

Chapter 6:

Monitoring and evaluation

6.1. X Plan monitoring and evaluation

The note to CCEA(February 2005), *inter alia*, specified that the scheme would be subject to concurrent evaluation and a view on modifications required for implementation during XI Plan would be taken after a comprehensive review towards the end of X Plan. MOF had also emphasized⁸⁷ the importance of evaluation by stating that *continuation of projects/schemes from one plan period to another would not be permissible without an independent, in depth evaluation.*

RGGVY was neither evaluated concurrently nor reviewed comprehensively at the end of the X Plan. Three tier Monitoring Control Mechanism was introduced only during XI Plan. Consequently, MOP did not have an effective or robust review and quality control mechanism in X Plan.

MOP stated (May 2013) that it did not *conduct evaluation of RGGVY at the end of X Plan. Planning Commission had reportedly commissioned an evaluation of the programme through its Programme Evaluation Organization (PEO). The results thereof were however, not available with MOP.* MOP, further, replied (August 2013) that *“although the three tier Quality Control Mechanism akin to XI Plan was not devised for X Plan projects, there was a single tier quality control mechanism in place with 100 per cent village inspections to be carried out by independent agencies deployed by PIA.”*

The fact remains that the projects of X Plan were not subjected to multilevel effective evaluation which in turn, deprived MOP of the opportunity of ensuring concurrent improvement of quality of work.

⁸⁷ Vide Department of Expenditure, O.M. No.1(2)-PF-II/03 dated 7 May 2003

6.2. Three tier monitoring mechanism

While continuing RGGVY during XI Plan, MOP envisaged a three-tier Quality Control Mechanism as depicted in **Figure 10**.

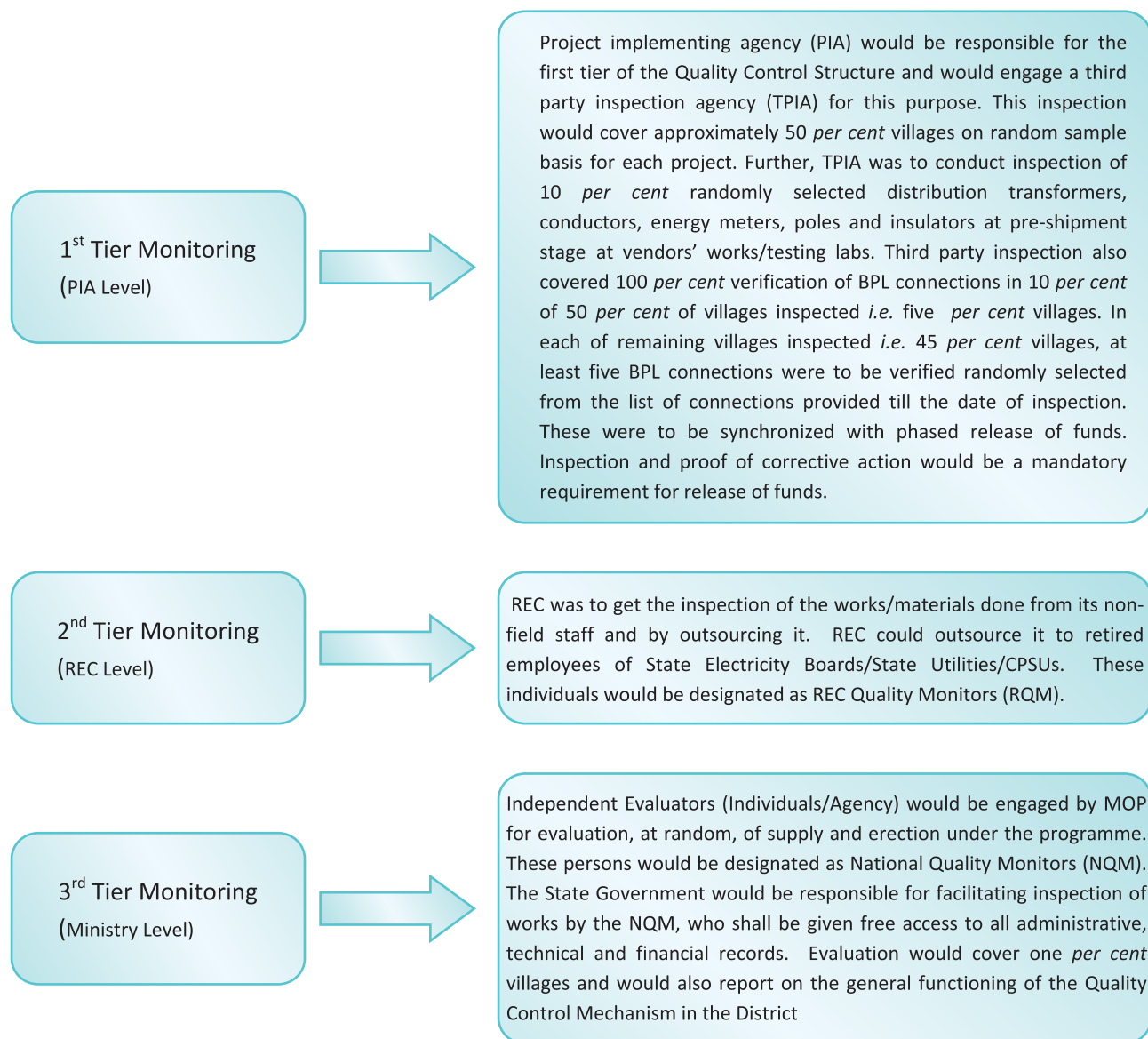


Figure 10: Three tier monitoring mechanism

6.2.1. 1st Tier Monitoring

Deficiencies were noticed in inspections, documentation, completion, coverage and reporting in the 1st tier of monitoring which had the potential of adversely affecting the quality of work in projects. Illustrative cases are discussed below:-

Inspection

- In **Haryana**, in the selected villages, the contractors and implementing agencies, *i.e.* UHBVNL and DHBVNL, had not carried out required inspections.
- In **Mizoram, Tripura⁸⁸** and **Uttarakhand**, no Quality Control Coordinator (QCC) was appointed by the PIA for ensuring the quality checks of work.
- Further, in **Mizoram and Sikkim**, the EPD did not prepare a Detailed Quality Assurance Program as stipulated in REC's Quality Control Manual.

Documentation

- In **Chhattisgarh**, QCC did not maintain any record to establish that the turnkey contractor, PIA and TPIA inspected the scheme as per REC guidelines.
- In **Nagaland**, there was no record to indicate that the TPIA had re-visited the villages to ascertain that shortcomings and defects pointed out were rectified by contractors.
- In **Rajasthan**, in selected ten districts, no record relating to verification and inspection of works executed by turnkey contractor was available with the concerned Project Quality Control Co-ordinator (PQCC).
- In **Tripura**, the PQCC had not submitted monthly progress reports on quality control to REC between April 2009 and January 2012 for which he was appointed.

Completion

- In **Assam** (Karbi Anglong and Morigaon districts), the selected villages were to be inspected within 90 days from the date of issue of order (27 January 2011) but there was 16 months delay in inspection of 17 and 22 villages.
- In **Karnataka**, first stage of third party inspection of works under Gulbarga Electricity Supply Company Limited (GESCOM) was completed only in July 2011, after a lapse of eighteen months from the date of agreement, as against stipulated three months.

Coverage - In seven States, third party inspections were inadequate in terms of the coverage as against the REC stipulated norm of 50 *per cent* villages. There were delays in covering these reduced numbers against the LOA dates. State-wise details are given in **Table 22**.

⁸⁸ Since January 2012, no officer has been designated as the Project Quality Control Co-ordinator.

Table 22: Inadequate coverage in 1st Tier monitoring

Sl. No.	Name of the State	Remarks
1.	Andhra Pradesh	The third party inspection agency (M/s Godavari Engineers) engaged by EPDCL did not cover even 10 <i>per cent</i> of total works.
2.	Arunachal Pradesh	In Papumpare, against the LOA stipulated terms that the villages be covered by April 2010, only 33 <i>per cent</i> of the villages (32 out of 99 villages) were inspected by TCIL, as of March 2012.
3.	Jammu and Kashmir	As of September 2012, the TPIA could inspect only 38 habitations out of 112 habitations required to be inspected by June 2012.
4.	Jharkhand	1st tier monitoring of 50 <i>per cent</i> villages was to be done in two stages, the first stage after completion of infrastructure in 10 <i>per cent</i> villages and 2nd stage after completion of 90 <i>per cent</i> work in villages. In West Singhbhum, 820 villages were to be inspected by TCIL (appointed in September 2008) which carried out 1 st stage inspection in 818 villages. However, 2 nd stage inspection was done only in 91 villages (May 2012). Thus, TPI was completed in only 11 <i>per cent</i> villages even after lapse of 44 months from September 2008.
5.	Nagaland	In three test checked districts, TPIA was to cover 227 villages in 18 months from the date of LOA (June 2009). As of April 2012, only 105 (46 <i>per cent</i> of targeted villages only) villages had been covered. In two of these three districts (Wokha and Mon) the coverage was seven <i>per cent</i> (6 villages against 64 villages) and nine <i>per cent</i> (only 4 out of 55 villages) respectively.
6.	Punjab	Out of 55,919 connections and 2,683 distribution transformers (25 KVA), the PIA offered only 34,651 (62 <i>per cent</i>) connections and 193 (seven <i>per cent</i>) DTs for inspection.
7.	Sikkim	As per the scope of work, villages inspected in the first stage were to be re-inspected during the second stage. However, as per the records made available to audit, TPIA did not inspect the villages covered in first stage while conducting the second stage inspection.

Some illustrative cases where there was either considerable delay in submission / non-submission of reports or the report was not as per requirements are indicated below:-

- In **Chhattisgarh**, as per LOA, TPIA report was to be submitted within 30 days from the date of assignment of work. Four inspection reports pertaining to test-checked districts were submitted by TPIA with delays ranging from three to five months.
- In **Rajasthan**, Rail India Technical and Economic Service (RITES), a CPSU, was appointed as TPIA by JVVNL for inspection of work under X Plan. TPIA submitted only village wise report and the final report for project was not submitted.
- In **Uttar Pradesh**, the implementing agencies (DISCOMs) engaged RITES, Electrical Research and Development Association (ERDA) and MECON as TPIAs. Despite repeated requests, inspection reports of these agencies were not furnished except inspection reports of Mirzapur project (MECON).

Deficiencies were also noticed in the quality of TPIA inspections in four states as shown in **Table 23**.

Table 23: Poor quality of TPIA inspections

Sl. No.	Name of the State	Remarks regarding quantum of inspection / quality of inspection / rectification of defects
1.	Andhra Pradesh	In NPDCL, inferior quality service wires were used in respect of all the test checked services in Achutapur village of Aswaraopet Mandal of Khammam project. Usage of inferior quality service wires was not detected due to inadequate inspection and the same got burnt within a few days.
2.	Arunachal Pradesh	TPIA did not comment on failure to provide service connections to BPL households. Pilferage of power by tapping from the main line was also not detected in time.
3.	Jharkhand	As per LOA (September 2008) TCIL had to carry out inspection with reference to all documents <i>i.e.</i> contract documents, REC specification documents, PERT chart, drawings <i>etc.</i> However, in 416 electrified villages, inspection was carried out without documents, <i>i.e.</i> drawings/map <i>etc.</i> for electrical infrastructure created defeating the purpose of such inspection.
4.	Karnataka	Reports submitted by NPTI were not reliable as the shortfall in quantities brought out by them in Indi block were found to be incorrect in the field survey conducted by a team of HESCOM.

Details of lapses or deficiencies in remedial action taken in response to the defects pointed out by TPIAs are indicated in **Annexe 14**.

Box 14: Absence of adequate ground level monitoring

In **Dholpur, Rajasthan**, M/s Dee Control Limited (the firm) was to supply material required for electrification of 622 villages. The work was later cancelled as the contractor defaulted. Subsequent verification revealed that work was done by the firm in 122 villages which were not covered in the DPR. Against 17,284 connections, the firm released 2,775 connections till termination of the contract, of which 896 connections were released beyond DPR. As per the work order, the concerned nodal officer was responsible for ensuring receipt of right quality material and payments were recommended after verification of Measurement Book. Execution of the work beyond DPR shows that responsible nodal officers were not monitoring the work.

A similar situation was noticed in **Bihar** in **Katihar, Supaul and Khagaria** districts where electrification of villages was not executed as per the approved DPR. In 59 villages of these districts, 3,481 BPL connections were released in excess of approved quantities.

MOP accepted the observation and stated (August 2013) that, *“it is a fact that the contractors and PIAs could not maintain documentation for Quality Assurance in line with the Quality Control Manual. Necessary instructions were issued to the PIAs to maintain proper documentation towards quality assurance procedure being followed by them.”*

6.2.2. 2nd Tier Monitoring

At the second tier, REC was to get the inspection of works done by outsourcing it to reputed inspection agencies or retired personnel designated as REC Quality Monitors (RQM). REC was to designate a General Manager level executive as REC Quality Control Coordinator (RQCC) to coordinate and oversee the implementation of Quality Control Manual for RGGVY projects. REC was responsible for ensuring the quality checks in two stages as shown in **Figure 11**. Inspection was to be carried out as per Field Quality Plan (FQP).

- **1st stage:** On completion of 30 to 50 *per cent* works of the entire project at site. The sample was to be five *per cent* randomly selected villages.
- **2nd stage:** After completion of 90 *per cent* work in the village notified by the PQCC after completion of Third Party Inspection Agency (TPIA) inspection. The sample was to be 10 *per cent* randomly selected villages, including 5 *per cent* villages inspected in the 1st stage.

IN BOTH STAGES	
<ul style="list-style-type: none"> All projects and districts and all turnkey contractors were to be covered. Electrified as well as un-electrified villages were to be covered. The sample was to include villages covering the entire area in the district. 	
INSPECTION OF SUB-STATIONS	
1 ST STAGE	2 ND STAGE
<ul style="list-style-type: none"> At least one new substation. At least one Augmentation of Substation. 	<ul style="list-style-type: none"> 25 per cent (at least one) New substations including substation inspected in Stage-I. Five per cent (at least one) Augmentation substations including substation inspected in Stage-I.
In 2 nd STAGE ONLY	
<ul style="list-style-type: none"> 100 per cent verification of BPL connection in 25 per cent of villages inspected i.e. 2.5 per cent villages. In each of the remaining villages inspected i.e. 7.5 per cent villages, at least five BPL connections shall be verified on randomly selected from the list of connections provided till the date of inspection. 	

Figure 11: Scope of 2nd tier monitoring

Deficiencies were noticed in the quality and effectiveness of monitoring at the 2nd tier which are as follows:

1st Stage inspection:

- In four States (**Kerala, Mizoram, Punjab and Sikkim**) the 1st stage inspection was not conducted. MOP replied (August 2013) that “*due to slow physical progress of work, 1st stage inspection was not conducted.*”
- In five States (**Bihar, Jammu and Kashmir, Manipur, Meghalaya and Nagaland**) shortfall in the 1st stage inspection ranged from 27 per cent to 88 per cent.

2nd Stage inspection:

- In 9 States (**Bihar, Jammu and Kashmir, Kerala, Manipur, Meghalaya, Mizoram, Punjab, Rajasthan and Sikkim**) the 2nd stage inspection was not

conducted. MOP replied (August 2013) that “*due to slow physical progress of work, 2nd stage inspection was not conducted.*”

- In 11 States (**Assam, Chhattisgarh, Gujarat, Himachal Pradesh, Jharkhand, Karnataka, Madhya Pradesh, Nagaland, Orissa, Tripura and West Bengal**) the shortfall in 2nd stage inspection ranged from 25 per cent to 95 per cent.

Even where the inspections were done they were incomplete in many respects or there was evidence of poor documentation. For example,

- In **Andhra Pradesh**, REC (Regional Office), Hyderabad carried out inspections of 66.13 per cent to 93.06 per cent of the targeted villages in the selected projects. Further, although 100 per cent BPL connections were to be checked, REC (Regional Office) Hyderabad did not obtain the list of complete details of BPL connections released under the scheme before forwarding the closure reports to its head office.
- In **Nagaland**, the percentage of coverage by the REC Quality Monitoring team was below the norms envisaged, with only 52 to 58 per cent of the targeted villages in selected projects having been covered.
- In **Manipur**, under 2nd tier, reports were yet to be submitted (October 2012) in respect of 32 inspections⁸⁹ that had been completed.
- In **Sikkim**, the inspection of materials at pre-shipment stage was carried out by REC as reported by the EPD but no reports were furnished for scrutiny.
- In **Uttarakhand**, it was stated that REC team had checked the works executed under the scheme. However, the copies of inspection reports of 2nd tier and their compliance were not furnished.

Corrective action undertaken on RQM inspection reports

- RQMs pointed out shortcomings in 28 out of 98 test checked projects of XI Plan. While in four projects shortcomings were fully rectified by PIAs, in three projects⁹⁰, shortcomings to the extent of 16, 54 and 66 per cent were rectified. However, in 21 projects, no shortcomings were rectified by PIAs as on 30 September 2012.

MOP stated (August 2013) that “*due to less physical progress than required, inspection was not conducted. On matter of rectification of defects, it is a continuous process and is being attended by PIAs. The same is constantly monitored by REC. The system cannot be charged if there are major defects.*”

⁸⁹ Bishnupur, Imphal East, Imphal West and Thoubal districts

⁹⁰ Buldhana, Sindhudurg and Tripura North

6.2.3. 3rd Tier Monitoring

As per note submitted (December 2007) to CCEA by MOP for extension of RGGVY in the XI Plan, 3rd tier monitoring was required to be carried out at the level of MOP. The broad mechanism of 3rd tier monitoring is indicated in **Figure 10**. However, MOP took no action with respect to 3rd tier evaluation till July 2010.

MOP stated (May 2013) that, *“the XI Plan was notified in February 2008 and most projects were sanctioned during March – April 2008 and awarded in the year 2008-09. Some of the projects were awarded in 2010. The threshold physical progress 30 per cent village electrification for stage one inspection by NQM started showing from 2010 onwards.”* MOP added (August 2013) that *“the time of appointment of NQM did not affect actual performance of 3rd Tier monitoring of XI Plan project as evident from the fact that the two year NQM contract had to be extended for want of the physical progress to perform stage-II inspections.”*

The reply needs to be viewed against the fact that REC (responsible for 2nd tier monitoring) was also required to appoint RQMs after physical progress of 30 per cent village electrification. The process of appointment of RQMs was initiated by REC in June 2008 and appointment of RQMs commenced in January 2009. However, MOP did not take any action till July 2010 to discharge its responsibility under 3rd tier monitoring. Incidentally, as per the guidelines, RGGVY projects were to be completed within two years, i.e. those sanctioned in 2008 were to be completed in 2010. Not appointing NQMs during this period implied that critical monitoring activities were not undertaken at important stages of execution of projects.

- After more than two years of CCEA approval, MOP passed on (August 2010) its responsibility to REC by entrusting it with the responsibility of appointment of NQMs. Incidentally, REC was also performing the role of RQM (2nd Tier) monitoring. Independence of both levels of Quality Monitoring (RQM and NQM) was not possible to be assured as both were being carried out by REC.

MOP replied (August 2013) that, *“RQM at 2nd Tier and NQM at 3rd Tier were being carried out by independent agencies. In each state, different agencies were carrying out concurrent evaluation/inspection at different tiers and thereby, maintaining the independence of concurrent evaluation at both these levels. REC, being a nodal agency, has just facilitated in appointment, review of progress and monitoring of these independent agencies.”*

The reply does not deny the fact that both the agencies were appointed by REC whereas it was the responsibility of MOP to appoint the NQMs as envisaged in the note to CCEA. Segregating these responsibilities would have only enhanced the effectiveness of monitoring and quality control mechanism of projects under RGGVY.

The audit concern of 3rd tier monitoring at the level of MOP was appreciated in Exit conference (September 2013) and it was agreed that MOP would explore the possibilities of

appointing independent agencies for inspection at 3rd Tier of their own instead of through REC.

Significant deficiencies in taking corrective action on discrepancies pointed out by NQMs are indicated below:-

- In **Bihar** (Pipariya village of West Champaran District), 3rd Tier check conducted found that the contractor had executed less work in respect of ACSR weasel conductor and cable than the reported quantity. The discrepancies were yet to be rectified (October 2012).
- In **Assam** (Karbi Anglong), deviations were seen in execution of construction work of 11 KV HT Lines, 3 phase 4 wire overhead Lines, 1 phase 2 wire overhead lines, short utilization of materials, use of Pre stressed concrete (PSC) poles instead of steel tubular poles, *etc.*

MOP stated (February 2013) that, *“Progress of inspection under NQM were regularly discussed in the Monitoring Committee meeting but the reports of NQM were not discussed.”* MOP, added (August 2013) that *“REC regularly pursued PIAs for rectification of deficiencies pointed out by NQMs by regularly writing letters for early compliance of these deficiencies”*.

The reply only underscores the adverse impact of not discussing NQM reports at MC meetings and other higher levels, which would have provided the opportunity to MOP/PIAs to improve the performance of contracting agencies and initiate corrective action in time.

6.3. Management Information System

REC initiated the process of developing a web-based MIS for RGGVY (URL: www.rggvy.gov.in) with the help of National Informatics Centre (NIC) in 2005. NIC handed over the software to REC in a phased manner. The first complete software was handed over in June 2006. The web-based MIS was ready for launch only in January 2008 but was actually launched in May 2008, after the last two years of X Plan during which 235 RGGVY projects were sanctioned for implementation. By then, the scheduled period of implementation, reckoning two years from the date of award, in respect of 151 projects had expired. Thus, the benefits of an integrated MIS for the scheme were available only after the expiry of X Plan.

Deficiencies in capturing and updation of data in the MIS are discussed below:-

6.3.1. Data fields captured by MIS

MIS did not have the facility for capturing data which would have been useful in analysing performance and also in keeping higher management abreast of the status of implementation as indicated below:-

- Wherever MIS exhibited the names of villages electrified under RGGVY and other parameters, the details of infrastructure created under RGGVY in these villages were incomplete.
- Date wise details of installments released and expenditure incurred by PIAs were not available.
- The following details were also not available:
 - Date of Submission of DPR to REC by PIAs
 - Date of Evaluation of DPR and Submission to Competent Authority
 - Date of Issue of NIT
 - Date of Bid Opening
 - Date of Recommendation to Monitoring Committee
 - Date of Issue of First Installment
 - Date(s) of revision(s)

- Data relating to the projects which were kept in abeyance/ abandoned/ terminated/ stopped mid-way could not be located.
- Number of villages energized after electrification was available, whereas other details e.g. list of all the villages electrified indicating dates of electrification, dates of energization, *etc.* were not available.
- Details of outcome of the State and the District Level Co-ordination Committee meetings and compliance to decisions taken in these meetings were not available.

MOP stated (August 2013) that *“the web portal was operational from the end of 2006 onwards. However, an inauguration function was arranged in May 2008 to publicize the portal though it was available through any search engine and all the stake holders were using it.”*

The above deficiencies would only underline that the need for streamlining and refining the MIS can hardly be overemphasised.

6.3.2. Data available in Management Information System

Though there were provisions for certain data to be captured, there were gaps with respect to these fields in the MIS data made available by REC for 576 projects.

- Data relating to revision of cost was not updated in 460 RGGVY projects
- Date of sanction and date of award was blank in five cases
- Date of award was not updated in 59 cases
- Date of sanction was blank in two cases *i.e.* Lunglei district of Mizoram (X Plan) and Barmer district of Rajasthan (XI Plan)

Illustrative deficiencies in MIS are indicated in **Table 24**.

Table 24: Deficiencies in MIS data

Sl. No.	Name of item	Figure adopted as per MIS dated 31 March 2012 (set 1)	Figure adopted as per MIS dated 31 March 2012 (set 2)
1.	Revised coverage of UE/DE Village	1,10,886	1,10,809
2.	Cumulative achievement Electrified villages	2,47,243	2,48,553
3.	Achievement of electrified village during 2011-12	57,654	58,964
4.	Cumulative achievement of BPL HH	1,94,24,785	1,94,25,283
5.	Achievement of BPL HH during 2011-12	34,44,404	34,44,902

MOP replied (August 2013) that, “the initial MIS of RGGVY as on 31 March 2012 was revised due to increase in the revised coverage of UE villages with respect to Uttarakhand from 1,434 to 1,511 i.e. an increase of 77 UE villages which was incorporated in revised MIS as on 31 March 2012 and all other figures remained the same.”

The reply does not explain the differences in figures of items other than un-electrified villages as indicated in **Table 24** above.

6.4. State Level Coordination Committee (SLCC) and District Level Coordination Committee (DLCC)

As per section 166 of the Electricity Act, 2003, there should be a committee in each district to be constituted by the appropriate government to co-ordinate and review the extension of electrification in each district and to review the quality of power supply and consumer satisfaction and to improve efficiency and its conservation. MOP observed (May 2008) that projects were not completed in scheduled time due to various bottlenecks and that expeditious implementation of projects with good quality should be ensured. MOP time and again (May 2008, July 2009 and September 2009) asked the participating States to constitute these committees while including representatives from the Department of Home Affairs, Revenue and Excise, REC and Public Representative⁹¹ and convene monthly meetings for each project / district to review the progress of the scheme for achieving accountability of this flagship programme. It was also suggested that implementation issues and problems which could not be resolved at the district level committee be resolved by SLCC constituted under the chairmanship of Chief Secretaries.

⁹¹ MP, MLA, NGO, Chairman Zila Parishad

While no meeting was held in **Uttarakhand**, only one to five meetings of SLCC were held in 11 States⁹².

DLCC also met infrequently compared to that prescribed as shown in **Table 25**.

Table 25: State-wise details showing meetings of DLCC

Sl. No.	Name of State	No. of Projects	Date of constitution of DLCC	Minimum No. of meeting required to be held in a year	No. of Meeting held since inception of DLCC
1.	Andhra Pradesh	7*	05.03.05	84	21
2.	Arunachal Pradesh	2*	Not Constituted (up to March 2013)	24	Nil
3.	Bihar	13*	06.07.04	156	6
4.	Chhattisgarh	5*	10.03.04	60	06
5.	Gujarat	25	25.07.07 to 18.08.11	300	93
6.	Haryana	5*	01.09.05	60	01
7.	Himachal Pradesh	4*	23.06.05	52	5
8.	Jammu and Kashmir	3*	02.02.06	36	19
9.	Kerala	4*	12.06.08	48	18
10.	Karnataka	7*	December 2005	84	Nil
11.	Madhya Pradesh	3	NA	36	05
12.	Meghalaya	7	14.10.04	84	48
13.	Mizoram	8	25.04.06	96	12
14.	Nagaland	3*	18.10.05	36	9
15.	Punjab	5*	25.08.06	60	32
16.	Sikkim	4	16.09.06	48	07
17.	Uttarakhand	13	10.09.04	156	47
18.	Tamil Nadu	7*	11.08.2008 to 08.12.2009	84	03
19.	Tripura	2	23.12.05	24	No separate meeting held
20.	West Bengal	11*	05.05.09	396	187

* test checked projects

This indicated that States were not serious in holding the DLCC/SLCC meetings to sort out the bottlenecks in implementation of projects and help improve the effectiveness of RGGVY.

⁹² Arunachal Pradesh, Assam, Chhattisgarh, Haryana, Himachal Pradesh, Kerala, Maharashtra, Madhya Pradesh, Mizoram, Nagaland and Sikkim

While MOP accepted (August 2013) audit observation in respect of Nagaland, it gave no specific reply in respect of Tripura, Haryana, West Bengal and Gujarat and no reply at all in respect of remaining States.

Recommendation

R 6: Results of review of State level coordination committee meetings may be asked to be regularly communicated to MOP by an identified target date, by the Chief Secretaries of States. Deficiencies may be followed up regularly so that this endeavour yields the expected results in terms of increasing effectiveness of implementation and achievement of outcomes.
