

Chapter-II

Performance Audits

- 2.1 Implementation of National Food Security Mission**
- 2.2 Implementation of Madhya Pradesh Water Sector Restructuring Project**

Chapter-II

Performance Audits

Farmer Welfare and Agriculture Development Department

2.1 Implementation of National Food Security Mission

Executive Summary

National Food Security Mission (NFSM) is a centrally sponsored crop development scheme which aimed at achieving additional production of food grains and restoring soil health. NFSM provided for demonstration of production and protection technologies, distribution of seeds, nutrient managements, farm mechanisation and training as major interventions in the scheme. The scheme is implemented in identified districts of different States under five components (Rice, Wheat, Pulses, Coarse cereals and Commercial Crops). For 12th Five Year Plan (2012-13 to 2016-17), the scheme had set targets for additional production of 10 million tonnes of rice, 8 million tonnes of wheat, 4 million tonnes of pulses and 3 million tonnes of coarse cereals.

In Madhya Pradesh, the scheme was being implemented in eight districts under NFSM-Rice, 17 districts under NFSM-Wheat and all 51 districts under NFSM-Pulses. Since 2014-15, NFSM-Coarse cereals and NFSM-Commercial crops were being implemented in 16 districts and eight districts respectively. During 2012-13 to 2015-16, the State had incurred ₹ 945.18 crore out of ₹ 1,051.41 crore received as grants-in-aid from the Government of India for activities to be undertaken under the scheme. A performance audit of the implementation of NFSM in the State covering the period from 2012-13 to 2015-16 revealed the following:

Impact of scheme on production of food grains in NFSM districts

The objective of NFSM was to achieve additional production target of 25 million tonnes of food grains in 12th Five Year Plan period at national level. However, State Government did not communicate any target to NFSM districts. As a result, the progress of NFSM districts in achieving additional production targets during 2012-13 to 2015-16 could not be ascertained.

Two *per cent* of the total farmers in the State had been benefitted under NFSM, as such the contribution of NFSM in overall food grain production of the State was limited.

The scheme could only marginally increase the sown area of rice by five *per cent* in NFSM-Rice districts. This was substantially lower than average increase of 26 *per cent* in the sown area of rice during 2012-15 at the State level. Any of the eight NFSM-Rice districts in 2012-13, six districts in 2013-14 and five districts in 2014-15 could not attain even the average yield of rice in the State. The district wise production data of crops for the year 2015-16 was awaited as of December 2016.

The scheme could not maintain sustained growth of the wheat in NFSM districts, as the sown areas in eight out of 17 NFSM districts decreased in 2014-15 as compared to 2013-14. The average yield of wheat in NFSM

districts was 2,872 kg/hectare during 2014-15, which was lower than the State average yield of 3,079 kg/hectare. NFSM-Wheat districts also could not achieve the level of State average yield during any of the years.

The production of pulses was highest (50.43 lakh MT) during 2012-13, which was the first year of implementation of NFSM. It reduced during subsequent years to 39.18 lakh MT during 2013-14 and 43.50 lakh MT during 2014-15. However, the provisional data for production of pulses for the year 2015-16 had again indicated increase in production. Thus, the impact of NFSM on production of pulses during successive years of implementation was not conspicuous.

(Paragraph 2.1.6)

Planning

District Annual Action Plans were not prepared after obtaining inputs from the Block offices. As a result, items without demand from the farmers were also included under various interventions of NFSM.

Directorate did not prepare the perspective plan for scheme implementation in the State. The baseline survey and feasibility studies were also not conducted due to which the status of crop production, its potential and demand remained unassessed.

(Paragraph 2.1.7)

Execution of scheme interventions

Distribution of seeds: Out of budget allocation of ₹ 177.14 crore for distribution of rice, wheat, pulse and coarse cereals seeds during 2012-13 to 2015-16, Department incurred only ₹ 39.26 crore (22 per cent). The shortfall in achievement of physical targets for distribution of quality seeds was 79 per cent in high yield variety of rice seeds, 57 per cent in wheat seeds, 63 per cent in pulse seeds and 94 per cent in coarse cereal seeds. The distribution of pulse seeds in the State was decreasing during the years 2012-13 to 2015-16, which reduced to only 17 and 10 per cent during the years 2014-15 to 2015-16 respectively. The shortfall in achievement of physical targets was attributed to inadequate availability of seeds.

District offices could not ensure quality of seeds distributed to farmers, which put to risk the production and income generation of farmers. Out of 3,126 samples taken for quality testing in 17 test-checked districts, 582 samples were collected after sowing period. Out of 3,110 quality test reports received, 1,218 reports were received after sowing period. Further, 369 samples of certified seeds were found sub-standard.

(Paragraph 2.1.8)

Field demonstration: Department incurred an expenditure of ₹ 153.37 crore during the years 2012-16 on field demonstration of production and protection technologies. However, the objective of demonstration remained largely unfulfilled due to failure in preparation of comparative demonstration results of demonstration plot (for improved practices) and control plot (for farmer's practices) and lack of involvement of scientists. District offices failed to adhere the guidelines for conducting cropping system based demonstrations,

which deprived awareness generation among farmers about cropping pattern that could be adopted to increase the farm level economy.

(Paragraph 2.1.9)

Farm mechanisation: The Department did not fix the agencies and rates of farm implements as envisaged under the NFSM operational guidelines. The assistance to farmers on purchase of farm implements from unapproved agencies and on unapproved rates resulted in irregular expenditure of ₹ 261.81 crore.

The Department did not adhere subsidy norms on sprinkler sets and ‘pipe for carrying water from source to field’, which resulted in irregular excess assistance of ₹ 5.11 crore to 8,337 farmers in 14 districts.

(Paragraph 2.1.11)

Fund Management

Out of ₹ 1,062.92 crore available for implementation of NFSM in the State, Department utilised ₹ 945.18 crore (88 *per cent*) during 2012-13 to 2015-16. However, the utilisation of NFSM fund had a decreasing trend, as it reduced from 95 *per cent* in 2012-13 to 64 *per cent* in 2015-16. Directorate released ₹ 26.63 crore in eight test-checked districts during 2012-13 and 2013-14 for implementation of NFSM-wheat, but these districts were not covered under the scheme.

(Paragraph 2.1.15)

Monitoring of the scheme

The scheme was implemented in the State through Directorate of Farmers Welfare and Agriculture Development and its district offices. However, the operational guidelines for NFSM provided implementation of scheme at district level through ‘Agricultural Technology Management Agency’, which consisted of representatives of all line departments concerning agriculture and allied sectors, research institutions at the district level and farmer’s organisations. As a result of this deviation, the interventions under NFSM could not be dovetailed with Strategic Research and Extension Plan of Districts.

District level project management teams, which was responsible to help in implementation and monitoring of the scheme, were not functional in most cases. Further, the activities of mission was not reviewed by State Food Security Mission Executive Committee.

(Paragraph 2.1.16)

2.1.1 Introduction

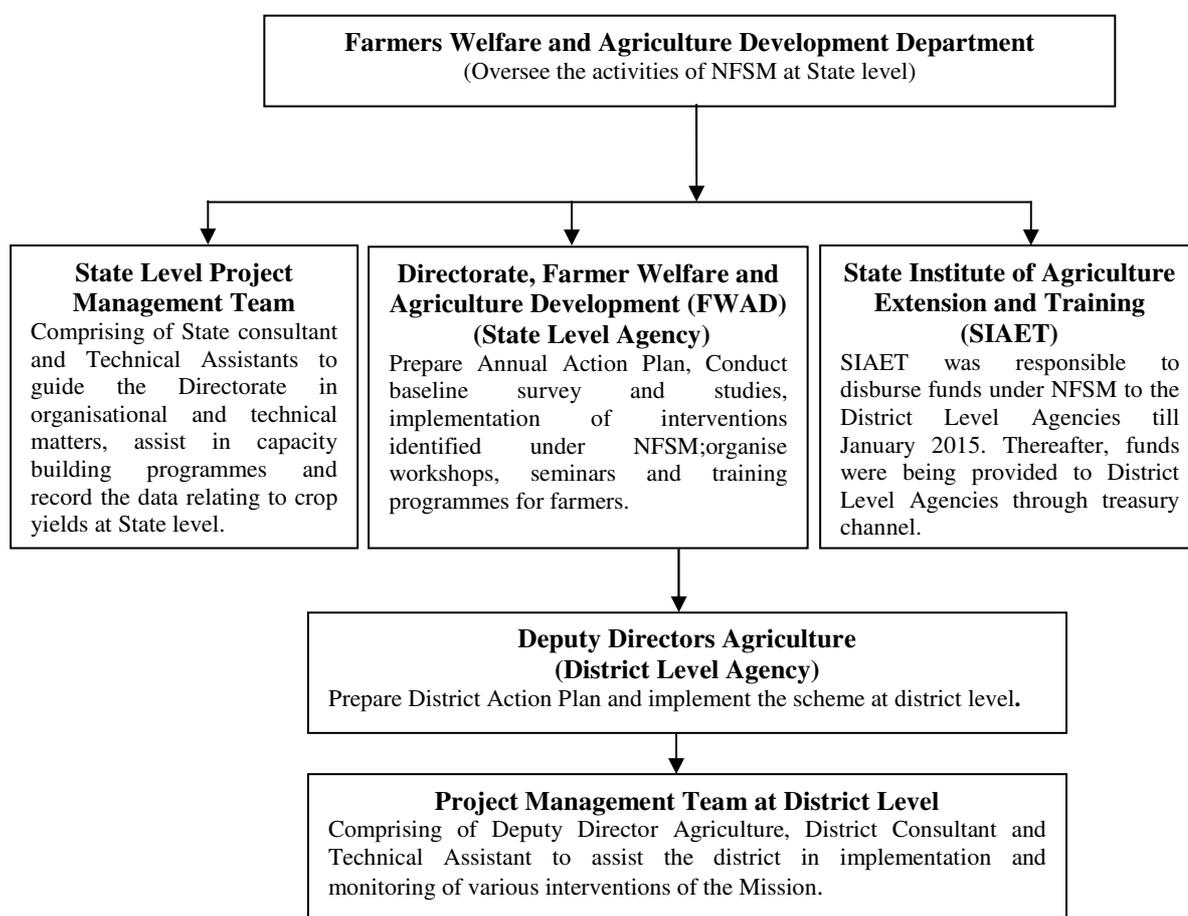
National Food Security Mission (NFSM), launched as a Centrally Sponsored Scheme by Government of India (GoI) (October 2007) during the 11th Five Year Plan, is a crop development scheme that aimed at achieving additional production of food grains and restoring soil health. The scheme was continued during the 12th Five Year Plan (2012-13 to 2016-17) setting new targets of additional production of 25 million tonnes of food grains comprising of 10 million tonnes of rice, 8 million tonnes of wheat, 4 million tonnes of pulses and 3 million tonnes of coarse cereals by the end of the 12th Five Year Plan.

The scheme had been implemented in identified districts of different States under five components, viz., NFSM-Rice, NFSM-Wheat, NFSM-Pulses, NFSM-Coarse cereals and NFSM-Commercial Crops.

In Madhya Pradesh, the scheme was being implemented in eight districts under NFSM-Rice, 17 districts under NFSM-Wheat and all 51 districts under NFSM-Pulses. Since 2014-15, NFSM-Coarse cereals and NFSM-Commercial crops were being implemented in 16 districts¹ and eight districts² respectively. During 2012-13 to 2015-16, the State had incurred ₹ 945.18 crore out of ₹ 1,051.41 crore received as grants-in-aid from the GoI for activities to be undertaken under the scheme.

2.1.2 Organisational set-up

The organisational set up for implementation of NFSM in the State is shown in the following chart:



2.1.3 Audit Objectives

The performance audit was conducted to ascertain whether:

- the objectives of the scheme to increase the production of food grains in the identified districts, restoration of soil fertility and productivity at the individual farm level, were achieved;

¹ Alirajpur, Badwani, Betul, Chhindwara, Dhar, Dindori, Khargone, Jhabua, Mandla, Mandsaur, Morena, Rajgarh, Ratlam, Shajapur, Shivpuri and Singrauli

² Badwani, Betul, Burhanpur, Gwalior, Harda, Hoshangabad, Khargone and Narsinghpur

- interventions were properly planned and executed efficiently and effectively as per the operational guidelines of the scheme, and requisite records and data were maintained at various levels;
- funds were released, accounted for and utilised by the agencies in compliance with the provisions of the scheme; and,
- monitoring and evaluation had been done as envisaged under NFSM.

2.1.4 Audit Criteria

The audit findings were benchmarked against the following criteria:

- NFSM guidelines (12th Five Year Plan)
- NFSM Commercial crops Operational Guidelines (12th Five Year Plan)
- Provision of General Financial Rules
- Instructions issued through Government orders from time to time
- Impact Evaluation Report of the Scheme

2.1.5 Scope and methodologies of audit

The implementation of NFSM in the State during the period 2012-16 was reviewed in the Performance Audit conducted during January 2016 to July 2016. For test check of records, 17 districts³, out of 51 districts in the State, were selected on random sampling method. These selected districts included five NFSM-Rice districts, seven NFSM-Wheat districts, 17 NFSM-Pulse districts, five NFSM-Coarse cereals districts and three NFSM-Commercial crop districts (**Appendix 2.1**). The records of offices of Deputy Directors, Agriculture in the selected districts were test checked during the performance audit. In addition, scheme related information was also collected from the Directorate, Farmer Welfare and Agriculture Development. A beneficiary survey was also carried out to assess the satisfaction amongst beneficiaries of various interventions implemented in NFSM.

The audit objectives, scope, criteria and methodology were discussed with the Principal Secretary, Farmer Welfare and Agriculture Development Department in the entry conference held on 24 February 2016. The exit conference was held on 10 November 2016 with the Principal Secretary to discuss the audit findings. The reply of the Government on the draft report was received in December 2016. Views expressed during the exit conference and replies of Government have been incorporated suitably in the report.

Audit findings

2.1.6 Production of food grains

Madhya Pradesh has received National Krishi Karman Award⁴ 2012-13 and 2014-15 for achieving highest food grain production and National Krishi Karman Award 2013-14 for achieving highest wheat production. The sown

³ Bhind, Chhattarpur, Damoh, Dhar, Dindori, Guna, Harda, Hoshangabad, Indore, Khargone, Mandla, Panna, Shajapur, Sidhi, Seoni, Ujjain and Vidisha.

⁴ An yearly award given under NFSM to best performer States for raising country's food grain production

areas of rice, wheat and pulses, their production and yields in the State during 2012-13 to 2015-16 over the base year level (i.e., 2011-12 for implementation of NFSM during 12th Five Year Plan) were as shown in the **table 2.1.1**.

Table 2.1.1: Year wise position of sown areas, production and yield of rice, wheat and pulses in Madhya Pradesh

Year	Sown area (in 000' hectare)			Production (in 000' MT)			Yield (in kg/ha)		
	Rice	Wheat	Pulse	Rice	Wheat	Pulse	Rice	Wheat	Pulse
2011-12 (Base Year)	1,703	5,261	4,763	2,280	14,544	3,718	1,339	2,764	781
2012-13	1,801	5,613	5,329	3,113	16,518	5,043	1,728	2,943	946
2013-14	1,930	5,976	4,832	5,361	17,478	3,918	2,778	2,925	810
2014-15	2,153	6,002	4,911	5,438	18,480	4,350	2,526	3,079	885
2015-16 (Provisional)	2,024	5,911	5,267	5,614	18,510	5,125	2,774	3,131	973

(Source: State Land Records data provided by the Directorate, Farmer Welfare and Agriculture Development)

Table 2.1.1 indicates that the production of food grains increased over the base year levels. The percentage increase was 146 *per cent* in rice, 27 *per cent* in wheat and 38 *per cent* in pulses. The growth in production could be attributed to increase in the sown areas as well as increase in per hectare yields of the respective crops with inter-year variations. However, the yield of rice decreased by nine *per cent* in the year 2014-15 as compared to the previous year and the yield of pulses decreased by 14 *per cent* during 2013-14 with reference to 2012-13.

The Government stated (December 2016) that the productivity of wheat and pulses in 2013-14 affected due to less rainfall and hailstorm. The Government further stated that the productivity of rice in 2014-15 affected due to pre-monsoon rain and less rainfall during the rainy season.

Implementation of NFSM Coarse Cereals and Commercial crops in the State was commenced from the year 2014-15. The overall status of production of coarse cereals and commercial crops with base year 2013-14 was as depicted in **table 2.1.2**.

Table 2.1.2: Sown area, production and yield of Coarse Cereals (CC) and Commercial crops (Sugarcane: S, Cotton: C)

Year	Sown area (in 000' hectare)			Production (in 000' MT)			Yield (in kg/ha)		
	CC	Commercial crops		CC	Commercial crops		CC	Commercial crops	
		S	C		S	C		S	C
2013-14 (Base Year)	1,535	73	514	2,934	3,623	1,090	1,911	49,630	2,120
2014-15	1,711	111	636	3,428	4,567	1,243	2,004	41,144	1,954
2015-16 (Provisional)	1,700	103	547	4,295	7,750	1,070	2,526	75,243	1,956

(Source: State Land Records data provided by the Directorate, Farmer Welfare and Agriculture Development)

As depicted in **table 2.1.2**, the production of coarse cereals and commercial crops increased over the base year (2013-14) levels by 46 *per cent* and 114 *per cent* respectively. However, there was 17 *per cent* decrease in yield of sugarcane during 2014-15, though the provisional figures of 2015-16 indicated

52 per cent increase in its yield. The production of cotton decreased from 1,090 tonne in 2013-14 to 1,070 tonne in 2015-16 and its yield also declined by eight per cent in the year 2014-15 and 2015-16 as compared to the year 2013-14. Directorate informed (February 2017) that the decline in production of cotton was due to unavailability of indigenous cotton seeds and change of cotton area to pulses area.

2.1.6.1 Production of food grains in NFSM districts

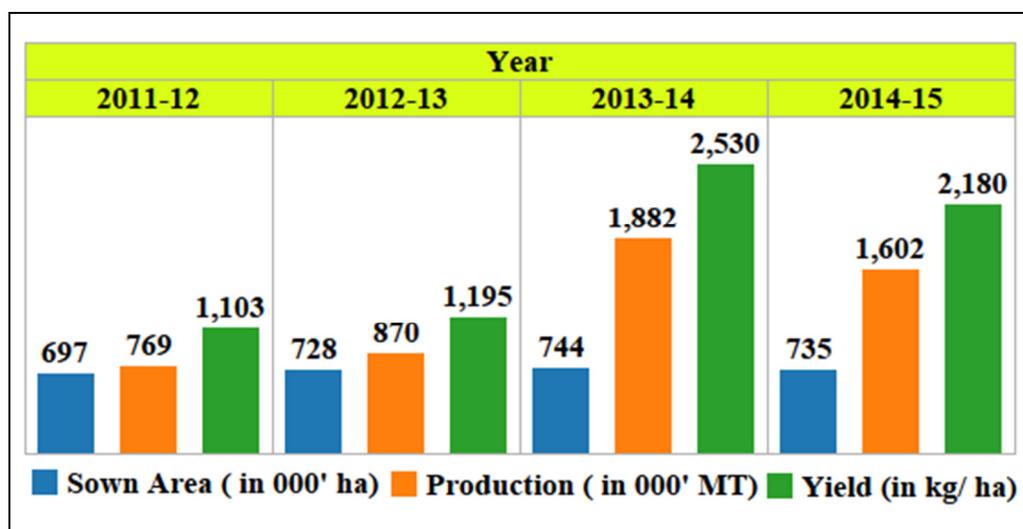
The targets for additional production were not fixed for NFSM districts.

The objective of NFSM was to achieve additional production target of 25 million tons of food grains at national level. However, Directorate of Farmer Welfare and Agriculture Development informed (January 2017) that GoI had not communicated any target for production under NFSM and also State Government had not fixed any target for NFSM scheme. In the absence of any production targets, the progress of NFSM districts with reference to the scheme objectives to achieve additional production targets for different food grains could not be ascertained in audit.

The sown area, production and yield of three components (Rice, Wheat and Pulses) in NFSM districts of the State during 2011-12 (Base Year) to 2014-15 were as shown in **charts 2.1.1, 2.1.2 and 2.1.3**. The Department could not provide (December 2016) the district-wise data for 2015-16 due to which the performance of NFSM (Rice and Wheat) districts during 2015-16 and overall performance under NFSM (Coarse cereals and Commercial Crops) were not available.

- **Impact of the scheme in NFSM-Rice districts**

Chart 2.1.1: Sown area, production and yield of rice in districts under NFSM-Rice



The scheme could only marginally increase the sown area of rice.

NFSM-Rice was implemented in eight⁵ districts of Madhya Pradesh. As indicated in **chart 2.1.1**, there was marginal increase of five per cent in the sown area of rice during 2014-15 in NFSM districts as compared to the year 2011-12. However, this increase was substantially lower than the average growth rate of 26 per cent in the sown areas of rice at State level. Further, the average yield of rice in NFSM districts was 2,180 kg/hectare in 2014-15, which was less than average yield of 2,526 kg/hectare at State level. The eight

⁵ Anuppur, Damoh, Dindori, Katni, Mandla, Panna, Rewa and Sidhi

districts under NFSM-Rice in 2012-13, six districts in 2013-14 and five districts in 2014-15 could not achieve the average yield of the State, as detailed in **Appendix 2.2**.

There was substantial increase in yield of rice from 1,195 kg/hectare during 2012-13 to 2,530 kg/hectare during 2013-14. The Directorate stated (December 2016) that use of hybrid and high yielding variety seeds, adoption of System of Rice Intensive technique etc. by the farmers contributed to the increase. The reasons attributed for sudden rise in the yield of rice was doubtful, as the actual distribution of hybrid and high yield varieties seeds was quite less in 2013-14 (2,948 quintal) as compared to 2012-13 (8,264 quintal), as discussed in succeeding paragraph 2.1.8.1. Further, three districts (Katni, Mandla and Sidhi) had steep growth of yield in 2013-14 followed by abrupt decline of yield in 2014-15, as depicted in **table 2.1.3**, which necessitates a review of data related to yield and production of NFSM-Rice districts during 2013-14 by the Department.

Table 2.1.3: Statement showing yield of Rice in the three NFSM Districts

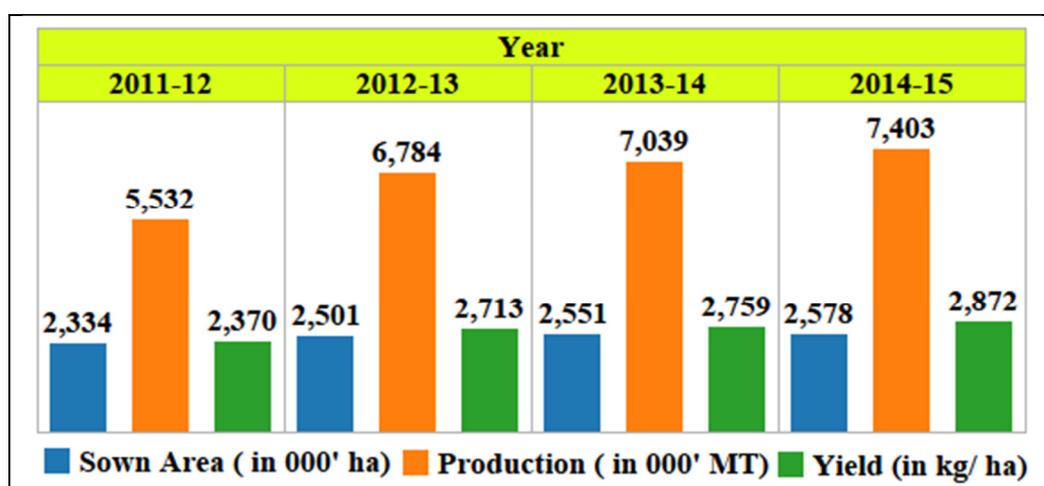
District	Yield of rice in kg/hectare during 2012-15		
	2012-13	2013-14	2014-15
Katni	1,226	3,729	2,182
Mandla	672	2,634	1,515
Sidhi	1,398	2,464	1,232

The Government stated (December 2016) that the percentage growth in production in NFSM districts was almost equal to the average growth of production at State level. It further stated that during 2014-15 the production of rice affected due to less monsoon. However, efforts were made to increase the production by advising farmers to use modern agricultural techniques.

The reply of Government is not acceptable, as the scheme could only marginally increase the sown area of rice in these districts which was quite lower than average increase in the State as a whole. Further, NFSM districts could not attain even the average yield of rice at State level during 2012-15.

- **Impact of the scheme in NFSM-Wheat districts**

Chart 2.1.2: Sown area, production and yield of wheat in districts under NFSM-Wheat



The average yield of wheat in NFSM districts was less than State average.

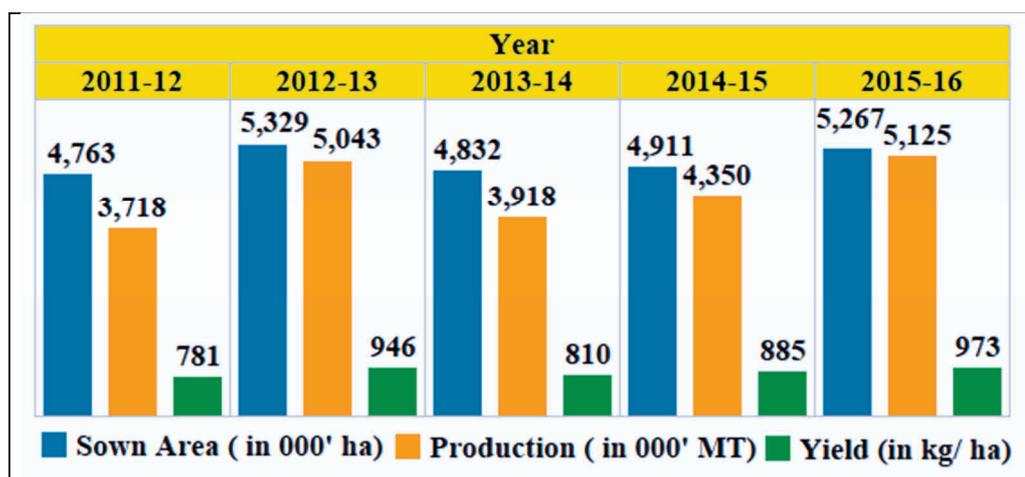
NFSM-Wheat was implemented in 17 districts⁶ of the State. As indicated in **chart 2.1.2**, the production of wheat in the NFSM districts increased from 55.32 lakh MT in 2011-12 to 74.03 lakh MT in 2014-15. However, the average yield of wheat in NFSM districts was 2,872 kg/hectare in 2014-15, which was much below the State average of 3,079 kg/hectare. Out of 17 NFSM-Wheat districts, only five districts⁷ in the year 2012-13, five districts⁸ in the year 2013-14 and seven districts⁹ in 2014-15 could achieve yield above the State average, as depicted in **Appendix 2.3**.

The Department stated (December 2016) that low productivity districts were identified for implementation of NFSM-Wheat. The percentage growth in production in NFSM districts was more than the average growth of production at State level.

The reply of Government is not acceptable, as NFSM districts could not attain even the average yield of wheat at State level during 2012-16. Further, the scheme could not provide sustained growth of the wheat production in NFSM districts and the sown areas in eight districts (Ashok Nagar, Chhattarpur, Katni, Panna, Rajgarh, Sagar, Shivpuri and Tikamgarh) decreased in 2014-15 as compared to previous year.

- **Impact of the scheme in NFSM-Pulses districts**

Chart 2.1.3: Sown area, production and yield of pulses in districts under NFSM-Pulses



Production level of pulses during the year 2012-13 could not be achieved in subsequent years.

All 51 districts of the State were selected under NFSM-Pulses during 12th Five Year Plan as against 20 districts in 11th Five Year Plan. As indicated in **chart 2.1.3**, there was marginal increase of three *per cent* in the sown area of pulses in the State during 2011-12 to 2014-15. The production of pulses was the highest during 2012-13, which was the first year of implementation of NFSM and it substantially decreased during subsequent years. However, the provisional data for production of pulses for the year 2015-16 had again indicated increase in production. Thus, the impact of NFSM on pulses was not conspicuous.

⁶ Ashoknagar, Chhattarpur, Guna, Katni, Khandwa, Khargone, Panna, Raisen, Rajgarh, Rewa, Sagar, Satna, Shivpuri, Sidhi, Seoni, Tikamgarh and Vidisha

⁷ Guna, Khandwa, Raisen, Satna and Shivpuri

⁸ Guna, Raisen, Satna, Shivpuri and Seoni

⁹ Guna, Khandwa, Khargone, Raisen, Rajgarh, Rewa and Satna

The Government stated (December 2016) that adverse climatic conditions affected production of Pulses during the years 2013-14 and 2014-15.

As evident from above, NFSM districts could not achieve the average yield of the State in rice and wheat. The average yield of pulses decreased in the State. Further, as production targets were not provided to the NFSM districts, the achievement of these districts could not be measured. Moreover, only two *per cent* of the total farmers in the State had been benefitted under NFSM, as such the contribution of NFSM in overall food grain production of the State was limited.

2.1.7 Planning

2.1.7.1 Preparation of Annual Action Plans

Inputs from district level PRIs/Block offices were not obtained for preparation of the District Action Plans

Paragraph 8.1 of NFSM guidelines stipulated that the District Food Security Mission Executive Committee (DFSMEC) would prepare the Annual Action Plan (AAP) at district level keeping in view their priority and potential and submit the same to the State level agency. DFSMEC would have representatives of line Departments, *Krishi Vigyan Kendras*, Agricultural Technology Management Agency (ATMA) and Self Help Groups of Farmers. Further, inputs from district level Panchayati Raj Institutions (PRIs) was to be obtained for preparation of AAP. State level agency would prepare State AAP based on district AAPs, which would be vetted by the State food Security Mission Executive Committee (SFSMEC) and submitted to the Ministry of Agriculture, GoI for approval.

Audit scrutiny revealed that district AAPs in test checked districts were prepared by Deputy Directors of Agriculture instead of DFSMECs. Inputs from the district level PRIs/block offices district AAPs were also not obtained for preparation of district AAPs. Thus, district AAPs were not prepared after required consultation of stakeholders.

Two DDAs, Khargone and Sidhi intimated that AAP was prepared by adding 10 *per cent* to the progress achieved during the preceding year. DDA Shajapur intimated that they implemented the targets received from the Directorate. Eleven¹⁰ DDAs intimated that the AAPs were prepared after discussion with the Block offices in the weekly meetings. However, these 11 DDAs could not produce minutes of meeting with block offices. Further, no information was received from three DDAs (Bhind, Panna and Harda).

The Government stated (December 2016) that AAPs were prepared at District level after deliberations with the *krishi sthai samiti*¹¹. All district offices have been instructed to maintain minutes of such meetings.

The reply is not acceptable, as DDAs had not informed this practice being adopted by them before preparation of AAPs. As a result of not taking input from Block offices/PRIs, items without demand from the farmers were also included under various interventions as discussed in paragraphs 2.1.8, 2.1.11 and 2.1.13.1.

¹⁰ Chhattarpur, Damoh, Dhar, Dindori, Guna, Hoshangabad, Indore, Mandla, Seoni, Ujjain and Vidisha

¹¹ *Krishi Sthai Samiti* is a committee established under the three tier *Panchayati Raj* system.

Perspective plan and baseline survey was not conducted to determine the status of crop production, its potential and demand.

2.1.7.2 Preparation of Perspective Plan and conduct of Baseline Study

Paragraph 4.2.4 of the guidelines stipulates that State level agency will prepare perspective plan in consonance with the mission's goals and objectives in close co-ordination with the State Agriculture Universities and Indian Council of Agricultural Research. The State Level Agency also had to organise/conduct baseline survey and feasibility studies in the area of operation (district, sub-district or a group of districts) to determine the status of crop production, its potential and demand.

Audit scrutiny revealed that the Directorate, which was the State level agency for NFSM, did not prepare the perspective plan. The baseline survey and feasibility studies were also not conducted due to which the level of crop productivity and its potential remained unassessed.

The Government stated (December 2016) that AAPs received from districts, suggestions received from State Agricultural Universities and tentative outlay/programme received from GoI were taken into consideration for preparing the State level AAP. In respect of conducting baseline survey, the Government replied that this was done on the basis of data provided by the State Land Record.

The reply is not acceptable, as State level agency did not prepare the perspective plan though required under the scheme. Further, State Land Record data did not contain the database of potential and demand of crop in the areas of operation, which was to be assessed in baseline survey and feasibility studies under NFSM.

2.1.8 Execution of Interventions

In order to enhance the efficiency of the farmers in performing field operations and economise upon the cost of cultivation, NFSM guidelines provided for following major interventions:

- Accelerated Crop Production Programme (ACPP), under which demonstrations of production and protection technologies in cropping system based mode was to be done;
- Need based inputs, which had distribution of hybrid/certified seed, nutrient management/soil ameliorants¹², plant protection measures, farm mechanisation and training as its sub-interventions; and,
- Award for the best performing districts and local initiatives.

Each intervention had an interactive role with other interventions and their synchronised implementation under each crop component could only produce the intended results. The intervention-wise shares in budget allotment were as shown in **table 2.1.4**.

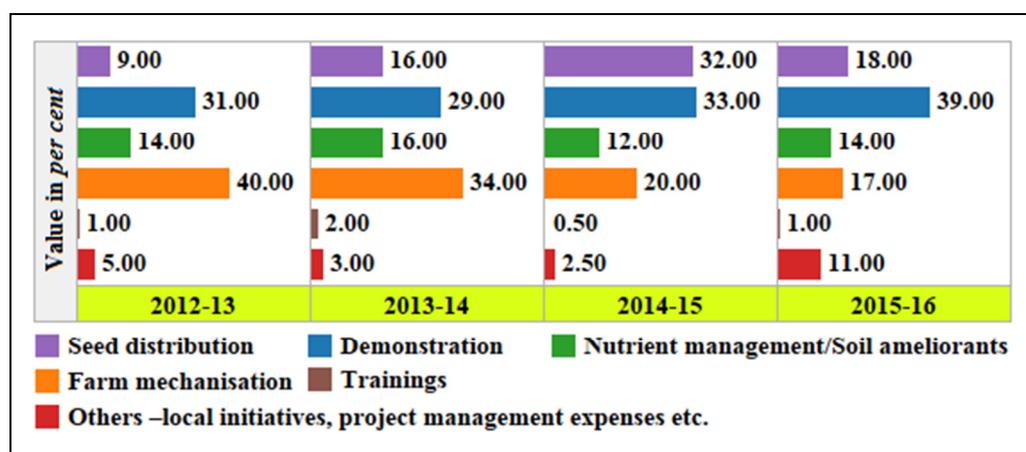
¹² Stuff that makes the soil more pleasant for plants to grow in and/or provide nutrients for the soil.

Table 2.1.4: Budget allocation during 2012-16 for interventions under NFSM

Name of intervention	Allocation during 2012-16	
	Amount in ₹ lakh	Allocation per cent
Seed distribution	17,714	20
Demonstration	30,125	33
Nutrient management/soil ameliorants	12,511	14
Farm mechanization	23,907	27
Trainings	978	1
Others –local initiatives, project management expenses, etc.	4,885	5
Total	90,120	100

The share of the above interventions during the years 2012-13 to 2015-16 was as depicted in **chart 2.1.4**.

Chart 2.1.4: Showing the share of various interventions



As evident from the **chart 2.1.4**, the budget allocation on ‘farm mechanisation’ decreased during successive years from 40 *per cent* in the year 2012-13 to 17 *per cent* in the year 2015-16. The share of allocation under ‘seed distribution’ increased from nine *per cent* in the year 2012-13 to 32 *per cent* by the year 2014-15, but it decreased to 18 *per cent* in 2015-16. The pattern of budget allocations, as indicated in **table 2.1.4** and **chart 2.1.4** did not indicate any synchronisation in interventions implemented under the scheme. The component-wise intervention targets and achievements in the selected districts are discussed in the succeeding paragraphs.

2.1.8.1 Distribution of Seed

Seed is one of the most critical inputs for enhancing productivity of crops. Paragraph 14.2.1 of NFSM operational guidelines stipulated that seed producing agencies¹³ authorised by the State would distribute seeds to the farmers in selected districts. The norms for assistance to the farmers for purchase of seeds was as detailed in **table 2.1.5**.

¹³ National Seed Corporation (NSC)/State Seed Corporations (SSCs)/State Agricultural Universities (SAUs)/Indian Council for Agricultural Research (ICAR) Institutes/Private Companies.

Table 2.1.5: Norms for assistance to the farmers for purchase of seeds

Name of crop	Hybrids	Varieties less than 10 years
Rice	₹ 50/kg or 50 per cent of cost, whichever is less	₹ 10/kg
Wheat	--	₹ 10/kg
Pulses	--	₹ 25/kg or 50 per cent of cost, whichever is less
Coarse cereals	₹ 50/kg	₹ 15/kg or 50 per cent of cost, whichever is less

There was shortfall in achieving targets for distribution of rice, wheat, pulses and coarse cereal seeds in NFSM districts.

Out of budget allocation of ₹ 177.14 crore for distribution of rice, wheat, pulse and coarse cereal seeds during 2012-13 to 2015-16, Department could incur only ₹ 39.26 crore. The crop wise status of physical target and achievement under this intervention was as follows:

Distribution of rice seeds

The physical targets and achievements of rice seeds during the years 2012-13 to 2015-16 were as shown in **table 2.1.6**.

Table 2.1.6: Physical targets and achievements of Distribution of rice Seed

(in quintals)

Year	Hybrid Varieties						High Yielding Varieties					
	In eight NFSM-Rice Districts			Test Checked Districts (five districts)			In eight NFSM-Rice Districts			Test Checked Districts (five districts)		
	T	A	Per cent	T	A	Per cent	T	A	Per cent	T	A	Per cent
2012-13	500	1,464	293	175	110	63	15,000	6,800	45	6,720	2,216	33
2013-14	2,000	71	4	760	0	0	20,000	2,877	14	8,200	1,395	17
2014-15	5,900	52	1	2,170	0	0	31,000	2,002	6	11,300	288	3
2015-16	2,400	8	0	1,800	0	0	15,000	5,236	35	13,600	5,068	37
Total	10,800	1,595	14.77	4,905	110	2	81,000	16,915	21	39,820	8,967	23

(Source: Progress report of the District offices)

Thus, the distribution of hybrid and high yield variety rice seeds in the NFSM districts was only 15 per cent of target for hybrid and 21 per cent of target for distribution of high yielding varieties of rice seeds during the years 2012-16.

Distribution of wheat seeds

During the years 2012-14, assistance was provided to farmers for purchase of certified wheat seed “varieties less than 10 years”. However, assistance for purchase of High Yield Varieties was provided during the years 2014-15 to 2015-16. The physical targets and achievements in distribution of wheat seeds during the years 2012-16 were as shown in **table 2.1.7**.

Table 2.1.7: Physical targets and achievements of Distribution of Wheat Seed

(in quintals)

Year	In 17 NFSM-Wheat Districts			Test checked (seven districts)		
	Target	Achievement	Achievement per cent	Target	Achievement	Achievement per cent
2012-13	1,40,000	1,07,983	77.13	25,471	16,697	65.55
2013-14	2,40,000	1,17,873.80	49.11	46,000	16,070	34.93
2014-15	2,40,000	42,040.57	17.52	84,000	20,483	24.38
2015-16	68,004	25,843	38.00	32,860	9,190	27.96
Total	6,88,004	2,93,740.37	42.69	1,88,331	62,440	33.15

(Source: Progress report of the District offices)

Thus, there was substantial shortfall in achieving targets for distribution of wheat seeds. Directorate informed (January 2017) that target for 2015-16 was kept low in view of the tentative outlay communicated by GoI. However, the achievement against even the reduced target was dismal.

Distribution of Pulse seeds

NFSM-Pulse was implemented in all 51 districts. During the years 2012-14, assistance was provided to farmers for purchase of pulse seed varieties ‘less than 10 years old’ and ‘more than 10 years old’. During the years 2014-16, assistance was provided for purchase of high yield varieties. The physical targets and achievements of distribution of pulse seeds were as shown in **table 2.1.8**.

Table 2.1.8: Physical targets and achievements of Distribution of Pulse Seed (in quintals)

Year	Seed variety	State (51 districts)			Test checked (17 districts)		
		Target	Achievement	Achievement per cent	Target	Achievement	Achievement per cent
2012-13	< 10 years	16,500	14,837	90	7,170	12,315	172
	>10 years	50,590	41,429	82	22,250	17,869	80
2013-14	< 10 years	32,000	26,015	81	25,797	19,065	74
	>10 years	1,53,650	1,12,650	73	74,848	70,839	95
2014-15	HYV	2,65,000	45,656	17	1,21,460	42,674	35
2015-16	HYV	1,80,080	18,116	10	75,790	10,298	14
Total		6,97,820	2,58,703	37	3,27,315	1,73,060	53

(Source: Progress report of the District offices)

Thus, the progress in distribution of pulse seeds in the State as a whole was decreasing during the years 2012-13 to 2015-16, which reduced to only 17 and 10 per cent during the years 2014-15 to 2015-16 respectively.

Distribution of Coarse Cereal seeds

NFSM-coarse cereal was implemented in the State from the year 2014-15. The achievement of distribution of Coarse Cereal seeds during the years 2014-16 were as given in **table 2.1.9**.

Table 2.1.9: Targets and Achievements of Distribution of Coarse Cereal seeds (in quintals)

Year	Hybrid						High Yielding Varieties					
	State (16 districts)			Test Checked District (five districts)			State			Test Checked Districts (five)		
	T	A	Per cent	T	A	Per cent	T	A	Per cent	T	A	Per cent
2014-15	4,450	905	20.33	1,411	180	12.75	6,500	169	2.6	1,316	0	0
2015-16	9,499	0	0	1,100	0	0	9,736	835	8.57	1,050	0	0
Total	13,949	905	6.48	2,511	180	7.17	16,236	1,004	6.00	2,366	0	0

(Source: Progress report of the District offices)

As indicated in **table 2.1.9**, the progress in distribution of hybrid and high yield variety Coarse Cereal seeds in the State was meagre, as only six per cent targets for distribution of hybrid and high yield variety Coarse cereal seeds could be achieved during the years 2014-16.

Thus, the overall performance in the State in distribution of quality seeds to farmers was deficient in all the crop components. Test checked districts

intimated unavailability of seeds, lack of demand from farmers etc. as the reason for meagre achievement. It is pertinent to mention that 250 out of 260 beneficiaries of this intervention reported in the beneficiary survey that they had achieved higher yield by using seeds provided by the department. This necessitates a review in the mechanism of seed distribution to interested farmers so as to achieve the additional production targeted under the NFSM scheme.

The Government stated (December 2016) that targets of distribution of rice, wheat and pulse seeds were affected due to inadequate availability of high yielding varieties (below 10 years) and distribution of coarse cereal seeds due to problem in availability of hybrid/high yield varieties. Efforts would be made to ensure availability of seeds during the coming season.

The reply is not acceptable, as the State Government was responsible for ensuring availability of quality seeds for distribution to beneficiary farmers.

2.1.8.2 *Functioning of District Seed committee*

Paragraph 12.5 of operational guidelines stipulated that a district level Seed Committee will be constituted by the Chairman of the DFSMEC to ensure availability and distribution of seeds to the farmers. The seed committee had to verify the list of beneficiaries for seeds, its indent and its ultimate distribution to end users.

Audit scrutiny revealed that, Seed Committee was not constituted in five¹⁴ out of test checked 17 districts. In remaining 12 districts, where these committees were formed, it could not be ascertained from records as to whether the seed committees verified the list of beneficiaries for seeds and its distribution.

The Government stated (December 2016) that instructions had been issued to the district offices for setting up District Seed Committees and conduct regular meetings.

2.1.8.3 *Quality of seeds*

Quality of seeds distributed to farmers is being regulated under the Seed Act 1966, vide which no person shall carry on the business of selling, keeping for sale, offering to sell, bartering or otherwise supplying any seed of any notified kind or variety, unless such seed conforms to the minimum limits of germination and purity. NFSM envisages for distribution of certified seeds to farmers.

Audit scrutiny revealed that test checked 17 districts received a target of conducting 3,766 seed quality tests from the Directorate during the years 2014-15 and 2015-16, out of which 3,126 (83 *per cent*) seed samples were taken as detailed in **Appendix 2.4**. Seeds were to be sampled and tested before distribution to farmers. However, 582 samples were collected after the sowing period (*Kharif*: last week of June to 1st week of July; *Rabi*: mid-October to first week of November) in seven¹⁵ test checked districts.

Out of 3,110 reports for quality tests received, 1,218 results were received after the sowing period. Further, 369 samples of certified seeds (11.86 *per cent*

Quality of seeds were not ensured due to delay in taking samples and receipt of results after the sowing period.

¹⁴ Hoshangabad, Mandla, Sidhi, Ujjain and Vidisha

¹⁵ Damoh, Dhar, Hoshangabad, Mandla, Sidhi, Ujjain and Vidisha

of total reports received) were found sub-standard. The quantum of seeds distributed from these substandard lots could not be verified, as related records were not made available.

Delay in taking samples and delayed receipts of quality test reports of seeds led to sowing of substandard seeds by the farmers, which put to risk, the production and income generation of farmers.

The Government stated (December 2016) that instructions had been issued to district offices for timely collection of seed samples and the strict compliance would be ensured.

2.1.9 Field demonstrations

Under NFSM scheme, field demonstration of production and protection technologies was to be conducted on cropping system as well as on sole crop. At least 30 *per cent* demonstrations were to be done on cropping system based approach. The demonstrations were to be conducted by dividing the fields in two blocks, one for improved practices (Demonstration plot) and the other for farmer's practices (Control plot). The District Consultants/Technical Assistants of NFSM were to monitor the conduct of demonstrations and report the outcome in prescribed format to the district level Project Management Team (PMT).

Selection of beneficiaries was to be done adopting participatory approach by holding meetings in the village by explaining the objectives of the demonstrations. The cost of demonstration for one hectare area for sole crop was ₹ 7,500 and ₹ 12,500 for a cropping sequence, while the cost of demonstration for one hectare area for coarse cereals was ₹ 5,000.

Year-wise targets and achievement of demonstration in the State and selected districts during 2012-16 are indicated in **Appendix 2.5**. An abstract thereof is given in the **table 2.1.10**.

Table 2.1.10: Targets and Achievement of Demonstrations during 2012-13 to 2015-16

(Physical in numbers and Financial ₹ in crore)

Intervention	State				Test checked Districts			
	Physical		Financial		Physical		Financial	
	Target	Achievement	Target	Achievement	Target	Achievement (per cent)	Target	Achievement (per cent)
Rice	17,948	16,308	13.46	9.42	11,445	8,914 (77.89)	8.93	5.14 (57.46)
Wheat	71,761	73,306	69.55	52.08	30,330	29,245 (96.42)	27.26	22.11 (81.11)
Pulse	4,89,393	5,04,112	316.90	282.38	2,42,234	2,41,203 (99.57)	141.71	123.40 (87.08)
Coarse Cereals	46,580	29,434	23.29	8.52	11,800	9,200 (77.97)	5.90	2.72 (45.93)
Total	6,25,682	6,23,160	423.20	352.40	2,95,809	2,88,562 (97.55)	183.80	153.37 (83.44)

(Source: Progress report of the State and District offices)

Thus, there were shortfall in achieving targets of field demonstrations under coarse cereals and rice, while the targeted demonstrations under wheat and pulse were almost fully achieved.

The Government stated (December 2016) that targeted coarse cereals and rice demonstrations could not be achieved due to shortage of quality seeds.

The reply is not acceptable, as the State Government was responsible for ensuring availability of quality seeds for demonstration as well as for distribution to beneficiary farmers.

2.1.9.1 Finalisation of Field Demonstration Technology

Demonstrated technology lacked location specific requirements due to adoption of generalised package.

Operational guidelines provided that a package of inputs to be provided for the demonstrations was to be identified in consultation with Regional Research Stations of SAUs/KVKs¹⁶ located in the area. Audit scrutiny revealed that the Directorate had prepared a package of inputs for demonstrations in consultation with SAUs at the State Level and provided to the districts for compliance. Due to adoption of this package by the districts, without its ratification from the district level research stations of SAU/KVKs, the technology adopted lacked location specific requirements.

The Government stated (December 2016) that instructions had been issued for making changes in the package, after consultation with district level research stations of KVKs.

2.1.9.2 Cropping system based field demonstrations

Cropping system based approach entails that field demonstrations are done in cropping sequence on the same plot of land. NFSM guidelines provided for conducting 30 per cent demonstrations on cropping system.

Test checked districts did not adhere to the required norms for conducting demonstrations on cropping system. Out of total 2.89 lakh demonstrations conducted by test checked districts during period 2012-16, only 6,555 demonstrations were conducted on cropping system which worked out to only 2.27 per cent, as detailed in the **Appendix 2.6**.

The Government stated (December 2016) that instructions had been issued (November 2016) for conducting cropping system based demonstrations at appropriate time.

The fact remains that the failure of District offices in adhering the guidelines for conducting cropping system based demonstrations deprived awareness generation among farmers about cropping pattern that could be adopted to increase the farm level economy.

2.1.9.3 Records for demonstration results

The results of demonstrations should be compiled at Block, district and State Level. At the State level, the results of the demonstrations should be compiled in the form of document. A demonstration register was to be maintained at Block level containing all information regarding selection of farmer, date of soil testing, name of seed variety used, date of sowing, name and quantity of materials used and results of crop cutting experiments. Each result should bear signatures of the farmer, Rural Agricultural Extension Officer (RAEO), Senior Agriculture Development officer (SADO). The guideline additionally

¹⁶ State Agricultural Universities/Krishi Vigyan Kendra

provides that the results should be prepared by the Districts and Technical consultants of NFSM.

Records of demonstration were not provided for verification by eight test-check districts (Bhind, Chhattarpur, Dindori, Hoshangabad, Indore, Mandla, Seoni and Vidisha), though 1,73,636 demonstrations were reported to be held in these districts during last four years incurring expenditure of ₹ 91.71 crore. In another seven test-checked districts¹⁷, the results of demonstration did not provide the comparative results of demonstration and control plot and also did not have joint signatures of farmer, RAEO and SADO. Role of Consultants in preparation of results in these districts were also not ascertainable as the results did not have their signatures. District Ujjain provided only summary of results of all demonstrations, instead of farmer-wise demonstration results.

The Government in its reply stated (December 2016) that results of demonstrations may not had been prepared due to shortage of staff in districts offices and issued instructions (December 2016) for proper maintenance of records.

The fact remains that the expenditure of ₹ 91.71 crore in eight test checked districts for 1,73,636 demonstrations rendered unfruitful in the absence of records for demonstration results. Further, the preparation of results of demonstration without mentioning the comparative results of demonstration plot and control plot resulted in defeating the very purpose of informing farmers about the benefits of demonstrated technology.

2.1.9.4 Use of Display board

Display board containing information regarding number of farmers, village, variety of seed used, type of demonstration, fertilizers applied, bio-fertilizers applied, micronutrient applied, date of sowing/transplanting, Seed Rate and Spacing, mobile number of District Consultant/Technical Assistant were to be displayed at the demonstration plots.

Audit scrutiny revealed that expenditure was incurred for placing display boards of demonstrations in the demonstration plots. However, joint physical verification of display boards in two districts - Chhattarpur and Seoni revealed that the display boards did not contain all information as required under the guidelines. Further, DDA Khargone intimated that display boards were not used in 2015-16.

¹⁷ Damoh, Dhar, Guna, Harda, Khargone, Panna and Sidhi



Display board showing incomplete information, on the plot of farmer at Village Pachwara Block Nowgaon, District Chhattarpur

Demonstration plot in village Dhooma block Lakhnadon District Seoni Display board having incomplete information

The Government stated (December 2016) that orders had been issued to districts for displaying complete information on the display boards.

2.1.9.5 Conduct of Field day

NFSM operational guidelines stipulated that a field day should be organised during reproductive phase of crop preferably at grain filling stage, ensuring participation of scientists for providing critical observations and solutions to the problems of farmers.

Audit scrutiny revealed that field day was conducted in six districts¹⁸. However, it was not organised in five districts¹⁹, which was attributed either to unavailability of scientists or to restrictions on drawal of advances imposed by the treasuries. In Indore district, field day was conducted without participation of scientists. However, status regarding conducting of field day in other five districts²⁰ was neither found on record nor provided by the districts.

The Government in its reply stated (December 2016) that instructions for conducting field day has been issued (December 2016) to the district offices.

2.1.10 Need based inputs

2.1.10.1 Nutrient management/Soil Ameliorants

As per Para 14.2.2 of NFSM guidelines, the micro-nutrients /lime /gypsum or other sulphur containing fertilizers such as phosphor-gypsum/bentonite sulphur was to be applied as a basal/foliar application²¹ based on the recommendations of ICAR/SAUs concerned. The DFSMEC was to finalise the list of beneficiaries in consultation with Village Panchayat. Fifty per cent of the cost of these inputs or the maximum assistance as indicated in the **table 2.1.11**, was to be borne by the Government and the balance was to be borne by the farmers.

¹⁸ Chhattarpur, Guna, Khargone, Mandla, Shajapur and Ujjain

¹⁹ Damoh, Dhar, Panna, Sidhi, and Vidisha

²⁰ Bhind, Dindori, Harda, Hoshangabad and Seoni.

²¹ Basal applications are administered directly on the land prior to or at the time of sowing, and foliar applications are administered on the standing crops.

Table 2.1.11: Norms under NFSM for nutrient-wise admissible assistance

Name of nutrient	Admissible assistance (in ₹)
Micro-nutrients	500 per ha
Liming or paper mud of acidic soil	1,000 per ha
Gypsum/other sources of Sulphur	750 per ha
Bio-fertilizers such as Rhizobium, phosphate solubilizing bacteria (PSB) in pulses	100 per ha

The year-wise physical and financial targets and achievement under this intervention in the state and selected districts during the years 2012 to 2016 were as detailed in **Appendix 2.7 to 2.9**. An abstract thereof is given in the **table 2.1.12**.

**Table 2.1.12: Targets and Achievements of distribution of Nutrient management /Soil Ameliorants
(Physical in ha and Financial ₹ in crore)**

Intervention	NFSM districts in State					Test checked Districts				
	Targets		Achievement			Targets		Achievement		
	Phy.	Fin	Phy	Per cent	Fin	Phy.	Fin	Phy	Per cent	Fin
Micronutrients										
Rice (Appendix 2.7)	73,500	3.68	73,709	100.28	2.98	39,850	1.99	26,291	65.97	1.25
Wheat (Appendix 2.8)	4,20,000	21.00	3,30,439	78.68	15.05	1,99,259	9.96	1,84,296	92.49	8.57
Pulse (Appendix 2.9)	9,24,428	46.22	7,26,374	78.58	28.87	2,50,390	13.07	2,28,499	91.26	10.08
Lime/gypsum										
Wheat (Appendix 2.8)	1,23,000	7.93	55,672	45.26	2.30	46,660	2.68	21,490	46.06	1.10
Pulse (Appendix 2.9)	1,64,376	12.33	1,39,620	84.94	7.74	68,630	5.38	54,851	79.92	3.19
Rizobium culture/Phosphate solubilizing bacteria										
Pulse (Appendix 2.9)	4,71,300	8.14	3,33,402	70.74	3.64	2,09,516	4.60	1,53,914	73.46	1.71

Thus, the targets for distribution of micronutrients, lime/gypsum and rizobium culture were not achieved by the test checked districts. Further scrutiny revealed the following:

(i) Use of Integrated Nutrient Management (INM) package

Directorate provided a generalized INM package, prepared after consultation with state level SAUs to the districts, for implementation. Four²² out of seventeen districts intimated use of INM in accordance to the provided package. As a result, INM package were distributed to farmers without ascertaining location specific requirements.

The Government stated (December 2016) that instructions were issued (December 2016) to all district offices to decide the package of inputs at district level.

(ii) Records for distribution of INM at district level not maintained

None of the test checked districts could provide acknowledgement of farmers for receipt of items distributed under the INM package. The DDAs intimated that acknowledgements were available with Rural Agriculture Extension

Inputs distributed under INM package lacked location specific requirements due to adoption of generalised package without ratification from local SAU/KVKs.

²² Chhattarpur, Khargone, Mandla and Panna

Officers working in village level. Thus, the Block and District level offices were showing physical progress on the basis of acknowledgement provided by RAEOs for materials worth ₹ 25.87 crore received by them for distribution to farmers, without ascertaining its actual disbursement, to end users.

The Government issued instructions (December 2016) to district offices for maintenance of distribution related records at the Block level.

(iii) INM package not distributed

Audit scrutiny of progress reports of districts revealed that micronutrients under pulse, wheat and rice in six districts (Sidhi, Guna, Shajapur, Khargone, Damoh and Hoshangabad), lime/gypsum under pulse and wheat in nine districts (Vidisha, Panna, Damoh, Indore, Hoshangabad, Sidhi, Shajapur, Guna and Chhattarpur), rizobium culture under pulse in three districts (Shajapur, Indore and Hoshangabad), were not distributed during the period 2012-13 to 2015-16, as detailed in the **Appendix 2.10**.

The Government stated (December 2016) that inputs under the package were distributed according to its local availability and demand of farmers. However, instruction for achieving the targets had again been issued to the district offices.

(iv) Depiction of physical achievement without expenditure

Audit scrutiny of progress reports of 17 districts revealed that three²³ districts had shown total physical achievement of 14,372 hectare in distribution of micronutrients, four districts²⁴ showed physical achievement of 2,675 hectare in distribution of lime gypsum, and two districts²⁵ had shown physical achievement as 14,980 hectare in distribution of rizobium culture/ bio-fertilizers, with corresponding financial achievement as “zero”, as detailed in the **Appendix 2.11**.

The Government stated (December 2016) that factual position had been called for from the concerned district offices.

2.1.10.2 Plant protection measures

As per para 14.2.3 of NFSM guidelines (2012), financial assistance of ₹ 500 per hectare or 50 per cent of the cost, whichever is less, was to be provided for Integrated Pest Management (IPM) including Plant Protection (PP) chemicals, bio-pesticides and weedicides in the identified districts. The DFSMEC were to finalise the list of beneficiaries in consultation with Village Panchayat.

Year wise physical and financial targets and achievement under this intervention in the State and selected districts during 2012-16 are indicated in **Appendix-2.7, 2.8 and 2.12**. An abstract thereof is given in the **table 2.1.13**.

²³ Damoh, Dhar, Sidhi

²⁴ Chhattarpur, Damoh, Dhar and Sidhi

²⁵ Chhattarpur and Sidhi

Table 2.1.13: Targets and Achievements of distribution of Plant Protection measures
(Physical in ha and Financial ₹ in crore)

Intervention	NFSM districts in State				Test checked Districts			
	Targets		Achievement		Targets		Achievement	
	Phy.	Fin	Phy (per cent)	Fin (per cent)	Phy.	Fin	Phy (per cent)	Fin (per cent)
PP Chemicals & bio-agents								
Pulse (Appendix 2.12)	7,19,261	35.96	6,14,187 (85.39)	27.04 (75.19)	2,81,512	14.49	2,70,427 (96.06)	12.67 (87.44)
Rice (Appendix 2.7)	73,544	3.68	63,618 (86.50)	2.94 (79.89)	42,100	2.11	33,865 (80.44)	1.58 (74.88)
Wheat (Appendix 2.8)	1,63,930	8.20	1,50,895 (92.05)	6.72 (81.95)	88,675	4.43	85,254 (96.14)	4.32 (98.18)
Weedicides								
Pulse (Appendix 2.12)	85,064	4.25	49,656 (58.37)	2.00 (47.17)	42,504	2.14	22,554 (53.06)	0.82 (38.32)
Rice (Appendix 2.7)	26,250	1.31	12,500 (47.62)	0.47 (35.88)	18,730	0.94	8,800 (46.98)	0.36 (38.30)
Wheat (Appendix 2.8)	11,000	0.55	6,639 (60.35)	0.15 (27.27)	3,710	0.18	2,060 (55.53)	0.08 (44.44)
IPM Package								
Pulse (Appendix 2.12)	2,00,000	15.00	2,13,715 (106.86)	15.77 (105.13)	88,671	7.00	94,303 (106.35)	7.77 (111.00)
Pulse (Appendix 2.12)	27,000	0.68	12,946 (47.95)	0.28 (41.18)	12,684	0.52	9,456 (74.55)	0.39 (75.00)

Audit scrutiny in test checked districts revealed the following:

(i) Assistance given on unapproved rate

In Damoh, assistance for Plant Protection chemicals and bio-agents in wheat (2012-13) was given at the rate of ₹ 783 per hectare in place of the approved norms of ₹ 500 per ha. Deputy Director stated that actual expenditure on distribution of the item (for 2,970 ha.) was ₹ 14.85 lakh, which was as per the norms. The reply is not acceptable, as expenditure on the assistance for Plant Protection chemicals and bio-agents was shown as ₹ 23.28 lakh in the progress report submitted by the district, thereby assistance to farmers worked out to ₹ 783 per hectare (for 2,970 ha.).

The Government stated (December 2016) that factual position was being ascertained from the concerned district.

(ii) Showing physical achievement without expenditure

Audit scrutiny of progress reports of 17 districts revealed that two districts (Damoh and Sidhi) have shown physical distribution of required quantity of weedicides for 1,750 ha, while two other districts (Hoshangabad and Sidhi) had shown physical distribution of required quantity of Plant Protection (PP) chemicals and bio-agents for 7,050 ha, but corresponding financial achievement was shown as “zero”, as depicted in the **Appendix-2.11**.

The Government stated (December 2016) that factual position had been called for from the districts and also issued instructions to avoid such instances in future.

(iii) IPM package not distributed

Audit scrutiny of progress reports of districts revealed that IPM package including inputs for plant protection were not distributed in five districts (Sidhi, Guna, Shajapur, Panna and Indore) during 2012-13 to 2015-16, as detailed in the **Appendix-2.10**.

The Government stated (December 2016) that inputs were distributed according to their local availability and demand from farmers. All district offices had been instructed to achieve the targeted distribution.

2.1.11 Farm Mechanisation

As per para 14.2.4 of NFSM guidelines, in order to facilitate timely completion of field operations, improving efficacy of field operations, increasing cropping intensity and economising the cost of cultivation, assistance of 50 per cent of the cost or the ceiling amount fixed for each machine was available to the selected farmers. SFSMEC would nominate the agency for sale of farm implements and fix the cost of the implements for supplying the same to the farmers. The list of beneficiaries (50 per cent to be selected from farmers selected for cluster demonstration) was to be prepared by the District Agriculture officer in consultation with *Zila Parishad* and approved by the DFSMEC. Targets and achievements under this intervention during the years 2012-13 to 2015-16 in the State as a whole and in test checked districts were as shown in **table 2.1.14**.

Table 2.1.14: Targets and Achievements of farm mechanisation**{Physical (Phy) in number and Financial (Fin) ₹ in crore}**

S. No.	Farm Implements	NFSM districts in State				Test checked Districts			
		Target		Achievement		Target		Achievement	
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Conoweeder	5,300	3.22	2,652	0.29	2,760	0.40	1,563	0.21
2	Manual Sprayers	45,525	2.73	26,146	1.34	14,840	0.89	9,545	0.53
3	Knap-sack Sprayers	48,147	14.44	1,55,487	12.37	23,458	7.04	69,009	5.60
4	Zero Till seed drill	295	0.44	80	0.10	88	0.13	7	0.009
5	Multi crop planter (MCP)	103	0.15	0	0.00	29	0.04	0	0
6	Seed drill	21,802	32.70	13,909	19.77	9,265	13.90	6,662	9.20
7	Power weeders	57	0.08	4	0.006	23	0.03	0	0.00
8	Rotavator	16,914	55.32	12,312	37.54	7,169	23.16	5,056	14.66
9	Diesel/Electric Pump	36,761	36.76	31,835	28.13	16,753	16.75	12,642	11.59
10	Sprinkler set	1,21,093	97.98	1,17,356	89.78	56,520	45.76	54,549	41.79
11	Assistance for pipe for carrying water from source to the field	57,243	85.86	48,297	68.27	18,460	27.69	14,203	18.82
12	Laser land leveler	48	0.72	3	0.08	19	0.29	2	0.03
13	Zero till MCP	71	0.10	0	0.00	18	0.03	0	0.00
14	Ridge Furrow Planter	64	0.09	2	0.003	11	0.02	0	0.00
15	Mobile sprinkler raingun	426	0.63	488	0.42	297	0.46	92	0.06
16	Chiseller	42	0.03	0	0.00	14	0.01	0	0.00
17	Tractor mounted sprayer	60	0.06	0	0.00	15	0.02	0	0.00
18	Multi crop thresher	1,880	7.52	1,150	3.71	706	2.82	387	1.25
19	Drum seeder	15	0.002	0	0.00	8	0.005	0	0.00
	Self-propelled paddy transplanter	7	0.05	0	0.00	4	0.03	0	0.00
	Total	3,55,853	338.85	4,09,721	261.81	1,50,457	139.475	1,73,717	103.749

(Source: Progress report of the State and District offices)

As evident from table 2.1.14, during 2012-16 out of 1.50 lakh farm implements to be distributed, the Government did not distribute Multi crop planter, Zero till multi crop planter, Chiseller, Tractor mounted sprayer, Drum seeder and Self-propelled paddy transplanter. During the course of performance audit, feedback from 330 beneficiaries under this intervention was obtained. Of which, 291 beneficiaries intimated satisfaction out of the equipment received by them and reported higher yield by using these equipment.

2.1.11.1 Irregular expenditure due to not fixing supplying agencies and rates for farm implements

The Department did not nominate the agencies and also did not fix the price of different farm implements to be supplied to farmers, though it was required as per NFSM operational guidelines. Thus, the assistance to farmers on purchase of 4.10 lakh farm implements from unapproved agencies and on unapproved rates resulted in irregular expenditure of ₹ 261.81 crore during the years 2012-16. Further, the Department had no control over the rates of farm implements fixed by the supplying agencies, as a result affordability of these implements by farmers was not ensured.

SFSMEC did not fix the agencies and rate of farm implements to be provided to farmers rendering expenditure of ₹ 261.81 crore irregular.

In the exit conference (November 2016), the Principal Secretary stated that they had no role in fixation of rates or agencies as the implements were distributed by MP Agro or Marketing Federation (MARKFED), who had their own system for selection of supplier and rates of implements.

The reply is not acceptable, as guidelines provided that State Food Security Mission Executive Committee (SFSMEC) would nominate the agency for sale of farm implements and fix the cost of the implements for supplying the same to the farmers. Further, there was no relaxation under NFSM for procurement through MP Agro or MARKFED. Thus, assistance to farmers for purchase on unapproved rates and from unapproved agencies was in violation of NFSM operation guidelines.

2.1.11.2 Prescribed norms for selection of the farmers not ensured

The district offices did not have a system to ensure that the prescribed norms were followed for selecting 50 per cent farmers from those who were also selected under the intervention Demonstration.

The Government accepted (December 2016) the audit observation and issued instructions to the district offices to follow the provisions of guidelines.

2.1.11.3 Irregular excess assistance on distribution of implements

The Directorate had provided assistance for sprinkler sets at the rate of ₹ 7,500 per hectare or 50 per cent of the cost whichever is less up to 2013-14. From 2014-15 ceiling rate was revised to ₹ 10,000 per ha. In two (Shajapur and Ujjain) out of 17 test checked districts audit scrutiny revealed that 470 farmers having less than one ha land were provided assistance at the maximum rate, in place of giving it on *pro-rata* basis resulting in grant of irregular excess assistance ₹ 12.89 lakh as detailed in the **Appendix 2.13**.

Similarly, the prescribed norms of assistance for “pipe for carrying water from source to field” as per NFSM guidelines 2012 was 50 per cent of the cost, or ₹ 25 per metre for maximum 600 metre, whichever is less with a financial

The pattern of assistance were not followed in providing sprinkler sets (₹ 12.89 lakh) and pipe for carrying water from source to field (₹ 4.98 crore), resulted in providing excess assistance of ₹ 5.11 crore.

ceiling of ₹ 15,000. In 14 out of 17 test checked districts, audit scrutiny revealed that the criteria of ₹ 25 per metre was not followed, due to which 7,867 farmers who purchased pipes less than 600 metre were provided assistance at the maximum rate of ₹ 15,000, which resulted in grant of irregular excess assistance of ₹ 4.98 crore as detailed in the **Appendix 2.14**.

The Government stated (December 2016) that explanation has been called for from the concerned district offices.

Thus, the farm implements required for improving efficiency as well as economy in cultivation were not made available at affordable price, due to violation of provisions of clause 14.2.4 of guidelines. Implements for which there was no demand from farmers were also included in the plan resulting in zero/minimum progress in its distribution. Subsidy norms were not adhered to in respect of distribution of sprinkler sets and pipeline.

2.1.12 Crop Based Training Programme

For speedy dissemination of improved crop production practices, training to farmers was to be provided (Para 14.2.5). Four sessions of each training, one each at the beginning, and one each during, the *Rabi* and *Kharif* season was contemplated. The training was to be imparted by crop/subject matter specialists of ICAR institutes/SAUs/KVKs. Each session will have a group of 30 farmers and the participants in all four sessions were to be same. Year-wise physical and financial targets and achievement under this intervention in the state and selected districts during 2012-16 are indicated in **Appendix 2.15**. An abstract thereof is given in the **table 2.1.15**.

Table 2.1.15: Targets and achievements of Crop based trainings

(Physical in number and financial ₹ in crore)

Crop	NFSM districts in State				Test checked Districts			
	Target		Achievement		Target		Achievement	
	Physical	Financial	Physical	Financial	Physical	Financial	Physical	Financial
Pulse	4,734	6.63	3,836	5.10	1,731	2.42	1,524	1.98
Wheat	1,865	2.61	1,689	2.13	729	1.02	719	0.83
Rice	385	0.54	371	0.50	187	0.26	183	0.25
Total	6,984	9.78	5,896	7.73	2,647	3.70	2,426	3.06

(Source: Progress report of the State and District offices)

The reason for shortfall in conduct of trainings as stated by the respective Deputy Directors of test-checked districts was unavailability of trained staff in sufficient numbers. District Shajapur intimated refusal of block level officer (SADO) to conduct training as the reason for shortfall.

The Government stated (December 2016) that instructions had been issued to all district offices for achieving the targets.

2.1.12.1 Scientists not involved for providing training

Audit scrutiny revealed that departmental/retired officers were associated for training instead of crop/subject matter specialists of ICAR institutes/SAUs/KVKs etc. Specific course curriculum to suit the local conditions was not developed by the District Consultant as required in the guidelines. As a result, expertise of the ICAR institute/SAUs/KVKs was not put to use for dissemination of knowledge to the farmers even though an

Scientists from ICAR/SAUs/KVKs were not involved for providing training rendering unfruitful expenditure of ₹ 3.05 crore in training.

amount of ₹ 3.05 crore was spent during the years 2012-16 on training of farmers in the test checked districts.

The Government stated (December 2016) that trainings were provided by departmental/retired officers due to unavailability of scientists at district level.

The reply is not acceptable, as conduct of training programme without specific course curriculum to suit local conditions and without involving scientists affected the standard of training imparted to the farmers.

2.1.13 Local Initiatives

Interventions taken up under Local Initiatives were not part of SREP of the Districts resulting in inclusion of items without demands from farmers.

As per para 14.8 of NFSM guidelines, financial assistance of 50 per cent of the cost of each intervention provided to States to undertake location specific interventions (not covered under the normal activities of the Mission), which would help in boosting the production of rice, wheat, pulses and coarse cereals. These interventions were to be selected in consultation with *Zilla Parishad* and need to be part of the Strategic Research and Extension Plan (SREP) of the district.

The year wise physical and financial targets and achievement under this intervention in the State and selected districts during 2012-16 are indicated in **Appendix 2.16 to 2.18**. An abstract thereof is given in the **table 2.1.16**.

Table 2.1.16: Targets and Achievements in Activities under Local initiatives

(Physical in number and financial ₹ in crore)

Name of Activity	NFSM districts in State					Test checked Districts				
	Target		Achievement			Target		Achievement		
	Phy	Fin	Phy	Per cent	Fin	Phy	Fin	Phy	Percent	Fin
Paddy (Appendix 2.16)										
Pipe for carrying water from source to field	2,400	3.60	2,432	101.33	3.39	1,256	1.88	1,309	104.22	1.88
Winover	6,680	1.67	1,826	27.34	0.36	4,023	1.01	1,192	29.63	0.27
Demonstration by NGOs	250	0.19	0	0.00	0	56	0.04	0	0.00	0
Wheat (Appendix 2.17)										
Pipe for carrying water from source to field	735	1.10	745	101.36	1.10	307	0.46	447	145.60	0.53
Activity not specified		1.20	0	0.00	0.00	0	0	0	0.00	0
Multi Crop Thresher	842	3.37	31	3.68	0.004	153	0.61	11	7.19	0.00
Demonstration by NGOs	1,280	0.96	170	13.28	0.03	150	0.11	0	0.00	0.00
Pulse (Appendix 2.18)										
Pipe for carrying water from source to field	1,290	1.94	1,290	100.00	1.94	2,890	4.34	2,943	101.83	4.59
Seed Treatment Drum	39,194	3.92	1,916	4.89	0.13	14,538	1.46	119	0.82	0.01
Spiral Grader	39,000	7.80	3,821	9.80	0.13	14,878	2.94	560	3.76	0.05
Demonstration by KVK	3,000	2.25	1,122	37.40	0.60	902	0.68	432	47.89	0.24

(Source: Progress report of the State and District offices)

Audit scrutiny revealed that activities were taken under this intervention as per targets received from the Directorate. As the targets provided to the districts for activities under Local Initiatives were not a part of the District SREP, the physical targets for these activities (except pipe for carrying water from source to field) remained unachieved ranging from lowest zero per cent under the 'demonstration by NGOs' (Appendix 2.16 and 2.17), followed by 0.82 per

cent under ‘seed treatment drum’ and 3.76 per cent under ‘spiral grader’ (**Appendix 2.18**) during 2015-16.

Further scrutiny revealed that “pipe for carrying water from source to field”, which was available under the normal NFSM activity of “Efficient water application tools”, was also carried out under local initiatives. This was contrary to NFSM guidelines for taking up only those activities under local initiative, which were not undertaken under normal activities

The Government accepted (December 2016) the audit observation and assured to prepare annual action plan in future on the basis of provisions given in the guidelines.

2.1.14 Award for the best performing districts

As per 14.7 of NFSM guidelines (2012), cash award of ₹ five lakh in every two years to be given to the best performing districts for each of the four NFSM components – Rice, Wheat, Pulses and Coarse Cereals. The SFSMEC on the basis of criteria for assessing the performance was required to select the districts for giving the award. However, Department did not submit proposals for award for the best performing district to GoI so far.

The Government stated (December 2016) that action was in progress. Thus, the State failed to provide encouragement to districts for better performance under NFSM during the years during the years 2012-16.

2.1.15 Fund Management

Mechanism of fund flow as prescribed in paragraph 7 of NFSM guidelines (12th Five Year Plan) stipulated that funds for implementing the Mission’s programme would be released to State Governments, which in-turn would release the funds to the State Level Agency. The State Level Agency would make fund available to the District Level Agency in accordance with the approved programme of the districts. Funds were to be released in instalments based on the progress report and submission of utilisation certificates (UCs).

Audit scrutiny revealed that GoI released grants-in-aid during the years 2012-13 and 2013-14 under the NFSM directly to State Institute of Agriculture Extension and Training (SIAET), the State Nodal Agency for implementation of NFSM in Madhya Pradesh. Upon receiving the demand from the Directorate, SIAET disbursed NFSM fund to Deputy Directors, Agriculture at district level through electronic transfer in their respective bank accounts. However, from 2014-15 onwards, grants-in-aid under NFSM were released directly to State Government, which were disbursed by the Directorate to the district offices through State Budget/State Treasury System.

The status of year-wise availability and utilisation of funds under NFSM during the years 2012-13 to 2015-16 is depicted in the **table 2.1.17**.

Table 2.1.17: Year-wise availability and utilisation of fund under NFSM

(₹ in crore)

Year	Grant received from GOI	Previous unspent balance	Interest received	Total fund available during the year	Expenditure during the year	Unspent balance	Utilisation (per cent)
2012-13	247.14	6.68	2.04	255.86	241.85	14.01	95
2013-14	366.07	14.01	2.33	382.41	334.78	47.63	88
2014-15*	214.70	47.63	0	262.33	179.18	83.15	68
2015-16*	223.50	72.75	0.46	296.71	189.37	107.34	64

(Source: Data as provided by the Directorate)*Unaudited figures

NFSM funds could not be utilised fully by the State during 2012-16.

Utilisation of the NFSM funds by the State revealed a decreasing trend, ranging from highest 95 *per cent* in 2012-13 to 64 *per cent* by the year 2015-16. Audit scrutiny revealed that consequent upon the introduction of budgetary system for providing funds from 2014-15, the test checked districts could not utilise 26.88 *per cent* of the total budget allocation of ₹ 106.35 crore during the years 2014-16, which lapsed or were surrendered as detailed in the **Appendix 2.19**.

Further, the opening balance for the year 2015-16 (₹ 72.75 crore) did not correspond to the unspent balance of the year 2014-15 (₹ 83.15 crore). The difference was due to submission of incorrect provisional utilisation certificate for the year 2015-16, which the Government had assured to rectify before sending final utilisation certificate.

With reference to unspent balances, the Government stated (December 2016) that funds could not be utilised during the years 2012-13 and 2015-16 due to release of funds in end of March by GoI. It further stated that funds could not be utilised during the years 2013-14 and 2014-15 due to initiation of quarterly budget system, low rainfall, drought and server related problems in the treasuries.

The reply is not acceptable as entire grants-in-aid for the year 2015-16 was received from GoI by September 2015 and only ₹ 3 crore out of grants-in-aid of ₹ 247.14 crore for 2012-13 was received in March 2013. The constraints like initiation of quarterly budget system and server related problems during the years 2013-14 and 2014-15 could have been overcome through better financial planning and technical support. Further, the fact remains that the shortfall in achievements of targets under various interventions during the years 2012-16, as brought out in preceding paragraphs, led to accumulation of unutilised balance of ₹ 107.34 crore as of March 2016.

2.1.15.1 Maintenance of accounts

As per paragraph 4.2.3 of NFSM operational guidelines, separate accounts for the Scheme was to be maintained by State and District Level Agencies as per the Account Code prescribed by the National Food Security Mission Executive Committee (NFSMEC). The annual accounts were to be audited by a Chartered Accountant every year.

Audit scrutiny revealed that account code prescribed by NFSMEC was not available in the test-checked district offices. Further, audit of Annual Accounts of the NFSM for the years 2014-15 and 2015-16 has not been taken up so far (December 2016). In the absence of certification of accounts, reasonable assurance about regularity of receipts and proper utilisation of funds could not be ascertained. Further, State Government could not submit the final Utilisation Certificates to GoI for the years 2014-15 and 2015-16 due to delay in finalisation of audited annual accounts of NFSM.

The Government intimated (December 2016) that separate account code had not been received from GoI. However, Government did not intimate the reasons for delay in finalisation of annual account of NFSM for the years 2014-15 and 2015-16.

2.1.15.2 Operation of NFSM Bank account

In order to ensure proper utilisation and monitoring of funds provided to the districts under NFSM, Directorate Farmers Welfare and Agriculture Development (FWAD), Government of Madhya Pradesh had issued instructions (September 2011) to all district offices to open a separate bank account for NFSM. The system of transferring fund to the bank accounts of district offices was discontinued from 2014-15 and funds were provided through the treasury system on quarterly basis. With the change in the mechanism for scheme financing, NFSM bank accounts were not to be operated for the scheme and therefore, no longer required to be continued. Audit scrutiny of records, however, revealed that the Directorate did not issue any order for closure of the NFSM bank account.

Further scrutiny revealed that out of 17 test checked Deputy Directors Agriculture (DDAs), 12 DDAs²⁶ did not close the NFSM Bank account and had a balance of ₹ 8.68 crore (**Appendix 2.20**). These accounts were also being used by DDAs to park unutilised funds of other schemes²⁷, which was irregular. Thus, the unutilised amount in NFSM bank accounts were continued to be held by district offices, in the absence of any order for its refund to the Directorate.

The continuance of NFSM bank account without any purpose had also exposed these bank accounts to the risk of misuse. Audit scrutiny of records revealed that Deputy Director Agriculture, Vidisha had withdrawn an amount of ₹ 1.66 lakh and used it for activities (office expenses etc.) other than NFSM activities. These withdrawals included cash withdrawals of ₹ 0.79 lakh (of which ₹ 0.50 lakh was paid in cash to a travel agency) and vouchers for utilisation of balance amount of ₹ 0.29 lakh was not found on record. DDA intimated (February 2016) that funds were withdrawn from NFSM bank accounts to meet urgent office expenses for which they did not have budget provision.

Audit scrutiny revealed that none of the district offices were conducting reconciliation of bank accounts with the transactions from cash book on

Directorate did not issue instructions for closure of NFSM Bank accounts of district offices, though these accounts were not to be operated for the scheme since 2014-15. Unutilised balance of ₹ 8.68 crore was available in the accounts of 12 test-checked district offices.

²⁶ Bhind, Chhattarpur, Dhar, Dindori, Guna, Hoshangabad, Mandla, Panna, Seoni, Shajapur, Sidhi and Vidisha.

²⁷ Rashtriya Krishi Vikas Yojna, Beej gram, Krishi Vigyan Kendra, sukharahat, soil health.

monthly basis, which was contrary to the instructions²⁸ (July 2014) of the Finance Department, Government of Madhya Pradesh issued to all departmental officers maintaining bank accounts under various government schemes. Further, there was a difference of ₹ 6.38 crore between the figures of available balances as per cash book and that shown in the pass book in 12 out of 17 test checked districts, as detailed in **Appendix 2.20**. However, the reasons for the difference could not be ascertained in the absence of bank reconciliation statements.

The Government stated (December 2016) that the remaining bank accounts would be closed immediately after utilising the off-budget funds. The Government further stated that instructions had been issued to the district offices for conducting bank reconciliations.

The reply is not acceptable, as an unutilised off-budget fund was required to be channelised through State Budget/State Treasury System due to change in the mechanism for scheme financing since the year 2014-15.

2.1.15.3 Diversion of funds due to release of NFSM funds to districts not identified for NFSM-Wheat

During the years 2012-14, eight unidentified NFSM-Wheat districts were provided funds under the mission; while one identified NFSM-Rice district and five identified NFSM-Coarse cereal district were not provided funds.

Audit scrutiny revealed that eight districts, where NFSM-Wheat was not to be implemented, were provided funds of ₹ 26.63 crore of scheme fund, against which an amount of ₹ 27.21 crore had been spent by these districts. In addition, one identified NFSM-Rice district and five identified NFSM-Coarse cereal districts were not provided funds during the years 2012-14. The details were as shown in **Appendix 2.21**.

The Government stated (December 2016) that though 12th Five Year Plan commenced from the year 2012-13, the guidelines was received from GoI in April 2014, due to which targets were given to districts identified for implementation of NFSM in 11th Five Year Plan.

The fact remains that the release of NFSM funds to districts where NFSM was not to be implemented resulted in diversion of funds for which approval from GoI was to be obtained. In addition, farmers of six other identified districts were prevented from getting benefits under the scheme due to failure to provide funds to these identified districts.

2.1.16 Monitoring of the Scheme

2.1.16.1 Organisational Mismatches in implementing agencies at State and District levels

As per NFSM guidelines for 11th Five Year Plan (2007-12), the State Government were required to nominate or create a suitable autonomous agency registered under the Societies registration Act for implementing NFSM at State and district levels. Such an agency could be the State Agricultural Management & Extension Training Institute (SAMETI) at the State level and the ATMA at the district level.

ATMA is a registered society of key stakeholders at district level, involved in project planning and implementation of various farm activities for sustainable agricultural development. It consisted of the district level representatives of all

²⁸ Letter no. 2014/3499 dated 16.7.2014

Autonomous agency set-up for implementation of NFSM at State level was reduced to mere custodian of funds. The organisational structure of ATMA at district level was not utilised for implementation of scheme.

line Departments concerning agriculture & allied sectors, research institutions, farmers' organisations and NGOs. The operational guidelines of implementation of the scheme during 12th Five Year Plan (2012-17) envisaged for continuance of these nominated agencies during 12th Plan period.

Audit scrutiny revealed that State Government constituted an autonomous body, 'State Institute of Agriculture Extension and Training' (SIAET) in December 2007. The fund for implementation of NFSM during 2012-14 was directly released by the GoI to SIAET, considering it as implementing agency for the scheme. However, SIAET was not functioning as implementing agency, except for a brief period March 2014 to January 2015.

State Government declared (October 2011) SIAET as custodian of the funds of Mission and the scheme implementation was entrusted to Directorate of Farmers Welfare and Agriculture Development (FWAD). Similarly, the scheme was being implemented at district level by Deputy Director of FWAD instead of ATMA.

The reasons for these organisational mismatches could not be ascertained from the records. The Government stated (December 2016) that though an Autonomous agency was created, shortage of staff and unavailability of extension officers in the agency caused implementation of the mission by the department itself.

The reply is not acceptable, as the failure to utilise the institutional arrangements of SIAET and ATMA was a deviation from the operational guidelines for NFSM. State Government was responsible for adequate strengthening of these agencies. Further, the activities under NFSM could not be dovetailed with Strategic Research and Extension Plan²⁹ of Districts and failed to have convergence from other schemes, which could have been facilitated through ATMA structure.

2.1.16.2 Project Management Teams at State and District Level

Paragraph 4.4.2 of operational guidelines stipulated constitution of a Project Management Team (PMT) at the State and District Level with Consultants and Technical Assistants, appointed on contractual basis, as the members of the PMT. The State/District level PMT had the responsibility of ensuring collaboration among various line departments concerning agriculture & allied sectors to achieve the targets, providing guidance in organizational and technical matters, helping in implementation and monitoring of the various interventions of the mission. In addition, the PMT had also to assist in capacity building programmes; monitor the implementation of each demonstration, record the data on crop yield through crop cutting experiments, compiling the results of each demonstration at block, district and State level in the form of a booklet, assist the district/State agencies in concurrent evaluation, document and disseminate the success stories, and undertake publicity/information campaign to create awareness about the Mission activities.

²⁹ Under the ATMA model, Strategic Research and Extension Plan is the basic document from which the Block Action Plan, District Action Plan and State Extension Work Plan are to be derived on an annual basis.

State Government had constituted the PMTs at the State and District level in November 2007. Audit scrutiny of records revealed that the consultants and technical assistants appointed on contractual basis for PMTs were being utilised for routine office works. Out of test checked 17 DDAs, only five³⁰ DDAs actually constituted district PMTs that too without including District Consultants and Technical Assistants as members of PMT. Further, Khargone district did not constitute PMT and the status of constitution of PMTs in remaining 11 districts could not be ascertained in audit in the absence of related records.

Thus, district PMTs were not functional in most of the cases. As a result, the Directorate was dependent upon the crop production data of Revenue Department. However, there was time lag in availability of data from Revenue Department. The production related data of NFSM districts for the year 2015-16 was not available with the Department as of December 2016. Since these data were vital for the planning, implementation and monitoring of the interventions under NFSM, its delayed availability with the Directorate affected the implementation of scheme. Moreover, as the scheme was not implemented at district level through ATMA and also PMT were not functional, the requisite collaboration with various line departments could not be ensured. Further, results of each demonstration were not compiled at State level in the form of a booklet as required in the guidelines.

The Government intimated (December 2016) that contractual nature of appointment of PMT staff forced these employees to leave the job, due to which there were vacancies. Process for filling up vacant posts in PMT was being initiated. All the district offices were being instructed for setting up the PMT again. The Government also stated that crop cutting experiments were done by the Revenue Department.

The reply is not acceptable, as NFSM provided for recording of crop cutting data through PMT. Further, State Government was responsible for ensuring availability of sufficient manpower for State/District levels PMTs.

2.1.16.3 Functioning of State Food Security Mission Executive Committee (SFSMEC)

Paragraph 4.2.1 of Operational guidelines of NFSM stipulated constitution of the SFSMEC under the chairmanship of Chief Secretary along with the Secretaries from various Government Departments³¹ as its members. State Government constituted (October 2007) the SFSMEC and made it responsible to monitor the activities of the Mission, suggest state-specific changes required if any, in the operational guidelines prescribed by the Central Government and send the State Annual Action Plan after due approval to GoI.

The existence of SFSMEC during the years 2012-13 to 2015-16 could not be ascertained in audit, as the Directorate could not produce minutes of meetings of this Committee. Audit noticed that State Action Plan was sent to GoI without approval of SFSMEC.

Working of SFSMEC during 2012-16 could not be ensured in absence of minutes of meetings. SAP was sent to GoI without approval of SFSMEC.

³⁰ Chhattarpur, Dhar, Indore, Panna and Shajapur

³¹ Departments of Agriculture, Irrigation, Power, Panchayati Raj, Tribal Affairs and Social Welfare.

The Government stated (December 2016) that SFSMEC had been set up. However, review of NFSM was done in Departmental review meetings headed by Chief Minister and also in other review meetings organised under the chairmanship of Principal Secretary and Agricultural Production Commissioner. The Government also assured that SFSMEC meetings would be held soon.

The fact remains that the activity of Mission was not reviewed by SFSMEC during the years 2012-13 to 2015-16.

2.1.16.4 District Food Security Mission Executive Committee

Paragraph 4.3.2 of operational guidelines envisaged for constitution of District Food Security Mission Executive Committee³² (DFSMEC) for project formulation, implementation and monitoring of the scheme components through the Agriculture Department.

All the test-checked districts intimated constitution of the DFSMEC. However, only four districts³³ produced minutes of meetings in support of the working of DFSMEC. Therefore, the working of DFSMEC in 13 districts was not evident from records produced in audit.

The Government stated (December 2016) that district offices would be instructed for timely conduct of DFSMEC meetings. The Government also stated that instructions would be given to District offices to evaluate the activities of the scheme through DFSMEC.

2.1.17 Impact Evaluation Study on NFSM

After completion of 11th five year plan period, an impact evaluation Study was conducted by Department of Agriculture and Co-operation, Ministry of Agriculture GoI. Six districts³⁴ of the State were also covered for the study. Some of the recommendations of the report with reference to the State and status of their implementation were as under:

- Impact evaluation report mentioned that during the entire period of 11th Plan, only eight meetings of SFSMEC were held in the State, which worked out to an average of 1.6 meeting per year. It was recommended that the SFSMEC meeting be held at least once in every quarter to oversee the activities of the Mission in the State more closely. However, audit scrutiny revealed that SFSMEC meeting were not conducted during the 12th Plan, as discussed in Para 2.1.16.3.
- According to Impact evaluation report, District Consultants and Technical Assistants engaged under the mission at district level were mostly utilised for office work of routine nature and not for intended technical service and monitoring of NFSM intervention. The similar trend continued during the period of performance audit, as discussed in para 2.1.6.2.
- Impact evaluation report further mentioned that convening of meetings of DFSMEC was poor and in majority of cases DFSMEC meeting was combined with other review meetings of the Agriculture Department which

³² DFSMEC had representatives from the line departments

³³ Dhar, Khargone, Sidhi and Ujjain

³⁴ Shahdol, Rajgarh, Dewas, Satna, Dindori, and Tikamgarh

resulted in lack of focus and in-depth deliberation. The record of meetings was also not maintained properly.

The performance audit revealed continuance of the shortcoming, as minutes of DFSMEC meeting were available in only four out of 17 districts, as discussed in paragraph 2.1.16.4.

- As per Impact evaluation report, Separate seed Committee were not constituted in half of the studied districts and suggested all districts to put in place Seed Committees to ensure adequate availability of seed to avoid adverse impact on production of crops.

The performance audit revealed that seed committees were not formed in five test checked districts, as discussed in para 2.1.8.2. Thus, follow up measures for remedial action suggested in the Impact Evaluation Report, for effective implementation and monitoring of the mission were not taken.

2.1.18 Conclusion

Targets for production of food grains were not fixed for NFSM districts in the State. As a result their progress in achieving scheme objective of additional production could not be ascertained. Despite an expenditure of ₹ 945.18 crore under NFSM in the State during 2012-16, only two *per cent* of the total farmers in the State had benefitted.

NFSM districts could increase the sown area of rice by five *per cent* only as against the average growth rate of 26 *per cent* in sown area of rice at State level. NFSM-Wheat districts also did not achieve sustained growth, as the sown areas decreased in 2014-15 as compared to previous year. Production of pulses was substantially decreased by 22 *per cent* in 2013-14 and by 14 *per cent* in 2014-15 as compared to 2012-13. Thus, the impact of NFSM on pulses was not conspicuous. However, utilisation of funds received under NFSM by the Department decreased from 95 *per cent* in 2012-13 to 64 *per cent* in 2015-16.

The Government did not provide adequate seeds in time. As a result, the objective of the Scheme of distributing quality seeds at subsidised rates could not be achieved. However, a beneficiary survey of farmers conducted by the audit revealed that 250 out of 260 farmers reported the achievement of higher yield by using quality seeds provided by the Department.

District offices could not ensure quality testing of seeds distributed to farmers before its sowing, which put to risk, the production and income generation of farmers.

The Department did not fix the agencies and rates of farm implements as required under the NFSM operational guidelines. The assistance to farmers on purchase of farm implements resulted in irregular expenditure of ₹ 261.81 crore.

Norms for providing subsidy to farm implements such as pipes and sprinkler sets were not adhered to by the Department. As a result, the Department provided irregular subsidy of ₹ 5.11 crore to 8,337 farmers in 14 districts.

Perspective plan for implementation of scheme in the State was not prepared. Baseline survey and feasibility studies were also not conducted due to which the status of crop productivity and its potential remained unassessed. Inputs from the Block offices were not obtained for preparation of District Annual Action Plans.

The objective of demonstration to disseminate the knowledge of improved practices were largely not fulfilled due to deficiencies in conducting cropping system demonstrations, lack of involvement of scientist and deficiency in preparation of results of demonstration. In eight test checked districts, expenditure of ₹ 91.71 crore on 1.74 lakh demonstrations rendered unfruitful due to failure to maintain prescribed records for demonstration results.

Inadequate coordination at State and District level of the Department to ensure proper functioning of Project Management Teams affected the planning, implementation and monitoring of the scheme.

2.1.19 Recommendations

State should provide production targets to districts and monitor its progress to ensure achievement of objective of increase in sown areas, production and yield in all crop components. State should also strive to widen the coverage of farmers under the scheme to provide benefits of scheme to maximum farmers.

The Department should evolve a mechanism to ensure full utilisation of funds received during a financial year.

Government has accepted the recommendation.

Mechanism of seed distribution and their quality testing should be strengthened to ensure availability of certified seeds to all interested farmers.

State should ensure preparation of demonstration results in a manner that farmers get awareness of benefits of using demonstrated technology, besides involvement of scientists in demonstrations.

Government has accepted the recommendation.

State should ensure proper functioning of various institutions prescribed for implementation and monitoring of the NFSM at State and District level. Baseline survey and feasibility studies should be conducted to assess the resource endowments of farmers, level of crop production, its potential and demand.

Government has accepted the recommendation.

Water Resources Department

2.2 Implementation of Madhya Pradesh Water Sector Restructuring Project

Executive Summary

The Madhya Pradesh Water Sector Restructuring Project (MPWSRP) was taken up by Water Resources Department (WRD), Government of Madhya Pradesh (GoMP) with assistance from the World Bank. It aimed to modernise 654 irrigation schemes in five river basins (Chambal, Betwa, Ken, Sindh and Tons). The Project Implementation Plan (PIP) also envisaged for agricultural intensification and diversification through effective collaboration with line departments, such as Farmer Welfare and Agriculture Development and Horticulture and Food Processing.

Investment clearance to MPWSRP for ₹ 1,919 crore on 2011-12 price level was accorded by the Planning Commission. The administrative approval of the project was revised (April 2015) to ₹ 2,498 crore from ₹ 1,919 crore (August 2004). MPWSRP, after five time extensions, was closed (June 2015) with total expenditure of ₹ 2,497.52 crore.

A performance audit on implementation of MPWSRP during the period 2010-11 to 2015-16 revealed delayed implementation of the project, poor integration of line Departments, deficient contract management and lack of monitoring. The significant audit findings were as follows:

Changes in scope of assets modernisation

The project aimed to rehabilitate and modernise 654 existing irrigation schemes of these five river basins with a total Culturable Command Area of 6.18 lakh hectares. As a result of slow performance of the project, the scope of MPWSRP was restructured in June 2012 and 362 irrigation schemes were dropped. Out of the balance 292 schemes, WRD could rehabilitate 228 schemes only by the end of the project.

(Paragraph 2.2.7.1)

In the year 2012, the Department reduced the allocation of funds in all basins ranging from 51.43 *per cent* to 78.68 *per cent* except the Sindh basin, where allocation was increased by 488.93 *per cent* due to significantly large allocation on Chambal Canal System.

(Paragraph 2.2.8.2)

During 2012-14 the Department incurred 24 *per cent* of overall expenditure of MPWSRP on execution of Chambal Canal System. The overemphasis resulted in basin wise imbalances in irrigation schemes and this, coupled with the delay in implementation of modernisation plan resulted in exclusion of 362 minor irrigation scheme from project. CC lining, which was easy for execution constituted 94 *per cent* of the expenditure and Chambal Canal System during 2012-14. It also affected the farm level economy of envisaged beneficiaries of excluded schemes.

(Paragraph 2.2.7.1)

Agriculture intensification and diversification

Against the estimated provision of ₹ 144.61 crore in the Project Implementation Plan (PIP) for the line departments, actual expenditure was ₹ 115.04 crore which was 4.61 *per cent* of the total expenditure under the MPWSRP. Poor integration with line departments, absence of sustainable water supply to farmers and lack of training to Water User Associations (WUAs) impacted crop diversification.

During beneficiary survey, 133 out of 334 (40 *per cent*) farmers reported of not participating in any training programme of FW&AD. Thus, there was lack of effort at institutional level to generate awareness among farmers about the benefits of crop diversification.

Agriculture intensification and diversification did not correspond to the increase in the achievement of irrigated area under MPWSRP. The impact of sown area of gram, *arhar* and mustard was taken as an indicator for agriculture intensification in PIP. Audit scrutiny revealed reduction in sown areas of gram and *arhar* during 2014-15 by 20 *per cent* and 35 *per cent* respectively as compared to 2011-12. Further, the sown area of mustard was reduced in 2014-15 by 19 *per cent* as compared to 2012-13. Plantation area of fruits, vegetables and spices remained low ranging from 2.90 *per cent* to 7.31 *per cent*, as against the target of 21 *per cent* of the irrigated area envisaged in PIP and was even below state average of nine *per cent*.

(Paragraph 2.2.7.4)

Contract management and execution

The Department incurred ₹ 263.85 crore on CC lining beyond the scope of Scheme Modernisation Plans (SMP) without any assessment of necessity justifying deviation from SMP.

(Paragraph 2.2.8.3)

Provisions of specifications appended with NCB were ignored by Chief Engineer at the time of according technical sanction, which led to irregular expenditure of ₹ 65.18 crore in works for trimming of earthwork and CC lining of canals, besides, inadequate quality control of works.

(Paragraphs 2.2.9.2, 2.2.9.4, 2.2.9.6 and 2.2.10.3)

Adherence with agreement clauses was not ensured by Executive Engineers resulting into undue financial benefits to contractor amounting to ₹ 68.74 crore on inadequate additional security deposit, liquidated damages, royalty charges and insurance coverage of works.

(Paragraphs 2.2.9.9, 2.2.9.10, 2.2.9.11 and 2.2.9.12)

Provisions of schedule of rates were not followed, as instances of extra cost of ₹ 24.02 crore due to incorrect lead of metal, incorrect rate for embankment and inclusion of inadmissible items of blasting and excess payment on account of shrinkage allowance were noticed.

(Paragraphs 2.2.9.3, 2.2.9.5, 2.2.9.7 and 2.2.9.14)

Quality control and monitoring

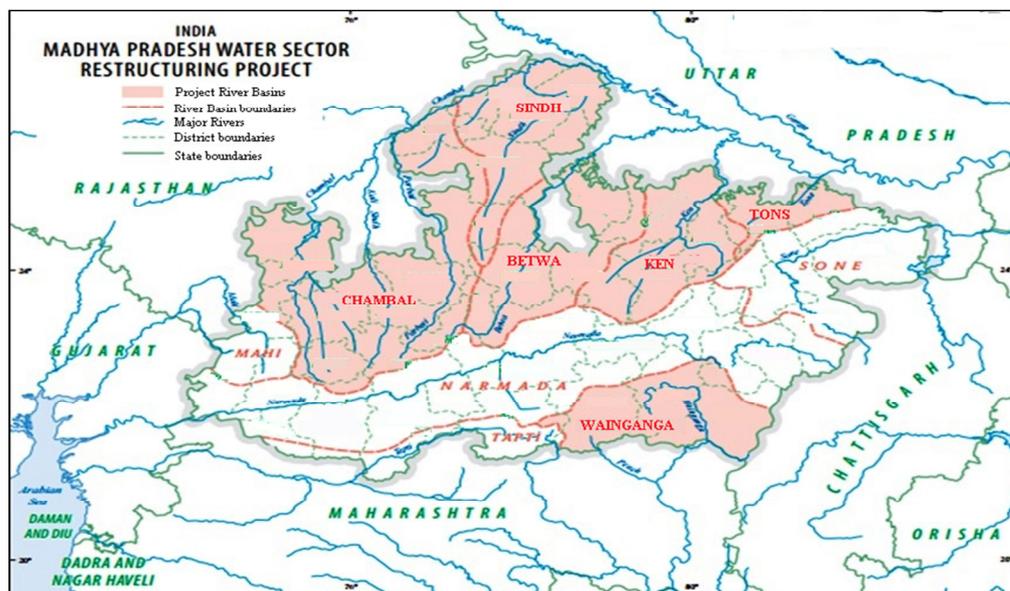
Quality control and monitoring of the project was inadequate as core tests of works were not ensured resulting in undue financial aid of ₹ 20.47 crore to contractors, below specifications works of cement concrete lining were executed and undue benefits to the contractors were extended.

(Paragarph 2.2.10.3)

2.2.1 Introduction

The Water Resources Department (WRD), GoMP is responsible for providing irrigation by creation of irrigation assets in 10 river basins³⁵ in the State. The Madhya Pradesh Water Sector Restructuring Project (MPWSRP) was taken up to improve water resource management and service delivery in five river basins (Chambal, Betwa, Ken, Sindh and Tons). These river basins were selected due to their contiguity, presence of ageing irrigation schemes and high incidence of poverty.

The project aimed to rehabilitate and modernise 654 existing irrigation schemes of these five river basins with a total Culturable Command Area (CCA) of 6.18 lakh hectares, with the provision of appropriate extension for agriculture, horticulture, livestock management and fisheries. Later, WRD added (March 2008) one more i.e. Wainganga basin for the project for CCA of 43,136 ha.



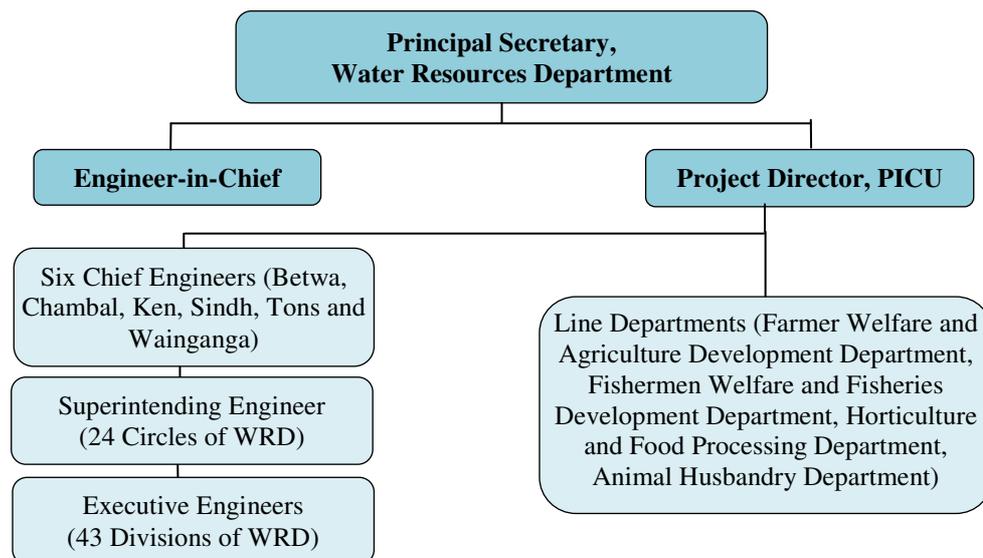
GoMP accorded (August 2004) administrative approval of MPWSRP for ₹ 1,919 crore. The project was taken up with the assistance from the World Bank and a loan agreement was executed between Government of India (GoI) and International Bank of Reconstruction and Development³⁶ (IBRD) on 30 November 2004. MPWSRP was initially scheduled to be completed by 31 March 2011, which after five time extensions completed in June 2015.

³⁵ Betwa, Chambal, Ken, Mahi, Narmada, Sindh, Son, Tapti, Tons and Wainganga

³⁶ IBRD is a World Bank institution offers loans to middle income developing countries.

2.2.2 Organisational set-up

The Principal Secretary, WRD is the administrative head of the Department at Government level. Project Implementation and Coordination Unit (PICU) was responsible for the overall implementation of the project. Chief Engineers (CEs), Superintending Engineers (SEs) and the Executive Engineers (EEs) of the concerned divisions of WRD assisted the Project Director (PD), PICU in implementation of the project. An Empowered Committee (EC) headed by the Chief Secretary was formed in March 2005 at the apex level, to review the progress of the MPWSRP. Structure of organisation set-up is given below in the organogram:



2.2.3 Audit objectives

Audit objectives for the Performance audit were to examine whether:

- All the components of MPWSRP were completed as envisaged and the project achieved intended objectives,
- Funds were available on time and utilised efficiently and economically,
- Execution of work of rehabilitation and modernisation of irrigation works were carried out efficiently and economically as planned and as per specifications and the terms and conditions of the contract and
- Quality control and monitoring mechanism were in place and quality parameters were adhered to.

2.2.4 Audit criteria

The audit findings are based on the criteria derived from the following:

- Guidelines issued by the World Bank,
- Indian Standard (IS) codes of practice issued by Bureau of Indian Standards,
- Provisions of Madhya Pradesh Works Department (MPWD) manual, Specifications for irrigation works and Unified schedule of Rates (USR) for Works,

- Technical circulars and other orders issued by Departments,
- Detailed project reports and plan documents, and
- Terms and conditions of agreements for execution of works.

2.2.5 Scope and methodologies of Audit

The Department incurred ₹ 1,797.80 crore between the period of 2010-11 and 2015-16 under MPSWRP. The works under MPWSRP was being executed through 43 divisions of WRD in six river basins under six controlling offices (Chief Engineers).

The implementation of MPWSRP during 2010-11 to 2015-16 was covered in audit. Thirteen divisions³⁷ were selected using stratified random sampling for the performance audit so as to have at least one division from each basin. The records of PD, PICU and 13 selected divisions were test-checked in the performance audit during January 2016 to June 2016. In selected 13 divisions, 105 agreements of completed works valuing to ₹ 1,424.35 crore were analysed, out of which 94 agreements were entered into during period of 2010-16 at a cost of ₹ 968.13 crore.

Entry conference was held on 02 February 2016 with Additional Chief Secretary, WRD to appraise the audit objectives, audit criteria, scope and methodologies of audit. The draft report was issued to the Government in August 2016. The audit findings were also discussed during the exit conference held on 03 October 2016 with the Principal Secretary. The responses of the Government on audit observations have been suitably incorporated in the Performance Audit.

Information relating to the project was also collected from the CEs of six river basins and line departments of Farmer Welfare and Agriculture Development, Horticulture and Food Processing, Fishermen Welfare and Fisheries Development (FW&FD) and Animal Husbandry and Jawahar Lal Nehru Krishi Vishwavidyalaya (JNKVV). Besides, beneficiary survey and interviews with stakeholders of line departments were also conducted (June 2016, December 2016 and January 2017) and their responses have suitably been incorporated in the Performance Audit.

Audit acknowledges the cooperation extended by the Department for conducting the Performance Audit.

2.2.6 Lessons learnt and sensitivity to error signals

The performance audit on MPWSRP for the period from 2005-06 to 2009-10 was earlier reported as Para 1.3 of C&AG Audit Report (Civil) for the year ended 31 March 2010. Major shortcomings and Government's reply to the Public Account Committee (PAC) was as detailed in **table 2.2.1**.

³⁷ WRD Divisions - Balaghat, Bhind, Dewas, Gohad, Jaura, Rajgarh, Raisen, Sagar, Satna, Sabalgarh, Shajapur, Sheopurkala and Morena

Table 2.2.1: Major Shortcomings pointed out in the previous Audit Report and Government's reply to the PAC

Details of paragraph	Reply of the Department
Avoidable liability towards commitment charges	World Bank took more time in giving the <i>No objection certificate</i> for SMP, consultancy appointment and goods procurement. Relaxation from the payment of commitment charges had been sought.
Shortfall in achieving targets	There was a delay in sanctioning SMPs from the World Bank ranging from 6 months to 12 months. Therefore, tender process could not be completed as per procurement plan. Later on, World Bank relaxed the process of approval. Many works were rescinded due to not achieving the progress of works.
Failure to create irrigation potential	Efforts were being made for the creation of irrigation potential through works of Chambal, Harsi and Medium projects on priority basis.
Undue financial benefit to the contractor	Instructions had been issued to retain the amount of unbalanced items till completion of the work.
Failure to recover liquidated damages	The recovery for liquidated damages for not achieving the milestone was being made as per agreement.
Loss due to recovery not made from the defaulting contractor	Action had been initiated for balance recovery from other works of the same contractor.

Performance Audit of MPWSRP for the period 2011-12 to 2015-16 revealed that most of the deficiencies as pointed out in earlier CAG's report persisted, as discussed in succeeding paragraphs.

Audit findings

2.2.7 Planning and implementation

2.2.7.1 Changes in the scope of assets modernisation under MPWSRP

The MPWSRP was aimed to modernise 654 irrigation schemes of five river basins (Chambal, Sindh, Betwa, Ken and Tons) of the State. These irrigation schemes were identified for rehabilitation due to dilapidated canals rendering substantial gap between irrigation potential created and potential utilised. Audit scrutiny revealed that MPWSRP lost its focus during project implementation due to frequent changes in its planned scope, which affected the modernisation plan of these irrigation assets and their beneficiary farmers, as discussed in the succeeding paragraphs.

- **Large drop out of irrigation schemes from project scope**

The initial scope of MPWSRP included rehabilitation of 654 irrigation schemes covering CCA of 6.18 lakh hectare. It comprised of 5 Major, 33 Medium and 616 Minor irrigation schemes consisting of both gravity irrigation delivery systems and Lift Irrigation Schemes (LISs). The project was planned to be completed by March 2011.

As pointed out in the Audit Report (Civil) of Comptroller and Auditor General for the year ended March 2010, WRD could take up only 100 schemes (15 per cent) and only nine schemes were completed in five years against the project period of six years. The delays in engagement of consultants followed by consequential delays in deliverables resulted in the delay of project.

As a result of slow performance of the project, the scope of MPWSRP was restructured in June 2012 and 362 irrigation schemes were dropped from the

As a result of slow implementation of PIP, 362 irrigation schemes were dropped from the scope of modernisation under MPWSRP.

scope of MPWSRP. However, WRD could actually rehabilitate 228 irrigation schemes as against the restructured planning of 292 schemes by the end of the project. The scheme-wise details of planned and executed schemes are shown in **table 2.2.2**.

Table 2.2.2: Status of revision of schemes

Type of scheme	Major	Medium	Minor	Total
Identified schemes in original PIP in 2004	5	33	616	654
Command area in ha (as per PIP)	2,97,150	90,063	2,31,548	6,18,761
Schemes as per revised plan in 2012	4	23	265	292
Command area in ha (as per revision in 2012)	3,29,949	82,337	76,093	4,88,379
Schemes actually executed	5	21	202	228
Command area in ha (as per execution)	5,22,736	70,413	57,785	6,50,934

(Source: Information furnished by the PICU)

On being pointed out, PICU replied (July 2016) that 217 irrigation schemes, comprising of one major, one medium and 215 minor schemes, were dropped from the scope of MPWSRP to avail Central assistance under Repair, Renovation and Restoration (RRR) scheme and 'Bundelkhand draught mitigation package'. It also informed that 148 scheme were excluded as these were found unfeasible for rehabilitation due to loss of catchment and command areas owing to urbanisation and hydrological problems.

The reply was not acceptable, as the exclusion of 362 schemes from the scope of MPWSRP was not a result of well thought out plan, but it was due to delay in rehabilitation of identified irrigation assets. 'Bundelkhand draught mitigation package³⁸' was approved by Government of India in December 2009 by which time 248 out of 250 irrigation schemes of Betwa river basin and 117 out of 118 irrigation schemes of Ken river basin was planned for taking up in phases under MPWSRP. As such, shifting of 79 irrigation schemes of MPWSRP to Bundelkhand draught mitigation package' was indicative of the failure of WRD to modernise these irrigation assets as per stipulated scheduled under MPWSRP. Besides, these delays worsen the draught situation in Bundelkhand region. Further, the Department could not explain the reason for dropping 64 schemes from the restructured scope of MPWSRP.

Thus, the scope of assets modernisation under MPWSRP was subject to major change at the implementation stage. Further, the delayed implementation of project rendered 148 schemes (22 per cent of total identified scheme) unfeasible.

- **Overemphasis on rehabilitation of Chambal Canal System due to easy execution**

Under the project implementation plan of MPWSRP, the emphasis on major, medium and minor irrigation schemes in terms of CCAs were 48 per cent, 15 per cent and 37 per cent. However, as depicted in **table 2.2.2**, the CCA of rehabilitated major schemes was 5.22 lakh hectares, which was more than 80

³⁸ Bundelkhand package was applicable for Betwa and Ken river basins only.

per cent of total CCA of 6.50 lakh hectare achieved under MPSWRP. Thus, WRD overemphasised the execution of major schemes as compared to minor and medium irrigation schemes. However, the Department could not provide the information as to whether it had actually taken all the left over minor and medium schemes in any other rehabilitation programme for irrigation assets.

The department entered into agreements of CC lining valuing to ₹ 606.24 crore after year 2012 emphasising modernisation of Chambal Canal System to achieve timelines of MPWSRP.

Further scrutiny revealed that WRD gave over major thrust on Chambal Canal System, which was a major irrigation scheme under Sindh river basin. The rehabilitated CCA of Chambal Canal System was 3.62 lakh hectare, which was 56 *per cent* of total CCA rehabilitated under MPWSRP. This was substantially higher than the planned rehabilitation of 1.86 lakh hectare CCA of the Chambal Canal System in original PIP and 2.12 lakh hectare in the restructured scope of MPWSRP.

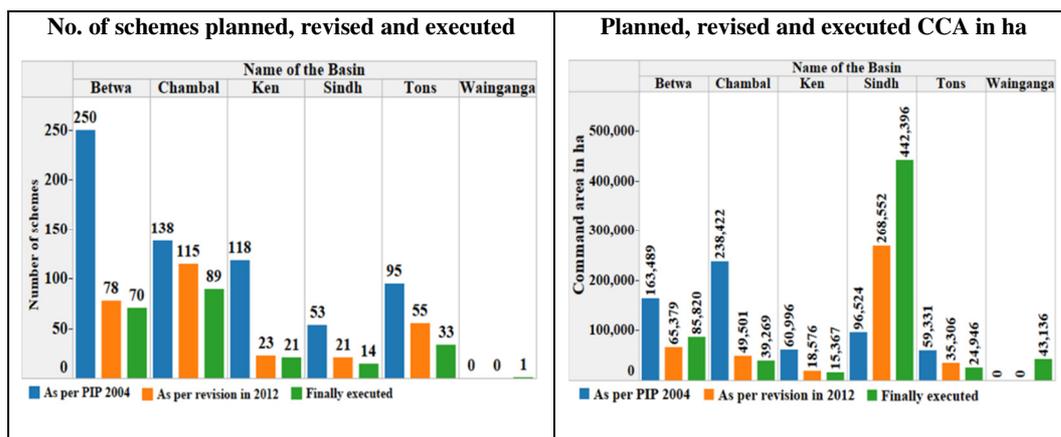
The expenditure on modernisation of Chambal Canal System was ₹ 1,156.33 crore, which was 46 *per cent* of total expenditure of ₹ 2,515.65 crore on MPWSRP. This was quite skewed as compared with the initial planned allocation in PIP, which earmarked only ₹ 276.05 crore for Chambal Canal System that was 14 *per cent* of original administrative approval of ₹ 1,919 crore for the entire project. Audit noticed that works valuing ₹ 606.24 crore (24 *per cent* of total expenditure under MPWSRP) were taken up during 2012-13 to 2013-14 for Chambal Canal System. Of these, CC lining constituted ₹ 571.65 crore (94.29 *per cent*) of works awarded for Chambal Canal System during 2012-14, which could be easily executed in a short span of time with high volume of expenditure.

Thus, the easy execution of Chambal Canal System prompted WRD for its overemphasis after restructuring of the project in June 2012, when the closure date of project was fixed by the World Bank as June 2015. The overemphasis on modernisation of Chambal Canal System helped Department in achieving the required financial progress for closing the project within the revised target date for completion of project. The haste of Department and other irregularities in execution of works of Chambal Canal System are further highlighted under Para 2.2.8.3 of the report.

• Basin wise imbalances in rehabilitation and its effect on beneficiaries

The overemphasis on modernisation of Chambal Canal System coupled with large number of dropped out schemes from the scope of MPWSRP resulted in basin wise imbalances in total number of schemes planned and executed, as detailed in the **chart 2.2.1**.

Chart 2.2.1



The basin wise details of achieved command area excluding Chambal Canal System and Wainganga Canal Systems (which was not originally planned for rehabilitation under MPWSRP), are detailed in **table 2.2.3**.

Table 2.2.3: Basin-wise details of achieved command area excluding Chambal Canal System and Wainganga Canal System

Name of Basin	Betwa	Chambal	Ken	Sindh	Tons	Grand Total
Total Schemes planned	250	137	118	53	95	653
Total schemes taken up	70	89	21	13	33	226
Percentage of schemes left	72	35.04	82.20	75.47	65.26	65.39
CCA to be covered in ha	1,63,489	54,389	60,996	96,524	59,331	4,34,729
CCA Actually covered in ha	85,820	39,269	15,367	80,295	24,946	2,45,697
Shortfall in area to be covered in <i>per cent</i>	47.51	27.80	74.81	16.81	57.95	43.48

(Source: Information furnished by the PICU)

Thus, there was significant shortfall in achieving the CCAs of medium and minor schemes to be covered in all the five basins. Incidentally, WRD had in its River Basin Plan (2015) for Chambal basin, of which 28 *per cent* planned CCA was left, accepted that cultivators had to rely solely on ground water sources and with continued extraction, the future could be bleak, if they lose the only source left.

Large number of minor schemes were dropped out from all the five basins due to emphasis on one major scheme.



View of empty Bamyliya Bhatti tank (Status as on December 2016).

During beneficiary survey (December 2016) of the minor irrigation schemes in Chambal river basin, 12 out of 15 beneficiaries of Bamyliya Bhatti and Bhourli tank minor irrigation schemes, reported lack of availability of water through canals and 10 beneficiaries reported reduced production.

In the exit conference (October 2016), the Principal Secretary, WRD stated that Department assessed command area wise achievement as a whole. In its

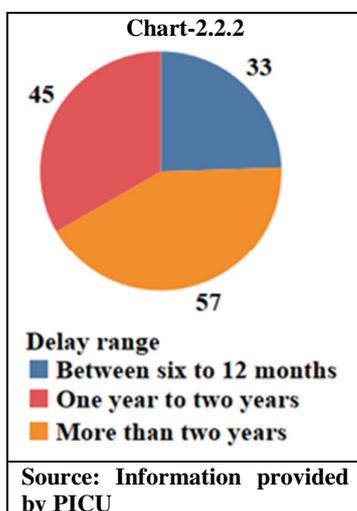
written reply, the Government stated (November 2016) that changes in number of scheme was done to utilise funds available as grant for Bundelkhand area. Also, some of the LIS schemes included in initial planning were removed. The final project outcome have shown achievement of 6,51,000 ha area against target of 4,95,000 ha. Hence, the objective was achieved as planned. It was further stated that Wainganga basin was included in the scope through a modification in the loan agreement.

The reply is not acceptable as basin wise actual results were markedly different as compared to planned rehabilitation under the project. Further, 362 schemes were excluded from the scope of MPWSRP as a result of failure of Department to timely complete these as per PIP. Further, Department emphasised on the work of modernisation of major projects only to utilise available fund before completion date of June 2015 for the project. As a result of overemphasis on modernisation of only one irrigation scheme and large number of dropped out schemes, MPWSRP could not achieve the intended objective of assets modernisation of the selected five basins and it also affected the farm level economy of envisaged beneficiaries of excluded schemes.

2.2.7.2 Delay in start of works after approval of SMPs

The 135 works were commenced belatedly even after approval of SMPs, of which 104 works were delayed during execution.

The PIP of MPWSRP had classified irrigation schemes in six categories based on their CCAs. Depending upon their respective categorisation, the asset modernisation of these irrigation schemes were planned to be completed in a phasewise manner within a period of one year to four years from their commencement. Works were to be commenced within two months from the approval of SMPs from World Bank.



Audit scrutiny of records revealed that 135 works out of 228 works having command area of 1.42 lakh hectare were commenced with delays ranging from seven months to 68 months from date of approval of SMPs by World Bank. The details of delays in commencing works are depicted in the **Chart 2.2.2**. As a result of delays in commencement of works together with delays at implementation level, out of 135 works 104 works were completed with a delay ranging from 1 month to 54 months (as detailed in **Appendix 2.22**).

The Government stated (November 2016) that there were delays on the part of consultants in preparation of tender document. To avoid such delays, centralised procurement in PICU was implemented successfully and the procurement process was speeded up.

The fact remains that the failure of PICU to monitor the progress of works and take timely remedial actions in cases where consultants delayed preparation of tender documents, resulted in delays in completion of assets modernisation under MPWSRP.

2.2.7.3 Works of micro distribution network

Earmarked funds of ₹ 205.52 crore for micro distribution network and canal automation were diverted for other works.

SMPs of irrigation schemes envisaged for micro distribution network works, which included the works of construction of water course, construction of division boxes at off take points of field channels, construction of farm road culverts and Adjustable Proportional Module (APM)³⁹. Canal automation was to be done by establishing Project Operation Centre (POC) and Remote Monitoring Unit (RMU) and using SCADA⁴⁰ application for communication to the operator at regulating structures of canals.

The provision for construction of micro distribution network and canal automation under Chambal Canal System was as detailed in **table 2.2.4**.

Table 2.2.4: Provision for micro distribution network and canal automation in Chambal Canal System

(₹ in crore)

Name of Canal	Details of reaches	Provision of Micro Distribution Network in Command Area	Canal Automation	Total
Chambal Right Main Canal	km 0 to km 120	47.77	2.32	50.09
	km 120 to km 169	7.57	0.94	8.51
Lower Main Canal	km 0 to km 50	33.31	1.50	34.81
Ambah Branch Canal	km 0 to km 83.90	34.69	1.66	36.35
	km 83.90 to km 143.40	22.63	1.41	24.04
Morena Branch Canal	km 0 to km 36.60	50.53	1.19	51.72
Total		196.50	9.02	205.52

(Source: SMP for Chambal Canal System)

Scrutiny of records revealed that works related to micro distribution network and canal automation were not executed. Thus, the provision of ₹ 205.52 crore earmarked for micro distribution network and canal automation were diverted for other purposes.

The Government stated (November 2016) that earlier projects in isolation were taken up for command area development works. Later the Department made a large scale scheme for Command Area Development (CAD) with Central assistance. Accordingly, separate wing of command area was strengthened and the proposals were framed for central assistance. Therefore, the World Bank loan component was not used in CAD works. However, full irrigation has been provided in Chambal Canal System.

The reply is not acceptable as there were provision for works of micro distribution network and canal automation in the SMPs for the purpose of assurance of regulated water supply on rationalised basis. Further, the requirement of central assistance was mainly due to excess expenditure in execution of lining work in main canal and distributaries of Chambal Canal System, as discussed in para 2.2.8.3.

³⁹ APM is a structure for equitable distribution of water to cultivators adopted by WRD vide technical circular 34, issued (25-11-91) by the E-in-C, WRD.

⁴⁰ Supervisory control and data acquisition system

2.2.7.4 Integration with line departments for improving productivity of irrigation assets

PIP envisaged for agricultural intensification and diversification under MPWSRP through improved agricultural support services, strengthening of researchers-extensionists-farmer-market linkages, effective collaboration of GoMP line Departments (WRD, FW&AD, Horticulture and Food Processing Department and JNKVV, Jabalpur). It was expected that the project would lead to increased cropping intensity, improved productivity of oilseed, pulse and cereal crops; expansion of area and productivity of vegetables, fruits, flowers, spices and other high value crops.

The line department wise details of original provision, restructured provision and expenditure during 2004-05 to 2015-16 are shown in **table 2.2.5**.

Table 2.2.5 Line department wise provision and expenditure incurred

(₹ in lakh)

Name of line department	Original Provision as per PIP	Restructured estimated provision	Total expenditure
Farmer Welfare and Agriculture Development	4,907	2,846	2,763
Horticulture and Food Processing	2,384	2,423	2,382
Animal Husbandry	2,415	2,415	3,415
Fisherman Welfare & Fisheries Development	3,445	1,902	1,902
Agriculture universities	1,310	1,064	1,042
Total	14,461	10,650	11,504

(Source: Information furnished by the PICU)

As evident from above, actual expenditure was ₹ 115.04 crore, which was 79.55 per cent of the estimated provision and 4.61 per cent the total expenditure under the project. Audit scrutiny revealed following:

- **Agriculture intensification and diversification**

As per PIP, conversion of rainfed area into irrigated was taken as criteria for agriculture intensification. CCA of Chambal Canal System and Wainganga Canal System was 4,05,238 ha, which was 62 per cent of total area covered through MPWSRP. In Bhind, Morena and Sheopur districts covered by Chambal Canal System, there was marginal increase in conversion of rainfed area to irrigated area in as detailed in **table 2.2.6**.

Table 2.2.6: Status of total area of all crops and total irrigated area in Bhind, Morena and Sheopur districts of Chambal Canal System

Year	Total area of all crops in ha	Total irrigated area in ha	Percentage of irrigated area with area of crops
2010-11	9,88,228	4,59,174	46.46
2011-12	9,85,960	4,90,335	49.73
2012-13	9,94,808	5,13,944	51.66
2013-14	10,39,768	5,43,757	52.30
2014-15	10,52,208	5,93,733	56.43

(Source: Data from MP Land records website)

Thus, the area of total crops was increased along with increase in irrigated area. Further, in case of command area of Wainganga Canal System in

There was inadequate training to WUAs and conversion of rainfed area to irrigated area.

Balaghat district, rice sown area was 2,55,517 ha in year 2011-12 which remained as 2,59,790 ha in year 2015-16.

Agriculture intensification and diversification did not correspond to the increase in the achievement of irrigated area under MPWSRP. The impact of sown area of gram, *arhar* and mustard was taken as an indicator for agriculture intensification in PIP. The status of sown area of gram, *arhar* and mustard in 10 test checked districts during 2011-12 to 2015-16 was as depicted in **table 2.2.7**.

Table 2.2.7: Details of sown areas of gram, arhar and mustard in test-checked districts

(Area in hectare)

Year	2011-12	2012-13	2013-14	2014-15	2015-16
Gram	7,47,245	7,60,213	7,24,888	6,45,410	5,99,155
Arhar	1,29,879	1,05,050	73,924	69,546	84,244
Mustard	Not available	3,89,129	3,88,173	3,20,348	3,13,730

(Source: Data from MP Land records website)

Thus, the sown area of Gram was reduced from 7.47 lakh hectare in 2011-12 to 5.99 lakh hectare in 2015-16 (19.81 *per cent*) and the sown area of *Arhar* was reduced from 1.29 lakh hectare in 2011-12 to 0.84 lakh ha (35.14 *per cent*) in 2015-16. Further, the sown area of mustard was reduced from 3.89 lakh ha in 2012-13 to 3.13 lakh ha (19.38 *per cent*) in 2015-16. Thus, as per production model, post MPWSRP agriculture intensification was negative.

- As per PIP, Agriculture Extension and Training Centres of FW&AD were to organise training for farmers/ WUAs for sustainable use of land and water resources. JNKVV organized 196 trainings against target of 275 trainings to WUAs during 2006-07 to 2015-16 as activities of Capacity building⁴¹ indicating shortfall in achievement of targets. During beneficiary survey, 133 out of 334 (40 *per cent*) farmers reported of not participating in any training programme of FW&AD. Thus, there was lack of effort at institutional level to generate awareness among farmers about the benefits of crop diversification.

During interview of 75 Rural Agriculture Extension Officers (RAEOs) of 96 villages in 10 districts, it was noticed from the details of production reported that crop diversification did not take place in 74 villages (77 *per cent*) of 64 RAEOs. On enquiring about crop diversification by the farmers, 53 *per cent* of farmers either denied or not replied.

Diversification through horticulture crops

As per PIP, diversification analysis, fruits, vegetables and spices would be planted in 21 *per cent* of the designed irrigated area in the project area as compared to the state level coverage of nine *per cent*.

In command area of Chambal Canal System plantation area of fruits, vegetables and spices remained low ranging from 2.90 *per cent* to 7.31 *per cent* as detailed in **table 2.2.8**.

Targeted diversification of 21 per cent was not achieved through horticulture crops.

⁴¹ Capacity building covers training to field officers, training to WUAs at *krishi vikas kendras* and workshops and seminars at *krishi vikas kendras*.

Table 2.2.8: Status of fruits, vegetables and spices planted in Bhind, Morena and Sheopur districts of Chambal Canal System

(Area in ha)

Year	Fruits	Vegetables	Spices	Total Area	Per cent with respect to command area of Chambal Canal System
2011-12	112	8,092	4,852	13,056	3.61
2012-13	85	6,828	3,581	10,494	2.90
2013-14	82	6,782	3,701	10,565	2.92
2014-15	160	7,483	13,522	21,165	5.85
2015-16	349	8,622	17,490	26,461	7.31

(Source: Data from MP Land records website)

As detailed above, though the area of fruits and spices was increased in years 2014-15 and 2015-16 but it was remained constant in case of vegetables indicating inadequate diversification.

The Director, Horticulture and Food Processing Department informed (December 2016) that poly sheds were supplied to farmers for strengthening and farm mechanisation of nurseries. However, 39 out of 42 Rural Horticulture Extension Officers (RHEOs) (93 *per cent*) of eight districts did not furnish details of use of poly house when requisitioned. In case of Bhind district two RHEOs stated (January 2017) that activities relating to horticulture were not taken up during period from 2010-11 to 2015-16. Thus, diversification through horticulture crops was affected with underutilisation of poly sheds and less integration in whole command of Chambal Canal System.

Out of 334 farmers surveyed, only 101 (30 *per cent*) farmers reported supply of sufficient water to fields from canals. Further, 12 members of WUAs of Bila tank of Sagar reported insufficient availability of water and reduced days of supply from canal.

Extension activities through Fisheries and Animal Husbandry Department

The MPWSRP aimed to increase the fish seed production from the existing water resources. FW&FD developed fish production in 26,931 ha under 170 reservoirs. However, 21 (46 *per cent*) out of 46 fisheries inspectors of five districts⁴² reported that there was adverse impact on fish production due to release of water from tanks.

FW&FD provided (September 2010) funds of ₹ 84.33 lakh to WRD Division, Satna for construction of dormitory-cum-rest house at fish farms in Pondi. The work was not completed (June 2015) due to delay in approval of rates by FW&FD Department. Later the amount of ₹ 88.42 lakh was returned to PD, PICU, unutilised. Thus, intended benefits could not be achieved despite availability of funds.

- As per Project Appraisal Document (PAD), support would be provided for farming System Research and Demonstration to improve milk production, breed improvements, maximisation of fodder use, on-farm fodder production, and fodder nurseries. These activities were dropped during restructuring in June 2012 to allow more focused attention on the other agricultural, horticultural and fisheries activities.

⁴² Dewas, Morena, Raisen, Satna and Sheopur

Audit scrutiny of records revealed that the department incurred ₹ 34.15 crore on earmarked activities. In restructured estimate, provision of ₹ 24.15 crore was made for the Animal Husbandry Department (AHD), of which ₹ 20.54 crore were remitted (2013-16) to the MP Co-operative Dairy Federation Ltd. for establishment of cattle feed plants at Shivpuri, which were not started up to January 2017 even after an expenditure of ₹ 19.29 crore.

In the exit conference (October 2016), the Principal Secretary expressed concern on non-completion of work by the AHD and directed the PD, PICU to look in to the matter. The Government stated (November 2016) that replies are sought from the line Departments.

The work of MPWSRP was closed in June 2015, however, the Department was not aware of physical and financial progress of works by the line Departments.

2.2.8 Fund flow and expenditure

The Planning Commission accorded (July 2004) investment clearance to MPWSRP for ₹ 1,919 crore on 2011-12 price level. The State Government revised (April 2015) the administrative approval of the project to ₹ 2,498 crore from ₹ 1,918.57 crore (August 2004). The flow of fund through World Bank loan was based on the eligible expenditure that qualified for reimbursement. The World Bank provided funds to the project by depositing money in the account of the project maintained by the Reserve Bank of India.

The fund for the project was routed through State budget. Accordingly, allotments were made to the WRD under MPWSRP scheme. The funds to WRD divisions and line Departments were provided through PD, PICU, Bhopal. The total expenditure incurred up to March 2016 after closure of the project was ₹ 2515.65 crore. The status of committed distribution of funds, allotment to PICU and expenditure under MPWSRP for the last six years ending 2015-16 was detailed in **table 2.2.9**.

Table 2.2.9: Financial Achievements of the Project as of March 2016

(₹ in crore)

Financial year	Committed distribution ⁴³ of funds	Allotment to PICU	Expenditure
2010-11	128.60	310.10	277.77
2011-12	320.00	200.00	171.28
2012-13	200.67	218.38	208.04
2013-14	300.00	336.43	328.67
2014-15	404.60	457.95	436.62
2015-16	295.76	377.00	375.42 ⁴⁴
Total	1,649.63	1,899.86	1,797.80

(Source: Information provided by PICU)

Audit scrutiny of fund flow and expenditure revealed the following:

2.2.8.1 Avoidable liability of commitment charges

As per section 2.05 of Article-II of the loan agreement with the World Bank, the borrower was to pay commitment charges at 3/4th of one *per cent* per

⁴³ As per information provided by PD, PICU

⁴⁴ Expenditure of financial year 2015-16 up to closing of MPWSRP was ₹ 357.29 crore and for rest of the period of financial year was ₹ 18.13 crore which was not reimbursable.

annum on the principal amount of the loan not withdrawn as per agreed schedule.

Avoidable liability of ₹ 1.12 crore was created on account of commitment charges due to delayed utilisation of World Bank loan.

As evident from **table 2.2.9**, Department incurred an expenditure of ₹ 171.28 crore against committed distribution of funds of ₹ 320 crore in the year 2011-12. The short utilisation of ₹ 148.72 crore (46.48 per cent) resulted in accrual of liability of commitment charges of ₹ 1.12 crore. The accrued liability of committed charges of ₹ 8.26 crore due to short utilisation of fund during 2005-10 was already reported in the earlier Audit Report (Civil) for the year ended 31 March 2010. The avoidable liability of commitment charges could be attributed to slow progress in modernisation of irrigation asset by WRD and short utilisation of funds by line departments, as discussed in paras 2.2.7.1 and 2.2.7.4.

The Government stated in exit conference (October 2016) that the State Government was not aware of the liability of commitment charges as loan agreement was executed between Government of India and the World Bank. It was further stated (November 2016) that no provision for commitment charges was ever made by the Department nor any sum paid by the State Government.

The reply is not acceptable, as the payment of commitment charges due to short utilisation of funds was provided under the loan agreement and the Department could not produce any information regarding waiver of this clause by the World Bank.

2.2.8.2 Basin-wise allotment and expenditure

As per PIP, the Department made basin-wise allocation of funds through World Bank loan for modernisation and restructuring of 654 irrigation schemes. However, there was abnormal variation in the earlier allotment (2004), revised allotment (2012) and expenditure (June 2015) as detailed in **table 2.2.10**.

Table 2.2.10: Basin wise status of funds under MPWSRP

(₹ in crore)

Name of the Basin	Allocation as per original PAD (2004)	Revised allotment in 2012	Allocation in 2004 at 2012 price level ⁴⁵	Variation in allocation at 2012 price level	Percentage variation	Expenditure up to June 2015
1	2	3	4	5 = (3-4)	6=5/4*100	7
Chambal	478.51	120	562.95	-442.95	-78.68	111.50
Sindh	202.06	1,400	237.72	1,162.28	488.93	1,360.90
Betwa	402.50	230	473.53	-243.53	-51.43	229.62
Ken	159.07	70	187.14	-117.14	-62.59	66.93
Tons	161.00	50	189.41	-139.41	-73.60	44.35
Wainganga ⁴⁶	0	0	0	0	0	127.99
Total	1,403.14	1,870	1650.75	219.25		1,941.29

(Source: Information furnished by the PICU, WBP)

⁴⁵ Factor of 1.18 was used for converting price levels from year 2004 to 2012 on basis of rates of USD of ₹ 43.86 and ₹ 51.60 respectively as mentioned in Loan ledger of MPWSRP maintained by Aid Accounts and Audit Division, Ministry of Finance (<http://aaad.gov.in>).

⁴⁶ No allotment under Wainganga basin was made as the work in Wainganga basin was executed through the savings due to devaluation of Indian rupee in comparison to the US dollar.

The Department reduced the allocation of funds in all basins ranging from 51.43 per cent to 78.68 per cent except the Sindh basin, where allocation had been increased by 488.93 per cent due to significantly large allocation on Chambal Canal System.

In the PAD (2004), WRD erroneously included Chambal Canal System in Chambal Basin, which was subsequently considered in Sindh Basin at the time of revised allotment in 2012. As evident from **table 2.2.10**, an amount of ₹ 442.95 crore was withdrawn from allocation in Chambal basin. However, instead of increasing the allotment in Sindh basin by the same amount, the department allotted ₹ 1,400 crore which was higher by 105.70 per cent⁴⁷. As discussed in para 2.2.8.3, the excess provision for works under Chambal Canal System was made in view of its easy execution in a short span of time so as to complete the project by June 2015.

The Government stated (November 2016) that the MPWSRP was aimed at achieving overall 4,95,000 ha irrigation irrespective of number of scheme or basin wise area. Moreover, water through Chambal Canal System from Chambal basin was transferred to Sindh basin for irrigation. In PIP, planning for Chambal Canal System was erroneously shown in the Chambal basin instead of Sindh basin. Therefore, expenditure of Chambal Canal system which was earlier shown in Chambal basin was expenditure of Sindh basin and the expenditure reported in Sindh basin actually belongs to the expenditure of Sindh basin only.

The reply is not acceptable, as the project development objective was to improve productivity of water through 654 identified schemes amongst all the selected river basins of the State. Further, Department had allotted ₹ 276.05 crore for Chambal Canal System in PAD (2004), which worked out to ₹ 325.74 crore at 2012 price level. As against, ₹ 917.95 crore was allocated for Chambal Canal System in the revised allocation 2012, which was higher by 182 per cent, and the actual expenditure (₹ 1,156.33 crore) was even more. The overemphasis on Chambal Canal System led to reduced allocation in all basins ranging from 42.86 per cent to 74.92 per cent, which was contrary to project development objectives.

2.2.8.3 *Expenditure on works beyond the scope of scheme modernisation plans*

Scheme modernisation plans (SMPs) were prepared by the consultant and approved by the Department and the World Bank on the basis of joint transit walk of officers of the Department and the consultant. SMPs provided for lining in selective reaches in Chambal Canal System of Sindh basin.

Audit scrutiny in three WR divisions (Morena, Sabalgarh and Sheopur) revealed that specific reaches were identified for CC lining and provision was made in SMPs for 5,15,295.85 cu m of CC lining in six test checked works. In other two works⁴⁸, the length was provided for lining in 28,737 metre. However, the Department executed the work of CC lining in 11,02,935.02 cu

Execution of excess quantities and length of CC lining beyond the scope of SMPs led to unjustified expenditure of ₹ 263.85 crore.

⁴⁷ ₹ 442.95 crore + ₹ 237.72 crore = ₹ 680.67 crore
(1400-680.67/680.67) *100 = 105.70 per cent

⁴⁸ 1L to 4RC and 6L to 16L Distributory of LMC and 5L distributory of Lower Main Canal

m in six works and in entire length of 71,441 metre in other two works. The excess execution of CC lining was without any assessment of necessity which required deviation from SMPs finalised after joint transit walk. Thus, the excess quantities of CC lining of 5.88 lakh cu m and 42,704 metre resulted in unjustified expenditure of ₹ 263.85 crore (**Appendix 2.23**).

In the exit conference (October 2016), the Department stated that initially the lining was to be done in patches, but later it was realised that lining was required in entire length of canals. The Government in its written reply stated (November 2016) that it was decided to take up lining work in all the possible reaches for efficient use of water in view of the water logging problem after rains and irrigation.

The replies are not acceptable, as the requirement of CC lining was assessed for selected reaches in SMPs through joint walk of officers of WRD and consultants. The reaches for CC lining were identified in view of the risk of seepage of canal waters and water logging. Though WR Division, Jaora followed the provisions of CC lining as detailed in the SMPs, other Divisions deviated from SMPs without assessment of necessity for excess execution of CC lining.

2.2.9 Contract management and work execution

Contract management is the process of systematically and efficiently managing contract creation, execution and analysis for the purpose of financial and operational performance and minimising risk of cost over run and time over run. There were shortcomings in estimation, tendering and execution leading to extra cost/excess payments/undue benefit/inadmissible payments/inflated payments to the contractors valuing ₹ 204.10 crore in respect of 71 contracts of restructuring and modernisation of canals and tanks.

2.2.9.1 Irregular execution of CC lining

As per the provision of Technical Circular (TC) No. 1/84⁴⁹, CC lining in M-10⁵⁰ grade is required to be provided for canals carrying discharge of water from 0.3 cumec to 3 cumec and more. The Department again confirmed (March 2003) the provision for providing CC lining in M-10 grade vide TC No. 47.

Audit scrutiny of records revealed that in case of 30 works under seven WR divisions⁵¹ of restructuring and modernisation of canals, the Department provided and executed 10,63,440 cu m M-15 grade cement concrete lining. Provision and execution of M-15 grade CC lining was contrary to the provisions of TC and criteria for MPWSRP works. This resulted in irregular execution of CC lining of ₹ 47.70 crore as detailed in **Appendix 2.24**.

The Government stated (November 2016) that the work of CC lining was executed as per specifications and broad guidelines of technical specification issued for MPWSRP works. These specifications had been part of agreement. It was mentioned that concrete would be generally governed by IS 456-2000, which provided M-15 as minimum grade of concrete. The technical circular

Irregular expenditure of ₹ 47.70 crore was incurred due to adoption of richer specification for canal lining.

⁴⁹ Technical Circular (TC) No 1/84 issued by the E-in-C, WRD

⁵⁰ This represents cement, sand and coarse aggregate in the ratio of 1:3:6.

⁵¹ Balaghat, Bhind, Jaora, Morena, Sabalgarh, Satna and Sheopur

(TC) 1 of 84-85 was a very old TC and had been under revision since long. Further, Director (Canals), BODHI informed (February 2017) that revised guidelines for canal lining superseding TC 1/84 has been issued (December 2016).

The reply is not acceptable, as IS 456: 2000 did not stipulate M-15 as minimum grade of concrete and the provision of M-10 grade having specified characteristic strength of 10 N/mm² was also included for grades of concrete. Further, the fact remains that TC 1/84 was in force during period of execution and therefore, was to be followed and accountability for overruling the circular without authority was required to be fixed.

2.2.9.2 Extra cost due to unwarranted provision for trimming of earthwork

Extra cost due to unwarranted provision for trimming of earthwork of ₹ 17.73 crore.

As per clause 7 of chapter-III of specifications for canal lining appended with National Competitive Bidding (NCB) document, final preparation of sub-grade for placement of concrete included provision of work of trimming in canal section up to the underside of concrete lining and preparation of sub-grade for concrete placement include removal of pride section⁵². Pride section equivalent to thickness of lining on the sides and bed on the underside of lining shall be left unexcavated. The rate for providing and laying embankment was including the cost of final preparation of sub-grade for placement of concrete lining and no separate payment on this account was admissible.

Audit scrutiny of records of 37 works⁵³ in seven WR divisions⁵⁴ revealed that item of earthwork was prepared by inclusion of items of stripping, excavation (housing), earthwork for embankment, watering and compaction. It was noticed that a separate item of trimming was provided in the schedule of items of NCB and an amount of ₹ 17.73 crore was paid for execution of 178.78 lakh sq m. Since the item of final preparation of sub-grade for placement of concrete already included provision and execution of trimming, inclusion of trimming as a separate item and payment was contrary to provisions of NCB. This resulted in extra cost due to unwarranted provision for trimming of earthwork of ₹ 17.73 crore, as detailed in **Appendix 2.25**.

The Government stated (November 2016) that the item of mechanised trimming was included as per item provided in USR. It was essential to trim the sub-grade to keep the thickness of lining in uniformity and there were small undulations in sub-grade even after compaction.

The reply is not acceptable, as the specification of canal lining appended with NCB document stipulated that the final preparation of sub-grade included work of trimming. Therefore, separate payment on account of trimming was inadmissible and accountability of respective officers was required to be fixed for incorrect inclusion of this item in estimates and approving the same in TS.

⁵² Section of canal having uneven surfaces

⁵³ WRD Dn Bhind and WRD Dn Gohad

⁵⁴ Balaghat, Bhind, Gohad, Jaora, Morena, Sabalgarh and Sheopur

2.2.9.3 *Excess payment on account of inclusion of lead/rate of Black Trap metal*

The availability of the type of course aggregate in the near vicinity of work area is the main governing factor, while selecting the type of metal for CC work in canal lining during estimation. There is no specific guidelines for use of Black Trap (BT), Basalt or local metal as course aggregate.

Excess payment of ₹ 16.43 crore on account of inclusion of lead/rate of BT metal.

Audit scrutiny of records in case of 18 works in six WR divisions⁵⁵ revealed that estimates for CC lining included provision of extra rate of lead for use of BT metal by including lead charges up to 220 km, as detailed in **Appendix 2.26**. Further scrutiny revealed that the quarry metal available at nearer leads up to 83 km was not used on the ground of using BT metal. The provision for excess lead for BT metal was unwarranted as the course aggregate available in the near vicinity could be used for CC lining work.

Audit scrutiny further revealed that the mix designs were prepared for CC lining works reportedly including coarse aggregate as BT metal. However, the specific gravity⁵⁶ of course aggregate measured in the mixed design was up to 2.65. Since the specific gravity of BT metal ranges from 2.8 to 3.0, as such BT metal was not actually used in the mix designs of concrete and therefore, in CC lining work. Thus, the payment of lead for BT metal without its actual use resulted in avoidable excess payment of ₹ 16.43 crore in 18 works.

The Government stated (November 2016) that the thickness of CC lining provided was 7.5 cm to 10 cm. Twenty mm metal obtained from crusher was used in CC lining. The crusher used BT/ Granite/ Basalt rocks for making metal. The UCSR rate of lead of BT/ Granite/ Basalt metal was same. Therefore, the lead had been added for BT/ Granite/ Basalt metal. As far as the specific gravity of course aggregate in design mix was concerned, the metal might be Granite for which specific gravity was in the range of 2.6 to 2.7. Thus, no excess payment on account of lead/rate of BT metal had been paid.

The reply is not acceptable as the course aggregate available near the vicinity of work area was not used. Further, even after the BT metal with extra lead was included in the estimates of CC lining, EE did not ensure use of BT metal in the work. Thus, the condition on the ground did not warrant extra payment of ₹ 16.43 crore on account of lead for BT metal.

2.2.9.4 *Extra cost due to inclusion of superfluous item of work*

According to clause 9.2 of the specifications of chapter-III canal lining, Air Entraining Agent (AEA) as an admixture shall be added to the concrete in such a manner to ensure uniform distribution of admixture throughout the concrete. Further clause 7 of chapter-II of specifications provides that AEA shall only be added after approval of Engineer-in-Charge. The unit rate of concrete shall cover application of admixture.

Superfluous item of Air Entraining Agent was made in item of CC lining leading to Extra cost of ₹ 5.46 crore.

In two WR divisions, Jaora and Morena, audit scrutiny of records revealed (May and June 2016) that mix designs of CC lining work did not include

⁵⁵ Bhind, Gohad, Jaora, Morena, Sabalgarh and Sheopur

⁵⁶ The specific gravity of solids is defined as dimension less unit is a ratio of density of material to the density of water.

provisions for adding AEA, however the Department ignoring the fact to use CC lining without AEA, allowed use of AEA as detailed in **table 2.2.11**.

Table 2.2.11: Details of cost of AEA

Sl. No.	Name of division	Agreement number	Quantity of AEA in litre	Rate in ₹ per litre	₹ in lakh
1	WR Dn Jaora	01/2007-08	48,134.99	304	146.33
2	WR Dn Morena	01/2007-08	1,25,199.03	319	399.46
Total			1,73,334.02		545.79

(Source: Clubbing statements of the works)

As detailed above, the Department used total 1.73 lakh litre of AEA by ignoring the provisions of specifications of CC lining appended with the agreement and paid an amount of ₹ 5.46 crore to the contractors. The use of AEA was avoidable in view of approved mix designs. Therefore, adding the cost of AEA in clubbing statements and payment thereof was not admissible. This resulted in excess payment to the contractors of ₹ 5.46 crore.

The Government stated (November 2016) that AEA increases the workability of concrete without much increase in water-cement ratio. The compressive strength of concrete is inversely proportional to workability of concrete; therefore the AEA was used in canal lining.

The reply is not acceptable as design mixes were used for the work, in which water cement ratio is also approved and recommended. Further, in other works of canal lining under MPWSRP, AEA was not used. Extra rate for AEA was not admissible in terms of clause 7 of chapter-II of specifications as unit rate of CC lining in USR was inclusive of AEA. Since there was no provision of AEA in mix designs in items of the specification governing the contract, this explanation was not acceptable and shows negligence on the part of the competent authority in ensuring fidelity to the agreement terms.

2.2.9.5 Extra cost due to adoption of incorrect rate of embankment

The USR (2009) of WRD consisted of two separate items of earthwork for new works and maintenance and repair works. Rates of items of earthwork for new works included provision of rates (ranging between ₹ 43 per cu m and ₹ 64 per cu m) with leads for different distances whereas rate of earthwork for maintenance and repair did not include provision for rate of leads and a composite rate of ₹ 38 per cu m with all lead was fixed.

Audit scrutiny of records revealed in 16 works of restructuring and modernisation in five WR divisions⁵⁷ that the rates of earthwork for new work were included erroneously instead of rate of ₹ 38 per cu m for repair and maintenance. Adoption of higher rates of earthwork resulted in extra cost of ₹ 5.21 crore for execution of 24.76 lakh cu m earthwork as detailed in **Appendix 2.27**.

The Government stated (November 2016) that the work of restructuring is a new work and not an ordinary repair and maintenance work for which the rate was ₹ 36 per cu m. It was further, stated that the estimate and clubbing of items were not the part of bid document. Thus, the work was executed on tendered rates offered in open competitive approved rates.

Extra cost of ₹ 5.21 crore was incurred due to adoption of incorrect rate of embankment.

⁵⁷ Balaghat, Rajgarh, Sagar, Sheopur and Shajapur

The reply did not explain why the technical sanction was granted on basis of incorrect rates in contravention of provisions of USR. In the absence of clear nomenclature for separation of USRs, the amount of ₹ 5.21 crore was wrongly paid and needed to be recovered. Therefore, the accountability was to be fixed for granting technical sanction on the basis of incorrect rates.

2.2.9.6 *Unwarranted execution of excess thickness of lining*

Extra cost of ₹ 4.82 crore was incurred for unwarranted excess thickness of CC lining.

According to the paragraph 25.6.3.2 of specifications for canal lining issued by WRD, maximum 75 mm thick cast in situ lining was to be provided for canals having depth of water less than 2.5 metre and capacity five cumec to 50 cumec discharge of the canals.

Audit scrutiny of records (June 2016) in WR division Jaora revealed that head discharge of Morena Branch Canal (MBC) was 14.16 cumec and depth of water was 1.45 metre, hence the 75 mm thickness of lining was to be adopted for lining in MBC from km 0 to km 36.10. However, the Department adopted thickness of 100 mm using M-15 grade concrete. Therefore, execution of lining in excess of the required thickness in MBC was contrary to the provision of specifications and resulted in extra cost of ₹ 4.82 crore⁵⁸. The Department failed to furnish the reasons for adoption of excessive thickness of canal lining.

The Government stated (November 2016) that thickness of lining for a particular discharge or depth of water should not be less than the minimum thickness prescribed. It can be more as per site condition and requirement. Accordingly the specifications for MPWSRP were drawn and appended with the tender document/agreement. The work was executed accordingly.

The reply is not tenable as per specifications para 5.2 of IS Code IS: 3872, 1993, the range of depth of water should be less than 2.5 metre for the canal having discharge from 5 cumec to 50 cumec and full supply depth up to 2.5 metre, the thickness of canal lining should have been 60-75 mm. The thickness can be increased for deeper channels and when surface deterioration in freezing climate is expected. Contrary to the provisions of IS Code, higher thickness of CC lining was adopted by the Department without any justification for such deviation. Thus, incorrect provision and estimate against the irrigation specifications and execution of higher value of 100 mm thickness in the canal lining by the Department resulted in extra cost of ₹ 4.82 crore.

2.2.9.7 *Extra cost due to inclusion of inadmissible item of blasting*

Extra cost of ₹ 85.72 lakh was made due to inclusion of item of blasting in CC lining.

According to the item 2512 of USR issued by WRD, the rate of item of CC lining was a complete item for providing and placing of cement concrete inclusive of cost of all the material i.e. cement, sand, metal and water. Besides, leads for carting of material such as cement, metal and sand was included in clubbing for item of CC lining which were payable.

Audit scrutiny of records in WR division Balaghat revealed that Department worked out the rate for composite item of CC lining after clubbing⁵⁹ of the

⁵⁸ 25 per cent of (₹ 3,645 per cu m * 52,919.19 cu m = 19,28,90,447) = ₹ 4,82,22,611

⁵⁹ The clubbing statement is prepared for the work by including various items of USR for working out the rate of composite item.

rates of CC lining in bed, side slopes, leads and blasting. However, providing and placing the material for CC lining was the responsibility of the contractor, the inclusion of separate provision for blasting of stone was not admissible, which resulted in extra cost of ₹ 85.72 lakh, as detailed in **table 2.2.12**.

Table 2.2.12: Details of extra cost of blasting in execution of CC lining

Sl. No.	Name of work	Quantity executed in cu m	Extra rate for blasting in ₹ per cu m	Extra cost in ₹
1.	Wainganga Main Canal Ch 0 to Ch 963	47,916.170	74.80	45,84,129
2.	Mendki Br canal Ch 0 to Ch 1181, Waraseoni Br Canal Ch 0 to Ch 330	31,827.292	74.80	23,80,681
3.	Wainganga Main Canal Ch 963 to Ch 1356	18,043.375	74.80	16,08,026
Total		97,786.837		85,72,836

(Source: Final bill and clubbing statement of the works)

The Government stated (November 2016) that in fact the note 3 (b) of the USR chapter 25- Canal Lining clearly mentions that ‘Blasting charges for metal used concrete items were payable as per item 514 for the quantity required’. Furthermore, in all chapters where concrete work is involved, it is mentioned in the note that ‘the item of blasting charges for metal are payable’. Therefore, inclusion of blasting was admissible.

The reply is not acceptable as the contractor was to provide the complete item of plain cement concrete in terms of item of USR. Further, the term material included metal not the stone. All the material used for the work was to be arranged by the contractor and the cost of materials required for the execution of concrete lining work (metal, sand, cement and water) were included in the unit cost of USR for the respective item of lining. In other works of canal lining under MPWSRP, the item of blasting was not allowed. Thus, incorrect clubbing of rates for blasting resulted in extra cost of ₹ 85.72 lakh to the contractors for execution of 97,787 cu m of CC lining.

2.2.9.8 Irregular award of additional works beyond scope of work

As per para 2.125 of MPWD manual, no material alteration may be made in designs sanctioned by higher authority without the approval of that authority. As per clause of 34.1 of NCB, within 21 days of receipt of letter of acceptance, the successful bidder shall deliver to the employer a performance security for an amount equivalent to five *per cent* of the contract price. Further, as per clause 38.2 of NCB, the Engineer shall not adjust the rates from the change in the quantity, if thereby the initial contract price is exceeded by more than 15 *per cent* except with the prior approval from the employer, i.e. PD, PICU.

Audit scrutiny of records revealed that the Department awarded three works under MPWSRP for restructuring of Chambal Canal System as detailed in **table 2.2.13**.

Additional works of ₹ 31.66 crore were irregularly awarded without prior approval of competent authority.

Table 2.2.13: Details of award of additional works

(₹ in lakh)

Sl. No.	Division	Name of work	Contract Amount	Additional work awarded	Percentage of additional work	Performance security not obtained from contractor
1	WRD, Gohad	Left tail distributary of MOU branch canal Km 0 to 27.90	2,660.87	1,818.14	68.32	90.90
2	WRD, Morena	Restructuring of 33 R/ABC and its minor sub minors	3,161.13	943.30	29.84	47.17
3	WRD, Morena	Ambah Branch Canal from RD Km 147.279 to 162.637 and 60 R and 61 R distributaries of ABC	1,240.43	404.10	32.58	20.21
Total			7,062.43	3,165.54		158.28

(Source: Records of the WR divisions)

As evident from above table, additional works awarded (March 2015) amounting to ₹ 31.66 crore were ranging between 29.84 *per cent* and 68.32 *per cent* of contract amount. Though, the additional works were in excess of 15 *per cent*, approval of PD, PICU was not obtained. Thus, expenditure on account of additional works was irregular. Further, the Department did not obtain performance security of ₹ 1.58 crore from the contractors for safeguarding interest of the Government during execution and defect liability period. This resulted in undue advantage to the contractor to that extent.

The Government stated (November 2016) that MPWSRP being a time bound programme was scheduled to be completed before 30 June 2015 and sufficient time was not available for inviting tenders, therefore, considering the time constraint, these works were awarded to the same contractors at their agreement rates of the existing works.

The reply is not acceptable as the requirements of works had already been assessed in SMPs to complete the works within the scheduled time. Award of additional works without allowing additional time were also irregular and resulted in works of below specification as discussed in paragraph 2.2.10.3. The extension of the scope of work materially changed the value and domain of the contract and not calling for a fresh tender amounted to violation of transparency and accountability norms.

2.2.9.9 Additional security deposit for unbalanced items of works

According to clause 29.5 & 34.1 section-I NCB document of contract and clause 52 of section-3 conditions of contract, if the bid of the successful bidder is seriously unbalanced in relation to the Engineer's estimate of cost of work to be performed under contract, the successful bidder to a level sufficient to protect the employer against financial loss in the event of default, shall deposit additional security deposit for unbalance rate of items within 21 days of receipt of the letter of acceptance.

Audit scrutiny of records revealed (October 2015 to July 2016) that in 15 works of seven WR divisions⁶⁰ (**Appendix 2.28**), the Department did not obtain additional security deposit amounting to ₹ 27.49 crore as per the term of the agreement. Keeping in view the provision of NCB for payment of

Additional security deposit of ₹ 27.49 crore was not obtained in 15 works.

⁶⁰ Jaora, Morena, Raisen, Rajgarh, Sagar, Shajapur and Sheopur

interest at the rate of 12 *per cent* for delayed payment by the Department, the interest on ASD worked out to be ₹ 14.12 crore. Thus, the failure of Department in obtaining the ASD resulted in further undue benefit of ₹ 41.61 crore to the contractor.

The Government stated (November 2016) that as per standard practice under World Bank guidelines, unbalanced bids to the extent of five *per cent* was secured through performance security in addition to the security of five *per cent* against the entire contract amount. Besides, six *per cent* retention money is also deducted from each running bill. It was further stated that wherever it was felt that the Department needs to protect the Government interest/risk, additional security deposit has been obtained from the contractor.

The reply is not acceptable as EE did not ensure adherence of the condition of agreement for deduction of additional security deposit. If the contractor were awarded this benefit, rates could have been negotiated.

2.2.9.10 Liquidated damages for delay in execution of works

Liquidated damages of ₹ 16.11 crore were short levied/not levied for delay in execution of works.

As per conditions of contracts, liquidated damages (LD) as penalty for delays in execution of works on part of the contractor was required to be levied as per rates mentioned in the contract data⁶¹ subject to maximum of 10 *per cent* of final contract price.

Audit scrutiny of records revealed that in nine works under five WR divisions⁶² that there were delays on the part of contractors ranging between 15 months and 48 months and the contractors failed to complete the works till the scheduled closure date of MPWSRP (June 2015). However, the Department did not levy LD at the rate specified in the agreement and deducted LDs of ₹ 99.90 lakh in case of three works against leviable liquidated damages of ₹ 17.10 crore. This resulted in short levy of liquidated damages of ₹ 16.11 crore as detailed in **Appendix 2.29**.

The Government stated (November 2016) that as per agreement, Chief Engineer was the employer and had to decide the compensation event. MPWSRP works were executed with a limited working period of April-June, July-September being rainy season and in October-March canals were used for Rabi season. With this constraint the employer had revised the milestones and hence LDs was not admissible. It was further stated that the work of BMC Ch 902 to Ch 2,565 and its distributaries and minors was carried out under special repair whose completion period was six months and extension was granted under agreement clause. In Chambal Right Main Canal (CRMC) 0 km to 60 km, LD had been imposed but the matter was pending in Hon'ble High Court for decision. In work of 6L to 15L, extension was granted and milestones were revised by the employer, hence no LD was admissible.

The reply is not acceptable as period allowed for execution of work was inclusive of rainy season. Further there was no provision in the agreement for relaxing the provision of imposition of penalty for delay in case of revision of milestone.

⁶¹ Contract data is appended with the contract indicating data to be used with various clauses of the contract.

⁶² Balaghat, Bhind, Raisen, Satna and Sheopur

2.2.9.11 *Collection of royalty charges against use of minerals*

According to the Minor Mineral Act of Mining Department, royalty charges at the prescribed rate shall be deducted from the bills of the contractor for the use of minor minerals on the work. As per amendment issued (March 2013) by the Mining Department, quarry permit holder/contractor engaged in the construction works shall obtain certificate of no mining dues to ensure payment of royalty for the mineral used in the construction works. Further, the mining Department again issued (December 2006) instructions for incorporating the condition in agreements for obtaining no dues certificate from the Collectors for use of minor minerals before payment of final bills of the contractors.

Audit scrutiny of records in eight works under four WR divisions⁶³ revealed that the Department included the special condition 45.1 (c) for obtaining no dues certificate before payment of final bills to the contractors in agreements. However, the contractors had neither submitted certificate of no mining dues nor the Department stopped payment of final bills of the contractors for use of minor minerals in the works. Further, the Department irregularly paid final bills of the contractors by keeping Fixed Deposit Receipts (FDRs) amounting ₹ 4.16 crore without ensuring no dues certificates from the Collectors for an amount of ₹ 6.23 crore of royalty charges (**Appendix 2.30**).

The Government stated (November 2016) that there was no provision in the tender document/agreement regarding recovery/deduction of mining royalty charges. It is the responsibility of the mining Department to collect the royalty charges of minor minerals used for the construction work. However, the Department retained, as additional precautionary measure, sum in the form of FDRs from the contractor's so that whenever any need arises to recover the royalty from the contractor, same can be realized.

The reply is not acceptable as condition 45.1 (c) was provisioned in the agreement of works. The Department was, therefore, required to be stopped the payment of final bills for want of no dues certificate from the Collector. There should be proper mechanism in the Department to ensure collection of royalty charges against the procurement of material. Further, obtaining FDRs against the royalty receivable from the contractors was contrary to the provision of Minor Mineral Act.

2.2.9.12 *Insurance coverage of works*

According to clause 13 of the condition of the contract, the contractor was required to provide the insurance cover, from the date of commencement of the contract to the end of defect liability⁶⁴ for the amounts specified in the contract for covering various hazards.

Audit scrutiny of test checked records of one major, one medium and three minor schemes revealed that in 29 agreements, despite contractual requirement, the Department did not get the works insured in respect of 12

⁶³ Bhind, Gohad, Morena and Sabalgarh

⁶⁴ Defect liability period is a period of one year from the date of completion of the work during which the contractor shall rectify at his cost all defects noticed by the employer during this period.

WR divisions⁶⁵ as detailed in **Appendix 2.31**. The Department did not recover an amount of ₹ 4.79 crore from the contractors on account of insurance premium to get the works insured itself.

The Government stated (November 2016) that directions were being issued to recover the amount on account of insurance coverage from the contractor's sum available with the Department.

2.2.9.13 Excess payment to the contractor due to inflated measurements

As per provisions of MPWD manual, measurement books (MBs) are maintained for the works executed by the Department. The running bills and final bills are paid to the contractor on the basis of actual measurements recorded in the MBs.

Excess payment of ₹ 13.10 crore was made to a contractor for quantities actually not executed.

Audit scrutiny of records revealed that that the work of CRMC km 0 to km 60 was started in November 2007 and completed on June 2013. Penultimate bill as 61st running bill was paid (June 2013) to the contractor for total value of ₹ 155.77 crore. The final bill was prepared for payment of ₹ 142.67 crore, which was not finalised till July 2016. This indicated that quantities of items of the work paid to the contractor in 61st running bill were more than quantities measured finally. The value of excess quantities paid for was ₹ 13.10 crore. There was no source to recover the amount due from the contractor.

The Government stated (November 2016) that the CE, Yamuna Basin Gwalior has reported that an amount of ₹ 13.13 crore has been deducted due to non-compliance of repair work by the contractor in defect liability period. Matter is however, under court of Tribunal for decision.

The reply is not acceptable, as deduction for failure to carry out repair work was to be mentioned separately in the bills and it would not affect total value of work done in final bill. Total value of work done in final bill was less than the penultimate bill. Thus, department made excess payment of ₹ 13.10 crore for quantities actually not executed.

2.2.9.14 Excess payment due to not deducting shrinkage allowance

As per the general note of chapter 4 of USR issued (2009) by the WRD, 10 *per cent* sectional measurements were to be deducted for earthwork rolled and watered with light rolling⁶⁶. The estimates of restructuring and modernisation works included provision of light rolling for earthwork.

Excess payment of ₹ 1.52 crore was made to the contractors due to non-deduction of shrinkage allowance.

Audit scrutiny of records revealed that in case of five works of restructuring and modernisation in Gohad WR division, the Department executed total 25,94,278.77 cu m of earthwork for which shrinkage allowance from sectional measurement at rate of 10 *per cent* was not deducted, even though the compaction was executed by light rolling. Test results of compaction of earthwork also indicated compaction at rate of 90 *per cent* of maximum dry density. The failure to deduct the shrinkage allowance resulted in excess payment to the contractors of ₹ 1.52 crore as detailed in **Appendix 2.32**.

⁶⁵ Bhind, Dewas, Gohad, Jaura, Morena, Raisen, Rajgarh, Sabalgarh, Sagar, Satna, Shajapur and Sheopur

⁶⁶ Compaction by non-powered rollers/hand ramming

The Government stated (November 2016) that there was no excess payment to the contractors as earthwork on existing canal sections was done. It was not a new construction. It was also stated that shrinkage height was added in the earthwork and therefore no deduction of shrinkage was made.

The reply is not acceptable as restructuring work in cited cases involved new earthwork for which shrinkage allowance was to be deducted. Therefore, Department had to deduct 10 *per cent* quantity from measurement as per provision of USR, which was not done. The amount of ₹ 1.52 crore was, therefore recoverable from the contractor.

2.2.10 Monitoring and quality control

As per PIP, an effective monitoring system and benchmarks for achievement of the project objectives should be implemented during early stage of the project. All the construction work would be subjected to third party supervision by a reputed company selected through National Competitive Bidding. Quality control should be ensured in execution of works. Performance indicators of irrigated area rehabilitated was included in the restructuring paper of MPWSRP to ensure the realistic impact of project implementation.

Issues relating to monitoring and quality control discussed below were noticed:

2.2.10.1 Constitution of State Water Tariff/Rights Regulatory Commission

As per project objectives in Project Appraisal Document (PAD), a centralised autonomous agency State Water Tariff/ Rights Regulatory Commission (SWaTReC), under Component A of MPWSRP was to be established to review and monitor water sector costs and revenues, and to rationalise and set bulk water user fees to enable the sector institutions to be financially self-sustaining by December 2005 i.e. in early stage of MPWSRP.

Audit scrutiny of records revealed that the World Bank conducted a constraint analysis for slow water sector reforms under Component “Institutions and instruments” and reportedly mentioned that the “Institutions and instruments” was not well understood and proposed that the mandate of the centralised autonomous agency SWaTReC and State Water Resources Data and Analysis Centre (SWRDAC) was to be merged into one institute with overall mandate. However, discussion on role of such regulatory authority was continued till December 2015 even after closure of MPWSRP (June 2015). Thus, purpose of enabling the sector institutions to be financially self-sustaining was defeated.

The Government stated (November 2016) that this component was found to infringe upon the sovereignty of the Legislature and therefore while restructuring the project, the WB dropped this component from the project.

The reply is not acceptable as a centralised autonomous agency was to be established for monitoring water costs and revenue which could not be done.

2.2.10.2 Third party supervision of works

All the construction work would be subjected to third party supervision by a reputed company selected through National Competitive Bidding.

Audit scrutiny of records revealed that the Department was to deploy consultancy services through NCB for third party supervision/ technical examination of works executed under MPWSRP by July 2005, which was not done.

The Government agreeing with the facts stated (October 2016) in exit conference that, Department did not engage any consultant for the work and that supervision work was conducted departmentally.

The reply is not acceptable as independent quality supervision/ assurance was envisaged in the PIP which was not adhered to.

2.2.10.3 Quality control in execution of works

Further, Clause 14 (Chapter-3) of contract agreement stipulates that conducting core test⁶⁷ was mandatory to evaluate the quality, density, thickness of concrete lining laid in the respective reaches. The core shall also be tested for compressive strength. The core test shall be considered acceptable if the average equivalent strength of the core is equal to at least 85 per cent of the cube strength. Final payment of the concrete lining shall be made after the satisfactory core test results acceptable to the Engineer. Further, as per clause 16, running payments were required to be made at 80 per cent of the accepted unit rate and the final payment at 100 per cent rate was to be made after receipt of test results of the core. Audit scrutiny revealed the following:

Core tests of works were not ensured and undue financial aid was extended to contractors.

- In case of 12 works under eight divisions⁶⁸, mandatory tests for ascertaining quality, density, thickness and compressive strength of concrete lining laid in the respective reaches were not conducted. However, the full rates of CC lining were paid to the contractors instead of making the payments at the rate of 80 per cent of agreed rate. This resulted in undue financial aid to the contractors to the tune of ₹ 20.47 crore as shown in **Appendix 2.33**. Besides, the quality of these works could not be validated.
- In case of nine works of five WR divisions⁶⁹, mix designs for CC lining was prepared for the works. Audit scrutiny revealed that results of compressive strength of cube tests and compressive strength of core tests were not conforming to required strength of mix designs. Audit scrutiny further revealed that compressive strength of core tests was more than compressive strength of cube tests which was contrary to provisions of average equivalent strength which was not possible. This vitiated the sanctity of test results. Further, the contractors were paid for full amount of CC lining item. The failure of divisions to retain 20 per cent of amount of CC lining due to test results not as per mix design resulted in undue financial aid to the contractor amounting to ₹ 37.17 crore (**Appendix 2.34**).

The Government stated (November 2016) that the Department has Quality Control labs for tests required for construction works. The cube test and core test have been performed for CC lining works in the Departmental labs as and when required.

⁶⁷ Term core tests used for sample testing of CC lining by taking piece from lining work after 28 days for checking thickness, density, strength and quality of lining.

⁶⁸ Balaghat, Dewas, Gohad, Raisen, Rajgarh, Sabalgarh, Satna and Shajapur

⁶⁹ Balaghat, Gohad, Jaora, Sabalgarh and Sheopur

The reply is not acceptable as it does not explain the reason for allowance of full payment against cement concrete lining without performing the core test as well as without ensuring acceptable parameters of core tests.

2.2.10.4 Over reporting of irrigation potential in Chambal Canal System

MPWSRP was aimed to rehabilitate and modernise the irrigation assets in six river basins in the State. Accordingly, performance indicators of irrigated area rehabilitated was included in the restructuring paper of MPWSRP. The water requirement for the proposed rabi crops was estimated at 170 ha per Million Cubic Metre (MCM) and provisioned accordingly in SMPs of Chambal Canal System in Bhind, Morena and Sheopur districts.

Over reporting of irrigation potential was done in case of Chambal Canal System.

Audit scrutiny revealed that the Department reported the works for creation of command of 4.42 lakh ha in the Sindh basin against the proposed irrigation area of 2.73 lakh ha earmarked in SMPs of Chambal Canal System based on availability of water. The Department considered the irrigation achievement by including irrigation from all the sources during the reporting of irrigated command through Chambal Canal System instead of irrigation coverage through only canal network. Year-wise details of water availability⁷⁰, irrigation reported, irrigation as per norms with available water and over reporting are indicated in **table 2.2.14**.

Table 2.2.14: Details of availability of water and irrigation reported

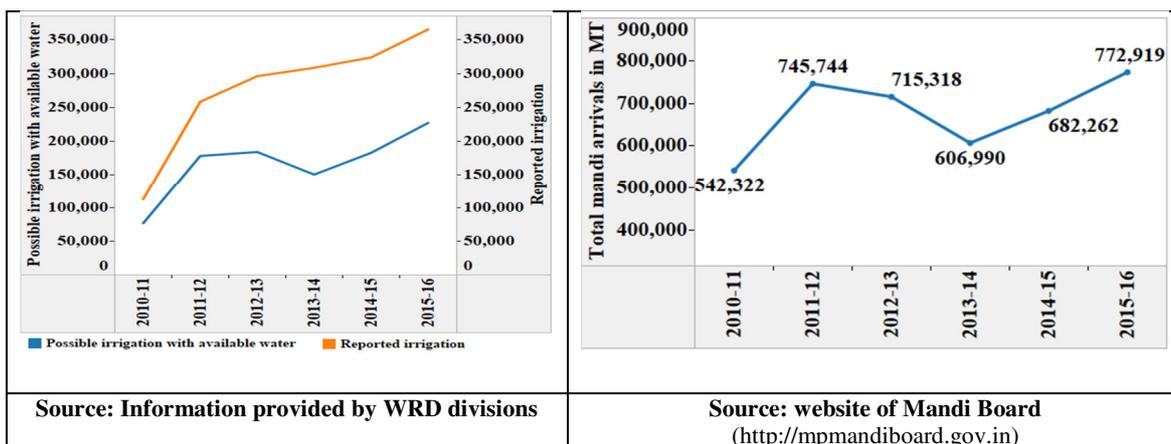
Year	Total Supply of water (in MCM)	Total irrigation reported (in ha)	Irrigation as per norms with available water	Over reporting of irrigation (ha)
2010-2011	451.46	1,12,534	76,748	35,786
2011-2012	1,045.97	2,58,161	1,77,815	80,346
2012-2013	1,080.72	2,96,047	1,83,722	1,12,325
2013-2014	883.47	3,08,453	1,50,190	1,58,263
2014-2015	1,073.91	3,23,784	1,82,565	1,41,219
2015-2016	1,334.36	3,65,327	2,26,841	1,38,486

(Source: Records of the WR Divisions)

As indicated in the **table 2.2.14**, over reporting of Irrigation Area (IA) was ranging from 35,786 ha to 1,58,263 ha with available water in Chambal Canal System during 2010-16. However, in year 2013-14, 105 per cent over reporting of IA was made even though the Department did not execute the works of micro distribution network to optimise the use of water as mentioned in paragraph 2.2.7.3. Possible irrigation, reported irrigation through Chambal Canal System and Mandi arrival in Bhind, Morena and Sheopur districts being irrigated through Chambal Canal System were as detailed below in the **chart 2.2.3**.

⁷⁰ Water availability at Parvati aqueduct, which supplies water for Chambal Canal System in the State.

Chart 2.2.3



The above chart indicates that line pattern of possible irrigation with available water was identical with line pattern of mandi arrivals. Thus, mandi arrivals were corresponding to availability of water and not with reported irrigation. This indicated that the Department had taken in to account the area irrigated through other sources (tube wells, wells, siphoning from the river etc.) while reporting irrigation achievements. As a result, Department did not judge performance indicators of irrigated area and failed to measure the actual impact of modernisation and restructuring of Chambal Canal System.

The Government stated (November 2016) that water requirement depends on the cropping pattern. The majority of cropping pattern of the area was based on oil seed and production of the mustard, for which the water requirement was less than wheat crops. So the achievement in the command area was correct. SMPs of the system was based on the rule of thumb of 170 ha per MCM is not correct.

The reply is not acceptable as wheat was the major *Rabi* crop in area of Chambal Canal System and no change in the cropping pattern as well as no crop diversification in the Chambal Canal System command area had been noticed. SMPs were prepared by considering water requirement of *Rabi* at rate of 170 ha per MCM which was based on the guidelines issued by the E-in-C. The actual irrigation capacity created under MPWSRP should have been calculated on the same basis as adopted in the SMPs so as to correctly measure the impact of scheme.

2.2.10.5 Inadequate monitoring over execution of works under MPWSRP

As per PAD, the day to day project implementation, coordination would rest with the PICU which will undertake all activities related to project coordination, procurement management, financial control and reporting and monitoring and evaluation. Each scheme was to be appraised by the PICU on technical, environmental, social, economic and financial aspects, to ensure adequate quality control envisaged in the project.

Audit scrutiny revealed that lack of firm planning by the PICU in selection of schemes and delayed execution resulted in large drop out of irrigation schemes from the scope of MPWSRP. Department added one more Wainganga basin in this Project in March 2008. However, the SMP of Wainganga Scheme was

submitted to World Bank after five years in March 2013 i.e. after two years of initial intended date of completion (March 2011) of MPWSRP.

During the course of audit, several inconsistencies in estimation, tendering and breach of contract conditions leading to extra/excess payment/ undue benefit/ inadmissible payments etc., were noticed. MPWSRP could not indicate substantial crop diversification due to inadequate integration with line departments for improving productivity of irrigation assets thereby affecting the overall achievement of objective and performance of the project. This indicated deficient internal control over execution of works and inadequate monitoring at PICU level.

2.2.11 Conclusions

The MPWSRP was taken up by the WRD with assistance from the World Bank for restructuring and modernisation of irrigation assets and taking up different activities by the line Departments in six basins. Due to frequent changes in the planning, the implementation of the project could not achieve the objective of balanced and sustainable development of irrigation potential in all river basins through rehabilitation of major, medium and minor schemes even after incurring an expenditure of ₹ 2,498 crore during the project period of 2004-15.

The project aimed to rehabilitate and modernise 654 existing irrigation schemes of these five river basins with a total Culturable Command Area of 6.18 lakh hectares. As a result of slow performance of the project, the scope of MPWSRP was restructured in June 2012 and 362 irrigation schemes were dropped. Out of the balance 292 schemes, WRD could rehabilitate 228 schemes only by the end of the project.

During 2012-14 the Department incurred 24 *per cent* of overall expenditure of MPWSRP on execution of Chambal Canal System. The overemphasis resulted in basin wise imbalances in irrigation schemes and this, coupled with the delay in implementation of modernisation plan resulted in exclusion of 362 minor irrigation scheme from project. CC lining, which was easy for execution constituted 94 *per cent* of the expenditure and Chambal Canal System during 2012-14. It also affected the farm level economy of envisaged beneficiaries of excluded schemes.

Against the estimated provision of ₹ 144.61 crore in the PIP for the line departments, actual expenditure was ₹ 115.05 crore. However, poor integration with the line departments, absence of sustainable water supply to farmers and lack of training to WUAs impacted crop diversification.

Agriculture intensification and diversification did not correspond to the increase in the achievement of irrigated area under MPWSRP. The impact of sown area of gram, *arhar* and mustard was taken as an indicator for agriculture intensification in PIP. Audit scrutiny revealed reduction in sown areas of gram and *arhar* during 2014-15 by 20 *per cent* and 35 *per cent* respectively as compared to 2011-12. Further, the sown area of mustard was reduced in 2014-15 by 19 *per cent* as compared to 2012-13. Plantation area of fruits, vegetables and spices remained low ranging from 2.90 *per cent* to 7.31 *per cent*, as against the target of 21 *per cent* of the irrigated area envisaged in PIP and was even below state average of nine *per cent*.

Provisions of specifications appended with NCB were ignored by Chief Engineer at the time of according technical sanction, which led to irregular expenditure of ₹ 65.18 crore in works for trimming of earthwork and CC lining of canals, besides, inadequate quality control of works.

Adherence with agreement clauses was not ensured by Executive Engineers resulting into undue financial benefits to contractor amounting to ₹ 68.75 crore on inadequate additional security deposit, liquidated damages, royalty charges and insurance coverage of works.

Provisions of schedule of rates were not followed, as instances of extra cost of ₹ 24.02 crore due to incorrect lead of metal, incorrect rate for embankment and inclusion of inadmissible items of blasting and excess payment on account of shrinkage allowance were noticed.

Quality control and monitoring of the project was inadequate as instances of not conducting core tests, execution of below specifications works of CC lining and extension of undue benefits to the contractors were noticed.

2.2.12 Recommendations

The Government should make a firm plan and adequate internal control mechanism to utilise the available loan in time to avoid the payment of commitment charges.

The Department agreed with the recommendation as suggested by the Audit.

The Government should adopt concrete criteria for selection of schemes and distribution of funds throughout the project to avoid slippage in scheme coverage and delays in their execution.

The Department agreed with the recommendation as suggested by the Audit.

The Government should ensure strict adherence with provisions of SMPs for the execution of micro distribution network along with modernisation work of main canal for optimal utilisation of water by end user.

The Department agreed with the recommendation as suggested by the Audit.

The Government should strengthen internal control system for strict adherence with contract management for ensuring recovery of extra cost/ excess payments, penalty for delay, deduction of additional security deposit and insurance coverage of works from the defaulting contractors in order to safeguard its interest.

The Department agreed with the recommendation as suggested by the Audit.

The Government should consider making suitable arrangements for third party supervision of works and strengthening quality control mechanism for conducting the quality tests to ensure execution of works according to the laid down specifications.

The Department agreed with the recommendation as suggested by the Audit.