lakh was still lying with the bank (**Appendix 2.39**).

Under both State Scheme and RKVY Scheme, the DDVSs, however, could not produce records relating to sanction and disbursements of bank loans to beneficiaries, purchase and distribution of goat units, insurance policies of goats distributed, acknowledgement of beneficiaries etc. As a result, actual purchase and distribution of goat units could not be ascertained in audit.

- In three selected districts under Bundelkhand Region, 2,869 beneficiaries were to be provided goat units during the period 2010-14. Of them, 2,452 beneficiaries were distributed goat units. Thus, 417 beneficiaries (14.53 *per cent*) were not distributed goat units, though subsidy of ₹ 1.66 crore was deposited in the bank accounts of the beneficiaries (**Appendix 2.39**).

In 22 districts, applications of 6,007 beneficiaries for goat unit scheme were not available with the districts offices for verification of fulfilment of eligibility criteria.

In 17 districts, 1,868 beneficiaries were not provided goat units and subsidy of ₹ 3.06 crore remained blocked in their bank accounts.

¹³⁸ Chhattarpur, Damoh, Datia, Panna, Sagar and Tikamgarh Districts
¹³⁹ Damoh, Sagar and Tikamgarh Districts

Due to delay in distribution of animals, an amount of ₹ 3.06 crore remained blocked in the bank accounts of 1,868 beneficiaries¹⁴⁰ under the above mentioned Schemes. We observed that 38 beneficiaries under the Bundelkhand package in Sagar and Tikamgarh Districts who were not provided animals, had withdrawn subsidy of ₹ 12.13 lakh. Out of the 1,868 beneficiaries to whom goat unit were not provided, 1,376 beneficiaries pertained to the years 2009-10 to 2012-13. Thus, there were delays from one to four years in distribution of goat units to the selected beneficiaries.

The Government stated (November 2014) that necessary instructions were being issued to the concerned officials for keeping copies of applications and to pursue the cases with banks for disbursement of loans and supply of animals.

The reply is not acceptable as the constraints in implementation of the Scheme could be foreseen and the documentary evidences in support of distribution of animals were not available with the DDVSs.

Thus, achievement of the objectives of improving breed of local goats, increasing production of meat and milk and improving the economic condition of the selected beneficiaries was not ensured.

Purchase and distribution of animals to the beneficiaries should be completed immediately after deposit of amount of subsidy in beneficiaries' bank accounts.

2.4.6.6 Intensive Goat Promotion Scheme

The Government of India introduced (September 2012) Intensive Goat Promotion Scheme under National Mission for Protein Supplement (NMPS) with the objective of economic upliftment of the farmers, generate employment through goat farming and providing nutritional balance for consumers in terms of animal protein. The Scheme envisaged distribution of one unit consisting of 95 female and five male goats to the eligible beneficiaries. The guidelines of the Scheme also provide for distribution of half of the unit size of goats to the beneficiaries with poorer resources. The project cost of one unit including cost of construction of shed, medicines, vaccine, metal feeder, feed, one silage¹⁴¹ pit and insurance of animals was fixed at ₹ 2,36,460. Under the Scheme, total cost for a unit was to be deposited in a joint account opened in the name of the beneficiary and nodal officer (Veterinary Assistant Surgeon/ Veterinary Extension Officer under DDVS). GoI released ₹ 12.84 crore during 2012-13 which was utilised for 543 beneficiaries in 23 districts of the State.

(a) Selection of ineligible beneficiaries

According to the guidelines of the Scheme, a farmer having at least 10 or more goats for over a year was eligible for the benefit under the Scheme. In 15 districts test checked in audit, against the target of 353 beneficiaries 469¹⁴² beneficiaries were selected during 2012-13 (409) and 2013-14 (60). Excess coverage was due to distribution of half units to 232 beneficiaries.

¹⁴⁰ State scheme: 600, RKVY: 851 and Bundelkhand package: 417

¹⁴¹ A pit for keeping fodder harvested while green and kept juicy by partial fermentation in a silo (underground structure)

¹⁴² 237 beneficiaries given full units and 232 beneficiaries given half unit.

Benefit under the scheme was extended to the farmers without ensuring their eligibility.

In eight districts out of 246 beneficiaries¹⁴³ selected applications of 236 beneficiaries¹⁴⁴ could be shown to us. Of these, 51 beneficiaries did not indicate number of goats in their possession and 47 beneficiaries indicated less than 10 goats in their possession. Thus, the benefit was extended to the ineligible beneficiaries or benefit was provided to beneficiaries without ensuring their eligibility.

Eligibility criteria of the beneficiaries under the schemes should be ensured during selection.

(b) Slow implementation of Scheme

The physical and financial targets fixed for implementation of the Scheme in 15 selected districts and achievement there against are given in **Appendix 2.40**. In the Scheme guidelines, completion period for making a goat unit fully operational was not specified. We observed that out of 469 beneficiaries selected in September 2012, 308 beneficiaries completed sheds, 203 of them completed silo pits and only 91 beneficiaries purchased 5,330 goats out of 5,850 goats sanctioned to them. Thus, 161 beneficiaries (34 per cent) did not construct sheds, 266 beneficiaries (57 per cent) did not construct silo pits and 378 beneficiaries (81 per cent) did not purchase goats as of July 2014 despite lapse of more than a year from the date of release of subsidy under the Scheme. The DDVSS did not furnish information about purchase of metal feeder and feed by any of the beneficiaries.

Further, purchase bills, acknowledgement of beneficiaries for receipt of goats, insurance policies of goats etc. were not available with the District office for verification of genuineness of expenditure incurred on various components of the Scheme and its subsequent reimbursement to the beneficiaries.

The Government stated (November 2014) that application forms had been completed and in all cases eligibility criterion had been met and that the goat units would be provided to remaining beneficiaries soon.

The reply is not convincing as updating applications at later dates does not assure that the beneficiaries were fulfilling the eligibility criteria at the time of their selection for the Scheme.

Besides, the Department did not assess employment generation through goat farming under the Scheme to ensure that the objective of economic upliftment of farmers has been achieved.

2.4.7 Monitoring and evaluation of schemes

Monitoring ensures implementation of programmes in a time bound manner according to the defined procedure with efficiency and effectiveness. Deficiencies noticed in monitoring and evaluation of the Schemes by the Department has been discussed in subsequent paragraphs:

¹⁴³ Barwani: 33, Betul: 35, Dewas: 40, Khandwa: 20, Raisen: 28, Ratlam: 30, Seoni: 40 and Shivpuri: 20

¹⁴⁴ Applications of 10 out of 20 beneficiaries of district Shivpuri were not available.

2.4.7.1 Monitoring of the Schemes

(a) Submission of reports / returns

Periodical reports and returns on progress of programme implementation are important tools in the hands of management to keep a check of the activities with respect to proper implementation of schemes by subordinate units.

We noticed that there was no mechanism of periodic returns in the Department, however, reports of physical and financial achievements had been sent on basis of as and when asked. Further, on receipt of physical and financial targets of the schemes from the Directorate, the DDVSS credited the entire amount of subsidy to the bank accounts of selected beneficiaries and reported 100 *per cent* physical and financial achievement to the Department without ascertaining actual distribution of animals to the selected beneficiaries which resulted in blockage of subsidy in bank accounts. As a result of such incorrect reporting, the higher authorities failed to monitor actual distribution of animals and could not take appropriate action in case of shortfall in implementation of the schemes. We also noticed that there was lack of coordination between the Department and MPSLDC to monitor activities of distribution/ death of animals.

(b) Multiple benefits extended to beneficiaries under same scheme or schemes of same nature

The Scheme guidelines or Government orders did not prohibit providing multiple benefits to same beneficiary under same scheme/ different schemes of same nature/ purpose. As such, there was no system of monitoring for avoidance of granting multiple benefits under same scheme or schemes of similar nature to a beneficiary.

We observed (February to June 2014) from the list of selected beneficiaries that 43 beneficiaries of five districts were provided benefits two to three occasions under same scheme, as detailed in **Appendix 2.41**.

The Government stated (November 2014) that there is no bar prohibiting a person from getting benefit of more than one Scheme. Action was being taken where benefit to same person was provided multiple times.

The reply is not acceptable as providing multiple benefits to same beneficiary deprived other eligible beneficiaries from the benefits of the Schemes.

2.4.7.2 Evaluation of Schemes

The schemes of distribution of animals to rural people were implemented with the objective of providing low cost and nutritious animal protein for human consumption as well as employment opportunities for rural people.

We observed that post implementation evaluation of the schemes was not carried out through beneficiary survey to ascertain achievement of scheme objectives. As per the administrative report of the Department and information provided by Directorate, milk production in the State increased from 68.51 lakh Metric Ton (MT) during 2008-09 to 95.99 lakh MT during 2013-14. Similarly, meat production increased from 34.20 thousand MT during 2008-09 to 47.67 thousand MT during 2013-14. However, the extent of contribution of the schemes implemented by the Department on the increase in production could not be assessed for want of post implementation evaluation of impact on the beneficiaries under the schemes.

Forty three beneficiaries of five districts were provided benefit more than once under same scheme.

The Government stated (November 2014) that they have a strong and transparent system of monthly monitoring, based on which departmental officers were being evaluated.

The reply is not acceptable as monthly monitoring system of schemes was not in existence because reports were being sent on demand by higher authorities due to which impacts of scheme implementation were not evaluated. Further, lack of coordination between the Department and MP SLDC resulted in blockage of subsidy in bank accounts. Moreover, purpose of monthly monitoring system was meant for evaluation of the scheme not for evaluation of officers.

The Department should ensure post implementation evaluation of the schemes to assess the extent of fulfilment of scheme objectives and its impact.

2.4.8 Conclusion

Objective of the Animal Husbandry Department to provide nutritious animal protein for human consumption and self-employment opportunities for rural people by implementation of six major schemes of animal distribution was deficient as detailed below:

- Eligibility criteria of beneficiaries were not ensured or animals were distributed to ineligible beneficiaries in *Nandishala, Sammunath, Dairy Unit Scheme, Male Goat Scheme and Intensive Goat Promotion Scheme*.
- Animals were not provided/ distributed to all the beneficiaries selected under the Schemes; consequently subsidy amounts remained blocked in their bank accounts. Under the programmes for breed improvement, there were significant shortfalls in calf birth, compared to the norm prescribed.
- The guidelines of the schemes did not prescribe any mechanism to monitor progress of implementation of the schemes. There was also no mechanism for ascertaining existence of the animals distributed and replacement of animals in case of death during their breeding period.
- The State has achieved the objective of enhancing milk and meat production, as envisaged in the Eleventh Five-year plan. The Department, however, did not assess the improvement in economic condition of the beneficiaries, as a result of implementation of the schemes.